

ENGLISH CORE-Code No. 301
SAMPLE QUESTION PAPER
CLASS-XII-(2026-27)

Time allowed: 3 Hrs

Maximum Marks: 80

General Instructions

Read the following instructions carefully.

- i. This question paper has 13 questions. All questions are compulsory.
- ii. This question paper contains three sections:
 - Section A: Reading Skills
 - Section B: Creative Writing Skills
 - Section C: Literature
- iii. Attempt all questions based on specific instructions for each part. Write the correct question number and part thereof in your answer sheet.
- iv. Separate instructions are given with each question/part, wherever necessary.
- v. Adhere to the prescribed word limit while answering the questions.

Q No	SECTION A READING SKILLS	Marks 22
1.	Read the following passage.	12
1.	Every December, the Geminids meteor shower occurs as the Earth passes through a stream of cosmic debris associated with a near-Earth asteroid. It is classified as one of the most active annual meteor showers based on recorded meteor counts and the regularity of its appearance. The Geminids are expected to reach peak activity on the night of 13–14 December, during which observers across India may record a high frequency of visible meteors. Under favourable atmospheric conditions, observation rates can exceed 100 meteors per hour, making the Geminids one of the most productive meteor showers observable from Earth.	
2.	Meteor showers occur when fragments of dust and rock enter the Earth's atmosphere at extremely high speeds and disintegrate due to friction, producing brief streaks of light. The Geminids are distinctive because they originate from a rocky asteroid known as 3200 Phaethon, rather than from a comet, which is the usual source of meteor showers. When Phaethon approaches the Sun during its orbit, it releases material that spreads along its orbital path. Each year in mid-December, the Earth intersects this debris stream, leading to increased meteor activity.	
3.	The meteors appear to radiate from the constellation Gemini, located in the northern sky. This apparent point of origin, known as the radiant, is used to identify the shower, although the meteors themselves may be seen across different regions of the sky. The most suitable time for observation is from midnight to the early morning hours, when the radiant rises higher above the horizon, improving the chances of sightings.	
4.	Observation of the Geminids does not require telescopes or binoculars, as such equipment limits the field of view. The unaided eye is considered the most effective	

method for observing meteor showers. Observers are advised to allow adequate time for their eyes to adjust to darkness. Viewing conditions are influenced by cloud cover, atmospheric clarity, moonlight, and light pollution. Locations away from urban lighting generally provide better visibility.

5. Historical records indicate that the Geminids were first documented in the mid-nineteenth century. Since then, their activity has increased steadily, making them one of the most reliable and frequently studied meteor showers. The meteors travel at a relatively moderate speed compared to those of other showers, which often results in brighter and longer-lasting streaks.
6. For students, educators, and amateur astronomers, the Geminids offer a valuable opportunity to observe a recurring astronomical phenomenon and understand Earth's interaction with near-Earth objects. The event supports scientific learning by demonstrating how celestial debris produces visible effects in the Earth's atmosphere.

Source: <https://www.indiatoday.in/science/story/geminids-meteor-shower-in-mid-december-offers-over-100-meteors-per-hour-for-indian-observers-2835534-2025-12-13> [417 words]

Answer the following questions, based on the given passage.

- | | | |
|------|--|---|
| I | Which evidence from paragraph 1 tells us that the Geminids are exceptionally active? | 1 |
| II | Complete the following with a suitable reason. (paragraph 2)

The writer refers to 3200 Phaethon as a 'rocky asteroid' rather than a 'comet' in order to tell the reader that _____. | 1 |
| III | Based on the passage, how does friction help in making the Geminids visible to observers on Earth? (paragraph 2) | 1 |
| IV | Which of the following statements best captures the functional role of the 'radiant' as described in the passage? (paragraph 3)
A. It is the physical location where cosmic debris is created.
B. It serves as visual guide for observers to locate the shower.
C. It determines the speed fragments enter the atmosphere.
D. It represents the exact area where all meteors disappear | 1 |
| V | How can we say that the Geminids are more 'observer-friendly' than other showers? (Any one reason) (Paragraph 5), | 1 |
| VI | Which of the following best explains why the Geminids are frequently studied by scientists?
A. Their activity has shown a steady increase over time.
B. Their meteors travel at extremely high speeds.
C. Their observation requires specialised equipment.
D. Their radiant shifts position across the sky. | 1 |
| VII | How does the mention of the 'mid-nineteenth century' documentation contribute to the authority of the claims made about the shower? (Answer in about 40 words) | 2 |
| VIII | The writer's tone throughout the passage can best be described as _____. | 1 |

- A. persuasive and promotional, encouraging mass participation
- B. explanatory and informative, aimed at scientific understanding
- C. speculative and argumentative, questioning existing theories
- D. celebratory and emotional, highlighting wonder over facts

IX What does the moderate speed of the Geminids and the resulting 'longer-lasting streaks' suggest about the quality of the viewing experience? (Answer in about 40 words) 2

X Complete the following with the most suitable option. 1

The main idea of the passage is the _____.

- A. technical process of how asteroids shed cosmic debris
- B. impact of light pollution on modern scientific learning
- C. historical evolution of astronomy since the nineteenth century
- D. scientific explanation and practical observation of Geminids

2. Read the following passage carefully. 10

1. A recent study on the growth of India's Unified Payments Interface (UPI) provides an insightful glimpse into how everyday financial habits are changing across the country. The first study tracks the volume of transactions over four Octobers.
2. In October 2021, UPI processed 4.21 billion payments—a number that already reflected a growing preference for digital transactions. By October 2022, this figure rose to 7.30 billion, suggesting that more people were discovering the convenience of transferring money with just a tap on their phones. The momentum continued into October 2023, when volumes touched 11.40 billion, and by October 2024, the platform reached an impressive 16.58 billion transactions.
3. The second study traces the value of these transactions, revealing a similar pattern of rising confidence. In October 2021, UPI transactions were worth ₹7.71 lakh crore. A year later, the value climbed to ₹12.11 lakh crore, indicating that users were comfortable using the platform for higher-value payments as well. This trust deepened in October 2023, with the value rising to ₹17.15 lakh crore, and peaked in October 2024, reaching ₹23.49 lakh crore.
4. Together, the two studies tell a human story—one of a country steadily shifting from cash to digital payments. The rising numbers suggest that UPI is no longer limited to tech-savvy users; it has reached shops, homes, workplaces, and even small roadside vendors. With QR codes becoming familiar sights and smartphones becoming more accessible, people now pay for groceries, services, transport, and bills through quick digital transfers.
5. The studies also hint at a broader change in mindset. As digital payments become routine, users appear more confident that these systems are secure, reliable, and easier to manage than handling cash. This transition has supported small businesses, reduced the need for physical currency, and encouraged more people to participate in formal financial systems.

6. Overall, the four-year data captures a simple yet powerful trend: UPI has grown from being a convenient payment option to becoming an essential part of daily financial life for millions of Indians.

Source: <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2079544®=3&lang=2> [333 words]

Answer the following questions based on the given passage.

- I What was the purpose of tracking the four-year growth of India's Unified Payments Interface (UPI)? (paragraph 1) 1
- A. To analyse the technical infrastructure supporting digital banking systems
B. To understand changes in payment behaviour among different user groups
C. To determine the number of vendors using smartphone-based payments
D. To compare patterns of digital transactions with traditional cash practices
- II Analyse whether the percentage growth in the total value of UPI transactions is greater than, less than, or roughly the same as the percentage growth in the number of transactions. State your choice and briefly justify your answer with reference to paragraph 2. 1
- III Which of the following statements best describes the overall pattern with reference to paragraph 3? 1
- A. Both the number of transactions and the total value of transactions increase steadily over the four years.
B. The number of transactions increases, but the total value of transactions decreases year after year.
C. The total value of transactions increases, but the number of transactions stays almost unchanged.
D. Both the number of transactions and the total value of transactions decrease after an initial increase.
- IV Paragraph 4 mentions that UPI is used in 'shops, homes, workplaces, and even small roadside vendors'. 1
- What does this suggest about the nature of UPI adoption?
- A. Dependence on organised commercial establishments
B. Widespread adoption across formal and informal settings
C. Usage limited to digitally advanced urban spaces
D. Usage restricted to specific consumer groups
- V Evaluate the impact of UPI's expansion into formal financial systems on small business owners, with reference to the paragraph 5. (Answer in about 40 words) 2
- VI Which of the following aspects is NOT directly discussed in the passage? 1
- A. The growth pattern of UPI transactions over time
B. The changing public attitude towards digital payments
C. The policy framework governing digital payment systems
D. The effect of UPI adoption on small businesses
- VII Fill in the blank with the correct option from those given in brackets. 1
- UPI's usage by small roadside vendors primarily suggests that digital payment systems in India have become _____. (inclusive / exclusive / marginal)

- VIII Rohan prefers to carry almost no cash and pays for groceries and transport using his phone. Using information from Paragraph 3 and the charts, explain giving two reasons why UPI is a more suitable option for him in 2024 than it might have been in 2021. (Answer in about 40 words). 2

SECTION B
CREATIVE WRITING SKILLS

18

All the names and addresses used in the questions are fictitious. Resemblance, if any, is purely coincidental.

- 3. Attempt any one of the two, (A) or (B), in about 50 words.** 1x4 = 4

- A. You are Rishitha Menon, a member of the Horizon Club of Bala Vidyalaya Senior Secondary School, Chennai. The school is organising a one-day workshop to help senior students improve their project work and presentation skills. Draft a notice inviting students to participate. Include necessary details and the registration process. Put your notice in a box.

OR

- B. You are Vijesh Kumar, the Secretary of Shantiniketan Residents' Welfare Association, Chandigarh. The Association is organising a Marathon to create awareness on animal conservation, in collaboration with local animal welfare organisations. Write a notice inviting residents to participate. Include necessary details and registration process. Put your notice in a box.

- 4. Attempt any one of the two, (A) or (B), in about 50 words.** 1x4 = 4

- A. You are Ananya, the lead coordinator of the Media Club at St. Xavier's School, Odisha. Your club is organising a seminar titled Digital Storytelling & Ethics. Draft a formal invitation to Ishaan Grover, a popular local educational online expert and filmmaker, inviting him to be the keynote speaker and lead a hands-on editing session. Include essential details.

OR

- B. You are Dr. Sameer, an environmental scientist living in Bengaluru. You have received an invitation from Greenwood International School, Mysuru, to judge the 'Waste-to-Wealth' project competition. Write a formal reply accepting the invitation, and confirming your arrival.

- 5. Attempt any one of the two, (A) or (B), in 120-150 words.** 1x5 = 5

- A. Instances of food wastage at weddings, parties, and large social gatherings have been steadily increasing in your city. As Kavya, a student volunteer residing at 45, Lake View Road, Jaipur, write a letter to the Editor of a local newspaper proposing a 'Community Food Redistribution Initiative' to address this issue.

You may use the following cues to draft your letter:

- Extent of food wastage at social events
- Social and environmental consequences
- Collaboration with NGOs / food banks
- Mobilising volunteers for collection and distribution
- Promoting responsible consumption

OR

- B. You are Ranjay Thakur, a resident of 12, Mall Road, Shimla. You recently saw the following advertisement in 'The Himalayan Times' newspaper, for the post of a Sustainable Tourism Coordinator at 'EcoTrails India', a start-up focusing on responsible travel. You have a deep interest in environmental conservation and have volunteered for local cleanliness drives. Write a letter of application for a job in 120–150 words along with a detailed bio-data.

WANTED
EcoTrails India
— A Responsible Travel Startup —
SUSTAINABLE TOURISM COORDINATOR
Requirements:

- Graduate/Postgraduate in Tourism, Environmental Studies or related field
- Passionate about conservation and sustainable travel
- Experience in volunteering or cleanliness drives preferred
- Good communication & organizational skills

Job Role:

- Plan and coordinate eco-friendly travel initiatives
- Work with local communities on responsible tourism
- Assist in awareness and sustainability campaigns

Location: Shimla (with field travel)
Apply with letter & bio-data within 7 days to:
The Hiring Manager
EcoTrails India
Email: careers@ecotrailsindia.org

6. Attempt any one of the two, (A) or (B), in 120-150 words.

1x5 = 5

- A. As a teenager, you observe that an increasing number of your peers are affected by excessive social media use, particularly the habit of doom-scrolling*. Algorithm-driven content exposure is beginning to influence students' mental well-being, attention span, and academic focus. Write an article for your school magazine highlighting why Digital Wellness should be integrated into the school curriculum. You are Smitha Jinan, Class 12 student reporter of SVA Public School, Thrissur.

You may organise your ideas around the following cues.

- Prevalence of doom-scrolling among adolescents
- Impact of algorithm-driven content on teenage minds
- Effects on emotional health, concentration, and learning
- Role of schools in promoting responsible digital habits
- Encouraging mindful, purposeful use of technology

**doomscrolling: the action of constantly scrolling through, especially on a phone*

OR

- B. You are Prem Kumar, Secretary of the Health Club at Sarvodaya Vidyalaya, New Delhi. Your school recently participated in the launch of the 'Tobacco Free Youth Campaign'. Write a report in 120–150 words for your school magazine, detailing the event and the various activities planned under this national campaign.
- Organisation, launch date, and ties to national tobacco-free goals
 - Rally route, slogans, pledges, and awareness activities
 - Student participation in marches and interactions
 - Outcomes, health pledges, and future campaigns

SECTION C LITERATURE

40

7. Read the following extracts and solve ANY ONE of the given two, (A) or (B). 1x6 = 6

- A. *A thing of beauty is a joy for ever:
Its loveliness increases; it will never
Pass into nothingness; but still will keep
A bower quiet for us, and a sleep
Full of sweet dreams, and health, and quiet breathing.* (A Thing of Beauty)
- I Complete the following appropriately by choosing the correct option from those given in brackets. 1
- The phrase 'a joy for ever' suggests that beauty continues to offer _____ beyond the limits of time. (inner fulfilment / physical permanence / social approval)
- II Complete the following appropriately: 1
- A thing of beauty remains a lasting source of joy because _____.
- III The image of 'a bower quiet for us' is best interpreted as beauty functioning as a _____ 1
- A. natural shelter formed by the physical world
B. deliberate escape from social obligations
C. protective inner refuge offering calm
D. symbolic reminder of human weakness
- IV Which experience is most clearly conveyed through the expressions 'sweet dreams' and 'quiet breathing'? 1
- A. enjoyment of material comfort and luxury
B. attainment of emotional and mental peace
C. development of physical strength and endurance
D. appreciation of artistic and aesthetic pleasure
- V How does the metaphor 'a bower quiet for us' contribute to the poet's idea of beauty in the extract? 1
- VI What contrast does the poet imply between 'beauty' and 'nothingness'? 1

OR

- B. *The little old house was out with a little new shed
In front at the edge of the road where the traffic sped,
A roadside stand that too pathetically pled,
It would not be fair to say for a dole of bread,
But for some of the money, the cash, whose flow supports
The flower of cities from sinking and withering faint.* (A Roadside Stand)
- I Complete the following appropriately by choosing the correct option from those given in brackets. 1
- The repeated use of the word 'little' suggests the _____ of the roadside stand and the house (economic fragility / decorative simplicity / rural independence).
- II Complete the following appropriately: 1
- The phrase 'traffic sped' highlights the contrast between the fast-moving urban world and _____.
- III Why does the poet clarify that the stand is not asking for 'a dole of bread'? 1
- IV The phrase 'whose flow supports / The flower of cities' suggests that urban prosperity depends on _____. 1
- A. natural agricultural abundance
B. independent urban development
C. aesthetic appeal of city life
D. continuous circulation of wealth
- V How does the poet's choice of diction in the phrase 'pathetically pled' contribute to the tone of the extract? 1
- VI Which idea is most strongly conveyed through the extract? 1
- A. Rural dependence on city charity
B. Rural–urban economic imbalance
C. Traffic as modern progress
D. Urban indifference to nature
8. Read the following extracts and solve ANY ONE of the given two, (A) or (B). 1x4 = 4
- A. *Derry: You're... peculiar. You say peculiar things. You ask questions I don't understand.
Mr Lamb: I like to talk. Have company. You don't have to answer questions. You don't have to stop here at all. The gate's open.
Derry: Yes, but...
Mr Lamb: I've a hive of bees behind those trees over there. Some hear bees and they say, bees buzz. But when you listen to bees for a long while, they humm... and hum means 'sing'. I hear them singing, my bees.
Derry: But... I like it here. I came in because I liked it... when I looked over the wall.* (On the Face of It)
- I What does Mr Lamb mean when he says, "The gate's open"? 1
- A. Visitors must ask permission before entering.
B. Anyone is free to enter or leave without restriction.

- C. He does not want visitors to stay long.
- D. The gate is broken and cannot be closed.

- II How does Mr Lamb's way of speaking challenge Derry's initial perception of him as 'peculiar'? 1
- III Mr Lamb's description of bees as 'singing' rather than 'buzzing' reveals his tendency to _____. 1
 - A. perceive ordinary sounds with sensitivity
 - B. interpret familiar experiences in a reflective way
 - C. describe natural sounds with poetic emphasis
 - D. respond to nature with thoughtful attentiveness
- IV What can be inferred about Derry's emotional state from his statement, '*I like it here*'? 1

OR

- B. *And he added, "Because we are born into this community, we are never given any honour or dignity or respect; we are stripped of all that. But if we study and make progress, we can throw away these indignities. So study with care, learn all you can. If you are always ahead in your lessons, people will come to you of their own accord and attach themselves to you. Work hard and learn." The words that Annan spoke to me that day made a very deep impression on me. And I studied hard, with all my breath and being, in a frenzy almost.*

(Memories of Childhood II)

- I According to Annan, what is the main reason the community is denied honour and respect? 1
 - A. They lack access to formal education opportunities.
 - B. They refuse to follow dominant social customs.
 - C. They fail to assert themselves in public spaces.
 - D. They are born into a socially marginalised sector.
- II Annan's advice to 'study with care' reflects his belief that education can _____. 1
 - A. ensure material comfort and financial stability.
 - B replace traditional knowledge systems completely.
 - C. transform social status and restore lost dignity.
 - D. help individuals escape personal responsibility.
- III What can be inferred about the narrator from the phrase '*with all my breath and being*'? 1
- IV List any one way how Annan's advice, "*Work hard and learn,*" contributes to his characterisation in this extract. 1

9. Read the following extracts and solve ANY ONE of the given two, (A) or (B). 1x6 = 6

- A. *Their father had washed when he came in and his face and arms were shiny and pink and he smelled of soap. He switched on the television, tossed one of little Derek's shoes from his chair onto the sofa, and sat down with a grunt.*

"Sophie meet Danny Casey," Geoff said. Sophie wriggled where she was sitting at the table. Her father turned his head on his thick neck to look at her. His expression was one of disdain.

"It's true," Geoff said.

"I once knew a man who had known Tom Finney," his father said reverently to the television. "But that was a long time ago."

"You told us," Geoff said.

(Going Places)

- I Which description of Sophie's father in the extract indicates that he does not take her claim seriously? 1
1. He smells of soap.
 2. He sits down with a grunt.
 3. He turns his head to look at Sophie.
 4. He continues to watch television.
 5. His expression is one of disdain.
- Select the most suitable option.
- A. 1 and 2
B. 2 and 3
C. 4 and 5
D. 3 and 5
- II Complete the following appropriately. 1
- The father's casual actions at the beginning of the extract suggest a _____ attitude towards his surroundings.
- III Why does Sophie's father refer to knowing 'a man who had known Tom Finney'? 1
- IV What does Sophie's physical reaction (wriggled) reveal about her emotional state at that moment? 1
- V The line "It's true," spoken by Geoff, highlights his role in the interaction between Sophie and their father. Explain. 1
- VI Which central conflict is most likely highlighted through the interaction among Sophie, Geoff, and their father? 1
- A. Tension between imagination and realism
B. Emotional distance within working-class families
C. Generational disagreement over attitudes and beliefs
D. Contrast between admiration and sceptical realism

OR

- B. The make-up room had the look of a hair-cutting salon with lights at all angles around half a dozen large mirrors. They were all incandescent lights, so you can imagine the fiery misery of those subjected to make-up. The make-up department was first headed by a Bengali who became too big for a studio and left. He was succeeded by a Maharashtrian who was assisted by a Dharwar Kannadiga, an Andhra, a Madras Indian Christian, an Anglo-Burmese and the usual local Tamils. All this shows that

there was a great deal of national integration long before A.I.R. and Doordarshan began broadcasting programmes on national integration. (Poets and Pancakes)

- I Which of the following details about the make-up room are explicitly mentioned in the extract? 1
1. The room was fitted with many large mirrors and bright lights.
 2. The lighting caused discomfort to those subjected to make-up.
 3. The make-up work required technical expertise in lighting.
 4. The department included people from different regions of India.
 5. The writer expresses personal emotional involvement with the room.

Select the most suitable option.

- A. 1, 2 and 4
- B. 2, 3 and 5
- C. 1, 3 and 4
- D. 3, 4 and 5

- II Complete the following sentence appropriately. 1
The phrase 'fiery misery' suggests that the intense lighting _____.
- III What can be inferred about studio life from the writer's ironic tone in the extract? 1
- IV How does the detailed listing of people from different regions function in the extract? 1
- A. To highlight efficiency within the studio system
 - B. To mock rigid systems of official classification
 - C. To emphasise diversity within shared workspace
 - D. To criticise imbalance among regional groups
- V What is the most likely reason the author compares studio integration with A.I.R. and Doordarshan? 1
- VI Identify the irony in the professional setup of the Gemini Studios make-up room as described in the extract. 1

10. Answer any five of the following six questions in 40 50 words each. 5x2= 10

- I According to the interview, how did Umberto Eco make his academic writing accessible to readers? (The Interview II)
- II Explain why the bangle makers of Firozabad are unable to imagine an alternative future despite their hardships. (Lost Spring)
- III What does William Douglas's experience in *Deep Water* suggest about the nature of fear and anticipation?
- IV How does the Christmas episode influence the peddler's perception of human relationships? (The Rattrap)
- V Kamala Das uses imagery and restraint to convey unspoken anxiety rather than overt grief. Comment. (My Mother at Sixty-six)
- VI What does Aunt Jennifer's portrayal of the tigers suggest about her suppressed desires? (Aunt Jennifer's Tigers)

- 11. Answer any two of the following three questions in 40–50 words each. 2x2 = 4**
- I Based on the events of the story, elaborate on Charley’s fascination with the third level and the way he relates to the past? *(The Third Level)*
 - II Examine the outcome of the Tiger King’s actions in the light of the prophecy and comment on his belief about controlling fate. *(The Tiger King)*
 - III Describe the idea that emerges from the author’s portrayal of Antarctica as a warning rather than a destination. *(Journey to the End of the Earth)*
- 12. Answer any one of the following two questions, in about 120-150 words. 1x5 = 5**
- A. How do *Keeping Quiet* by Pablo Neruda and *Going Places* by A. R. Barton present different responses to inner conflict, and what do these responses reveal about the impact of silence and imagination on human growth?
 - B. *Indigo and Poets* and *Pancakes* present power operating in very different contexts. Gandhi’s actions in Champaran and the ironic portrayal of Gemini Studios bring out ways in which authority is questioned in these texts. Discuss.
- 13. Answer any one of the following two questions, in about 120-150 words. 1x5 = 5**
- A. The meeting between Derry and Mr Lamb marks a turning point in Derry’s life. Discuss how Mr Lamb’s outlook challenges Derry’s fear-driven self-image and shapes his understanding of self-worth beyond physical limitations.
 - B. Dr Sadao’s decision to shelter an enemy soldier places him in a moral dilemma. Assess whether this decision can be seen as an act of moral courage in the face of competing national loyalties in *The Enemy*.

ENGLISH CORE -Code No. 301
MARKING SCHEME
CLASS-XII-(2026-27)

General Instructions: -

1. The Marking Scheme carries only suggested value points for the answers. These are in the nature of Guidelines only and do not constitute the complete answer. The students can have their own expression and if the expression is correct, then due marks should be awarded accordingly.
2. If a student has attempted an extra question, answer of the question deserving more marks should be retained and the other answer scored out with a note 'Extra Question'.
3. If more than one option is mentioned in the answer of multiple-choice questions, then no marks to be awarded.

	SECTION A: READING SKILLS	22
Q1. Answer the following questions, based on the given passage. (Factual Passage)		12
I	Observation rates can exceed 100 meteors per hour. [This numerical evidence directly indicates unusually high activity compared to other meteor showers.]	1
II	the Geminids originate from them and not from a comet which is the common source of meteor showers.	1
III	Friction causes the incoming dust and rock fragments to heat up as they pass through Earth's atmosphere, making them glow and produce bright streaks of light that can be seen from the ground.	1
IV	B. It serves as a visual guide for observers to locate the shower. [The passage explains that the radiant helps identify the shower's apparent point of origin.]	1
V	They can be observed with the unaided eye. Additional value points. They produce brighter and longer-lasting streaks of light. They occur during a predictable annual window in mid-December. They have a high meteor count, sometimes exceeding 100 meteors per hour. They are visible across different regions of the sky, not confined to one narrow area. No specialised equipment like telescopes or binoculars is required. [Accept any one reason that shows ease of observation or accessibility, supported by the passage.].	1
VI	A. Their activity has shown a steady increase over time. [Long-term consistency and growth make the Geminids scientifically valuable for study.]	1
VII	Mentioning documentation since the mid-nineteenth century establishes a long observational history. This strengthens the credibility of claims about increasing activity and reliability, as they are supported by sustained scientific observation rather than recent data alone.	2

VIII	B. explanatory and informative, aimed at scientific understanding [The passage presents factual explanations about the Geminids—its origin, causes, observation conditions, and scientific significance—in a neutral and objective manner. It informs and explains rather than persuading, speculating, or expressing emotion.]	1
IX	The moderate speed allows the meteors to burn longer in the atmosphere, producing brighter and more sustained streaks of light. This enhances visibility and gives observers more time to notice and appreciate each meteor.	2
X	D. scientific explanation and practical observation of Geminids [The passage combines a scientific explanation of the origin and nature of the Geminids with practical guidance on when, where, and how to observe the meteor shower, making option D the most comprehensive representation of the main idea.]	1
Q2. Answer the following questions, based on the given passage. (Case-based Passage)		10
I	B. To understand changes in payment behaviour among different user groups [The passage explicitly states that the charts provide an 'insightful glimpse into how everyday financial habits are changing across the country' and tell a 'human story' of a country shifting from cash to digital payments.]	1
II	The percentage growth in the total value of UPI transactions is greater than the percentage growth in the number of transactions. Justification: From October 2021 to October 2024, transaction volume increased from 4.21 billion to 16.58 billion (nearly four times), while transaction value rose from ₹7.71 lakh crore to ₹23.49 lakh crore (more than three times). This indicates faster growth in the value handled, reflecting increased trust and use of UPI for higher-value payments.	Identification – ½ Justification – ½
III	A. Both the number of transactions and the total value of transactions increase steadily over the four years. [a consistent year-on-year rise in both the volume and the value of UPI transactions from 2021 to 2024, indicating sustained growth rather than fluctuation or decline.]	1
IV	B. Widespread adoption across formal and informal settings [The reference to shops, homes, workplaces, and small roadside vendors shows that UPI is used across both organised and unorganised sectors, indicating broad, inclusive adoption rather than limited or restricted usage.]	1
V	The expansion of UPI into formal financial systems significantly improves financial management for small business owners by enabling digital transaction records, easier tracking of income, and reduced reliance on cash. However, the extent of benefit may depend on factors such as digital literacy and access to technology. Judgement on extent of impact (significantly/partially/to a large extent) - 1 Logical justification with reference to benefits or limitations - 1	1+1 (2)

VI	C. The policy framework governing digital payment systems [The passage discusses transaction growth, changing user attitudes, and the impact on small businesses, but it does not mention government policies, regulations, or the policy framework related to digital payments.]	1
VII	inclusive [The passage states that UPI is used not only in shops and workplaces but also by small roadside vendors. This shows that digital payments have reached both formal and informal sectors, indicating that the system includes a wide range of users rather than being limited or marginal.]	1
VIII	- Higher transaction value reflects user confidence - Greater reliability due to massive transaction volumes - Increased volumes indicate system stability and acceptance, making UPI dependable for daily use. - Wider acceptance across everyday settings - Reduced dependence on physical cash [Any two points]	(1+1) 2
SECTION B-CREATIVE WRITING SKILLS (18 marks)		
Q 3.	- Format - 1 [Box, name of issuing authority- organisation/ agency (top centre), NOTICE (centre), date of issue (aligned left) Authorisation name, designation & signature (bottom left)] NOTE-full credit if all aspects included. Partial credit (½ mark) if one-two aspects are missing. No credit if more than two aspects are missing. - Content - 2 - Accuracy of Spelling and Grammar -1	4
Q 4	- Format - 1 - Content - 2 - Accuracy of spelling and grammar - 1 A- (Letter type formal / third person) B- (Letter type formal, first person)	4
Q 5.	A. Letter to the Editor - Format: 1 (Note- Use 'Yours truly' as complimentary closure) - Organisation of Ideas: 1 - Content: 2 (As per cues + ideas) - Accuracy of Spelling and Grammar :1 B. Job Application - Format -1 (Note- Use 'Yours truly' as complimentary closure)	5

	• Organisation of Ideas - 1 • Content - 2 • Accuracy of Spelling and Grammar - 1 ➤ Covering Letter → Reference to the advertisement → Conveying suitability for the position (as advertised) → Submission of application • Bio data as separate enclosure → Personal Details → Educational Qualifications (include advertised requirements) → Work experience (if relevant) → References → Any other relevant information									
Q 6.	• Format – 1 mark • Content -2 marks • Organisation of ideas -1 mark • Accuracy of Spelling and Grammar -1 mark A. Article: Title -By line Paragraph 1 - Introduction • Relevant topic sentence with supporting points Paragraph(s) 2 (& 3) - Body – Content • Various aspects of the topic- pros & cons / cause and effect • Supporting points/strong evidences Paragraph 4 – Conclusion • Writer’s opinion, comments, recommendations/solutions/suggestions • hope/warning/call for action B. Report: <table><tr><td>HEADLINE S</td><td>Short and catchy phrase</td></tr><tr><td>BY-LINE</td><td>Name and designation of the reporter</td></tr><tr><td>PLACE & DATE</td><td>Mention the place of event and the date of issue of the newspaper</td></tr><tr><td>PARA 1</td><td>What – happened; Why – it happened Who – were involved When – day, date and time Where – it happened</td></tr></table>	HEADLINE S	Short and catchy phrase	BY-LINE	Name and designation of the reporter	PLACE & DATE	Mention the place of event and the date of issue of the newspaper	PARA 1	What – happened; Why – it happened Who – were involved When – day, date and time Where – it happened	
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			[convey the essential facts concisely]		
		PARA 2	How – it happened [convey the essential facts concisely] [Can be written in two paragraphs also]		
		PARA 3	steps taken/will be taken		
SECTION C-LITERATURE (40 marks)					
Q 7.	Read the following extracts and solve ANY ONE of the given two, (A) or (B)				6
A.					
I	inner fulfilment				1
II	A thing of beauty remains a lasting source of joy because its loveliness never fades and continues to offer peace, comfort, and emotional nourishment to the human mind over time.				1
III	C. protective inner refuge offering calm [The metaphor suggests a safe, peaceful mental space created by beauty, providing emotional shelter rather than a physical structure.]				1
IV	B. attainment of emotional and mental peace [These expressions evoke calmness, relaxation, and psychological comfort, not material pleasure or physical exertion.]				1
V	The metaphor presents beauty as a comforting inner refuge that offers peace and rest to the human mind. It reinforces the idea that beauty soothes mental distress and provides lasting emotional support.				1
VI	The poet contrasts beauty, which endures and nurtures the human spirit, with nothingness, which suggests emptiness and absence. While beauty offers continuity and comfort, nothingness represents loss and negation.				1
B.					
I	economic fragility [The repetition of 'little' emphasises poverty, marginal existence, and limited resources rather than aesthetic simplicity or independence.]				1
II	The phrase 'traffic sped' highlights the contrast between the fast-moving urban world and <u>the slow, struggling rural life of the roadside sellers.</u>				1
III	The poet clarifies this to show that the villagers are not seeking charity but fair economic participation. They want dignity through earning, not dependence on handouts.				1
IV	D. continuous circulation of wealth				1
V	The phrase creates a tone of quiet desperation and helpless appeal. It evokes sympathy by highlighting the villagers' powerless condition and their ignored plea for economic justice.				1
VI	B. Rural–urban economic imbalance				1

	[The extract exposes the unequal relationship between prosperous cities and impoverished rural communities, where rural labour sustains urban wealth without fair returns.]	
Q 8.	Read the following extracts and solve ANY ONE of the given two, (A) or (B)	4
A.		
I	B. Anyone is free to enter or leave without restriction. [Mr Lamb uses the open gate as a symbol of freedom, choice, and acceptance. He does not impose himself on Derry and allows him complete autonomy.]	1
II	Mr Lamb's calm, reflective, and accepting manner shows warmth and openness rather than oddity. His thoughtful observations and lack of judgement gradually reveal depth and sensitivity, challenging Derry's assumption that peculiarity means strangeness or threat.	1
III	A. perceive ordinary sounds with sensitivity and imagination [By interpreting buzzing as singing, Mr Lamb shows a positive, imaginative outlook that finds beauty and meaning in everyday experiences.]	1
IV	Derry feels a sense of comfort and acceptance in Mr Lamb's presence. For the first time, he experiences emotional ease and belonging, indicating a shift from fear and isolation to tentative trust.	1
B.		
I	D. They are born into a socially marginalised sector. Annan explicitly states that being 'born into this community' leads to the denial of dignity, showing that discrimination is based on birth, not individual merit.	1
II	C. transform social status and restore lost dignity. [Annan views education as a tool to overcome social indignities and gain respect, not merely material success.]	1
III	Intense determination / complete commitment to education / deep resolve to overcome social discrimination.	1
IV	It portrays Annan as a visionary and compassionate guide who believes in education as a means of empowerment and social equality.	1
Q 9.	Read the following extracts and solve ANY ONE of the given two, (A) or (B)	6
A.		
I	C. 4 and 5	1
II	Complete the following. (any one) • practical • indifferent • routine-bound • unceremonious • matter-of-fact	1
III	to suggest that genuine associations with famous people are distant and indirect, contrasting with Sophie's improbable claim.	1

IV	It reveals Sophie's nervousness and discomfort, showing her anxiety about her father's reaction.	1
V	Geoff acts as a mediator by supporting Sophie's claim, attempting to validate her statement in front of their father.	1
VI	A. Tension between imagination and realism [The interaction contrasts Sophie's imaginative claim of meeting Danny Casey with her father's sceptical and dismissive reaction. Geoff's hesitant support further highlights the divide between youthful fantasy and practical realism. The scene foregrounds the conflict between aspiration-driven imagination and grounded, everyday reality.]	1
B.		
I	A. 1, 2 and 4	1
II	The phrase 'fiery misery' suggests that <u>the intense lighting made the experience physically uncomfortable and almost unbearable for actors undergoing make-up.</u>	1
III	The ironic tone suggests that studio life, while glamorous in appearance, involved discomfort and impractical working conditions behind the scenes.	1
IV	C. To emphasise diversity within shared workspace	1
V	To show that genuine national integration was practised informally in the studio much before it was officially promoted by state-run media.	1
VI	The irony lies in the fact that a space meant to enhance appearance and glamour actually caused discomfort and misery due to harsh working conditions.	1
Q 10.	Answer any five of the following six questions in 40 50 words each.	5x2=10
I	Umberto Eco made his academic writing accessible by blending scholarly ideas with clarity, humour, and narrative elements. He avoided obscure jargon, used examples familiar to readers, and treated writing as a form of intellectual communication rather than mere technical exposition.	2
II	The bangle makers of Firozabad remain trapped by poverty, caste stigma, and exploitative systems. Social conditioning, lack of education, and fear of breaking inherited occupations prevent them from imagining alternative futures, making suffering seem inevitable rather than changeable.	2
III	William Douglas' experience shows that fear is intensified by anticipation rather than the actual event. His terror arose from imagined consequences, not drowning itself. Systematic training helped him confront this anticipation, proving that fear can be controlled through rational practice.	2
IV	The Christmas episode transforms the peddler's cynical view of relationships as traps. Edla's kindness and trust awaken his conscience, making him realise that compassion can inspire moral responsibility and change, even in someone hardened by suspicion and loneliness.	2

V	Kamala Das' quiet observations of her mother's ageing face, looking out of the window, and the repeated reassurance reflect suppressed fear of loss, showing how unspoken emotions can be more powerful than explicit expressions of grief.	2
VI	Aunt Jennifer's tigers symbolise her suppressed desire for freedom, strength, and fearlessness. Unlike her constrained life, the tigers move confidently and dominantly, reflecting her inner longing to escape patriarchal oppression and assert her identity beyond marital limitations.	2
Q 11.	Answer any two of the following three questions in 40–50 words each.	2x2=4
I	Charley's fascination with the third level reflects his desire to escape modern stress into a simpler, secure past. The third level symbolises psychological refuge, where nostalgia replaces anxiety, showing how individuals often romanticise the past to cope with present uncertainties.	2
II	The Tiger King's actions ironically fulfil the prophecy he tries to defeat. His obsessive attempts to control fate lead to his death, proving that arrogance and blind faith in power cannot alter destiny, and that human control over fate is ultimately illusory.	2
III	Antarctica is portrayed as a warning about environmental destruction rather than a tourist destination. The continent highlights the fragile balance of nature and the consequences of human interference, urging reflection on ecological responsibility before irreversible damage occurs.	2
Q 12.	Answer any one of the following two questions, in about 120-150 words.	1x5 = 5
A.	<i>Keeping Quiet</i> by Pablo Neruda and <i>Going Places</i> by A. R. Barton present two contrasting ways in which individuals respond to inner conflict—through silence and through imagination. In <i>Keeping Quiet</i>, Neruda advocates purposeful silence as a means of self-reflection. By pausing our restless activity and withdrawing from constant action, individuals are encouraged to confront their inner conflicts honestly. This moment of stillness fosters self-awareness, empathy, and emotional healing, suggesting that silence can lead to personal and collective growth. In contrast, <i>Going Places</i> portrays imagination as an escape from reality. Sophie's fantasies reflect her dissatisfaction with her present life, but her imagined future lacks practical grounding. Instead of resolving her inner conflict, imagination deepens her frustration and isolation, preventing meaningful growth. Together, the poems reveal that silence, when used consciously, promotes maturity and understanding, whereas unchecked imagination, divorced from reality, may hinder genuine human growth.	5
B.	Indigo and Poets and Pancakes present authority operating in very different contexts—colonial administration and cultural institutions—showing how power can be questioned through moral action and irony.	5

	In Indigo, authority is exercised by the British planters who compel the Champaran peasants to grow indigo on part of their land and surrender the produce at unfair prices. This exploitation is challenged when Gandhi refuses to obey the official order to leave Champaran, choosing instead to face arrest. His calm defiance, the spontaneous gathering of peasants in support, and the eventual official inquiry expose the injustice of colonial authority and lead to meaningful reform for the peasants. In Poets and Pancakes, authority within Gemini Studios operates through hierarchy, status, and insecurity rather than force. Figures like the Legal Adviser, whose influence far exceeds his actual contribution, reflect hollow authority sustained by fear and pretence. The author's ironic tone exposes these power structures by subtly mocking their self-importance. Together, the texts reveal that authority can be challenged either through ethical resistance or by exposing its emptiness, depending on the context.	
Q 13.	Answer any one of the following two questions, in about 120-150 words.	1x5 = 5
A.	The meeting between Derry and Mr Lamb becomes a crucial turning point in Derry's life as it challenges the fear and self-pity that dominate his self-image. Derry views himself as ugly and unwanted because of his burnt face, believing that people see only his physical deformity. This fear has isolated him emotionally and socially. Mr Lamb, however, offers a radically different outlook. Despite having an artificial leg, he refuses to see himself as disabled or incomplete. Through his open gate, beehive, and garden, he symbolises acceptance and freedom. His statement that 'there are plenty of things to stare at' urges Derry to focus on life's possibilities rather than limitations. By treating Derry with respect and warmth, Mr Lamb helps him realise that self-worth comes from attitude, not appearance. This interaction empowers Derry to move beyond fear and begin redefining himself with confidence and hope.	5
B.	Dr Sadao's decision to shelter and treat an enemy soldier places him at the centre of a profound moral dilemma, where professional ethics conflict with national loyalty. As a Japanese citizen during wartime, Sadao is expected to report the American prisoner, fully aware that harbouring him could lead to severe punishment. His fear of social disgrace and the possibility of execution underline the gravity of his choice. However, Sadao's actions reflect moral courage rather than betrayal. Guided by his identity as a doctor, he prioritises the universal value of human life over political allegiance. His statement that a doctor's duty is to save lives regardless of nationality reinforces this ethical stance. Though conflicted, he shelters the soldier, performs surgery, and later helps him escape. Sadao's decision demonstrates that true courage lies in upholding humanitarian principles even when they oppose dominant national expectations.	5

Subject: PHYSICS (042)
Sample Question Paper
Class – XII
Academic Session 2026–27

Maximum Marks: 70

Time Allowed: 3 hours

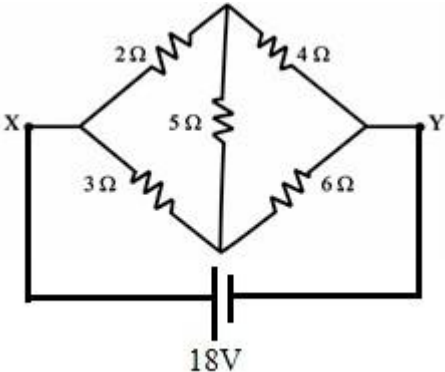
General Instructions

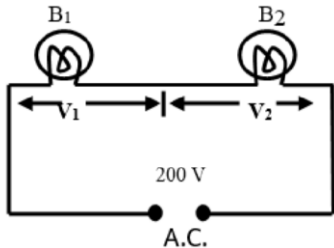
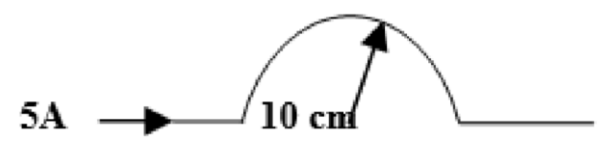
- (1) There are 33 questions in all. All questions are compulsory.
- (2) This question paper has five sections: Section A, Section B, Section C, Section D and Section E.
- (3) All the sections are compulsory.
- (4) Section A contains sixteen questions, twelve MCQ and four Assertion-Reasoning based of 1 mark each, Section B contains five questions of two marks each, Section C contains seven questions of three marks each, Section D contains two case study-based questions of four marks each and Section E contains three long answer questions of five marks each.
- (5) There is no overall choice. However, an internal choice has been provided in two questions in Section B, one question in Section C, and all three questions in Section E. You have to attempt only one of the choices in such questions.
- (6) Use of calculators is not allowed.
- (7) You may use the following values of physical constants where ever necessary.
 - i. $c = 3 \times 10^8 \text{ m/s}$
 - ii. $m_e = 9.1 \times 10^{-31} \text{ kg}$
 - iii. $m_p = 1.7 \times 10^{-27} \text{ kg}$
 - iv. $e = 1.6 \times 10^{-19} \text{ C}$
 - v. $\mu_0 = 4\pi \times 10^{-7} \text{ T m A}^{-1}$
 - vi. $h = 6.63 \times 10^{-34} \text{ J s}$
 - vii. $\epsilon_0 = 8.854 \times 10^{-12} \text{ C}^2 \text{ N}^{-1} \text{ m}^{-2}$
 - viii. Avogadro's number = 6.023×10^{23} per gram mole
 - ix. radius of nucleus $\approx 10^{-15} \text{ m}$

SECTION A			(16 x 1 = 16)
Q.No.	Question	Marks	
1.	A point charge +Q is placed at the centre of a spherical Gaussian surface of radius R . If the radius of the sphere is doubled, the electric flux through the surface will A. become half B. become double C. remain the same D. become four times	1	

*There is no change in the Question Paper Design and Assessment Pattern for Academic Session 2026-27.

2.	If two identical heaters each rated as (1000 W, 220 V) are connected in parallel to 220 V, then the total power consumed is- A. 200 W B. 250 W C. 2000 W D. 2500 W	1
3.	An infinitely long cylinder is kept parallel to a uniform magnetic field B directed along negative y –axis. What will be the direction of induced current as seen from the y axis? A. clockwise of the negative y-axis B. anticlockwise of the negative y-axis C. no current will be induced D. along the direction of the magnetic field	1
4.	If electric field associated with an electromagnetic wave is given by $\mathbf{E} = 30 \sin (0.2\pi \times 10^{-4} \text{ m}^{-1}x - 0.6 \pi \times 10^4 \text{ Hz } t) \hat{j}$ then the direction of propagation of the wave is along, A. $\hat{i}$ B. $-\hat{i}$ C. $\hat{k}$ D. $-\hat{k}$	1
5.	Which one of the following phenomenon is not explained by Huygens' construction of wave front? A. Diffraction B. Refraction C. Reflection D. Origin of spectra	1
6.	If wave front from star in nearby galaxy is detected by a telescope at the top of some mountain in India then the shape of the wavefront detected will be A. diverging spherical B. converging spherical C. plane D. cylindrical	1

7.	The binding energy per nucleon curve shows a maximum around mass number $A=56$. What does this imply about nuclei near iron (Fe)? A. They are the least stable nuclei. B. They are the most tightly bound nuclei. C. They undergo spontaneous fission releasing maximum energy. D. They cannot participate in nuclear reactions.	1															
8.	A ball of superconducting material is dipped in liquid nitrogen and placed near a bar magnet. The direction of the movement of the ball and the magnetic moment would be- <table border="1"> <thead> <tr> <th></th><th>Direction of the movement of ball</th><th>Direction of the magnetic moment</th></tr> </thead> <tbody> <tr> <td>A.</td><td>Towards the bar magnet</td><td>Opposite to that of the bar magnet</td></tr> <tr> <td>B.</td><td>Towards the bar magnet</td><td>Same direction as that of the bar magnet</td></tr> <tr> <td>C.</td><td>Away from the bar magnet</td><td>Same direction as that of the bar magnet</td></tr> <tr> <td>D.</td><td>Away from the bar magnet</td><td>Opposite to that of the bar magnet</td></tr> </tbody> </table>		Direction of the movement of ball	Direction of the magnetic moment	A.	Towards the bar magnet	Opposite to that of the bar magnet	B.	Towards the bar magnet	Same direction as that of the bar magnet	C.	Away from the bar magnet	Same direction as that of the bar magnet	D.	Away from the bar magnet	Opposite to that of the bar magnet	1
	Direction of the movement of ball	Direction of the magnetic moment															
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C.	Away from the bar magnet	Same direction as that of the bar magnet															
D.	Away from the bar magnet	Opposite to that of the bar magnet															
9.	A bridge circuit is shown in the following figure. The total current flowing in the circuit is-  A. 18 A B. 5 A C. $5/18$ A D. $18/5$ A <u>For Visually Impaired Students only</u> In a Wheat-stone bridge, all the four arms have equal resistance R. If the resistance of the galvanometer arm is $2R$, the equivalent resistance of the combination as seen by the battery is- A. $2R$ B. R C. $R/2$ D. $R/4$	1															

10.	Two electric bulbs, B_1 and B_2, are connected in series to an A.C. supply of 200 V. The power ratings printed on the bulbs are:  • B_1: 200 V, 60 W • B_2: 200 V, 100 W Using their rated voltage–power information, the ratio of their resistances R_1/R_2 is- A. 5:3 B. 3:5 C. 3:4 D. 4:3	1
11.	If nucleus scaled to football size is approximately 22cm, then the radius of the orbit of electron will be approximately: A. 22 cm B. 22 m C. 22 km D. 22000 km	1
12.	A current of 5A is passing through a long wire which has semicircular loop of radius 10 cm as shown in the figure-  The magnetic field produced at the center of the loop is- A. $2 \pi \mu T$ B. $4 \pi \mu T$ C. $5 \pi \mu T$ D. $8 \pi \mu T$	1

	For Questions 13 to 16, two statements are given –one labelled Assertion (A) and other labelled Reason (R). Select the correct answer to these questions from the options as given below.	
	A. both Assertion and Reason are true and Reason is the correct explanation of Assertion. B. both Assertion and Reason are true but Reason is not the correct explanation of Assertion. C. Assertion is true but Reason is false. D. both Assertion and Reason are false.	
13.	Assertion (A): In Rutherford's scattering experiment, most of the alpha particles passed through the gold foil undeflected. Reason (R): The electrons in the atom are very light and do not affect the path of the alpha particles significantly.	1
14.	A convex lens of focal length 20 cm is used to form a real image of a point object placed 30 cm from the lens. The lens is then immersed in water of refractive index 1.33 (the lens material has refractive index 1.5). Assertion (A): The focal length of the lens increases when it is immersed in water. Reason (R): The focal length of a lens depends on the relative refractive index of the lens material with respect to the surrounding medium, as given by the lens maker's formula.	1
15.	In Young's double slit experiment, the distance between the slits is 0.25mm and the screen is placed 1.0m away. A student uses monochromatic light of wavelength 500nm. Assertion (A): The fringe width observed on the screen will be 2.0mm. Reason (R): The fringe width in YDSE is directly proportional to the slit separation and inversely proportional to the wavelength of light.	1
16.	Assertion (A): If a conductor is placed in an external electric field, the electric field inside the conductor becomes infinity in electrostatic equilibrium. Reason (R): Free electrons inside the conductor rearrange themselves in such a way that the internal electric field is in the same direction as that of the external field.	1

	SECTION B	
17.	The electric and magnetic fields associated with an electromagnetic radiation in a medium are given as follows: $E = 30 \sin (2\pi \times 10^{18} \text{rads}^{-1} t + \pi \times 10^{10} \text{m}^{-1} x) \text{Vm}^{-1}$ $B = 10^{-7} \sin (2\pi \times 10^{18} \text{rad}^{-1} t + \pi \times 10^{10} \text{m}^{-1} x) \text{T}$ I. What is the refractive index of the medium through which the wave is propagating? II. Find the frequency of the wave and identify the electromagnetic wave.	2
18.	Write the nature of path of free electrons in a conductor in the a) presence of electric field, b) absence of electric field.	2
19.	Two like charges +q and +q are placed at a distance d. What work must be done by an external agent to bring another charge +q from infinity to the midpoint of the line joining the two given charges?	2
20(A)	A certain magnetic substance is found to have a relative permeability of 800. What type of magnetic material is it? Write any two characteristics that such a material exhibits. OR	2
20(B)	State Gauss's law of magnetism. Also discuss its significance.	
21(A)	I. Why hydrogen spectral lines are considered to be a fingerprint of the element? II. If energy of an electron of the hydrogen atom in ground state is -13.6 eV, what should be the minimum energy of photon which can ionize the atom? OR	2
21(B)	State Bohr's quantization condition for defining stationary orbit. How does de Broglie hypothesis explain the stationary orbit?	
	SECTION C	
22.	Compare the energy band diagrams of metals, insulators, and semiconductors. I. Explain how the band gap determines conductivity. II. Apply this reasoning to justify why diamond (C) is an insulator while tin (Sn) is a conductor, though both are the elements of group IV.	3

23.	Explain- I. It is easier to start a car engine on a warm day than on a chilly day. II. The resistance of our body is so large, even then one experiences a strong shock (sometimes even fatal)) when one accidentally touches the live wire of, say 240 V supply. III. Heat is generated continuously in an electric heater but its temperature becomes constant after some time.	3
24.	The atomic mass of $^{16}_8\text{O}$ is 15.99493 u. Calculate the binding energy per nucleon of the oxygen nucleus. (Given: mass of proton = 1.00727 u, mass of neutron = 1.00866 u, $1\text{ u} = 931.5\text{ MeV}/c^2$)	3
25.	A diamond has a refractive index of 2.42. I. A ray of light inside the diamond strikes the surface at an angle of incidence of 30°. State whether it will undergo refraction or total internal reflection. II. Explain why diamonds sparkle when cut properly.	2+1
26.	Derive Snell's law of refraction using Huygens' wave theory. What prediction of the wave theory was later experimentally verified?	3
27(A)	I. An ammeter has an internal resistance of $13\ \Omega$ and is originally designed to measure currents only up to 100 A. To extend its range for high-current measurements, a shunt resistor is connected in parallel with it. After adding the shunt, the same meter can now read currents as high as 750 A without damage. Using the principle of current division in parallel circuits, determine the value of the shunt resistance required to increase the measuring range of the ammeter. II. The coil of a moving coil galvanometer is wound over a metal frame. Why? OR	3
27(B)	I. A small current loop behaves like a tiny magnet when placed in a magnetic field. Using this idea, explain what physical quantity determines the strength and orientation of such a magnetic dipole. Also state the SI unit of this quantity. II. A steel wire of length l has a magnetic moment m. It is bent into a semicircular arc. What is its new magnetic moment?	

28.	I. A bar magnet falls from a height through a metal ring. Its acceleration will be less than 'g'. Explain. II. A coil of copper wire is wound uniformly on a wooden equilateral triangular frame. If each side of the triangle is increased to 5 times its original length, while keeping the number of turns per unit length unchanged, how does the self-inductance of the coil change?	3
	SECTION D	
29.	In 2023, researchers developed flexible semiconductor films using organic polymers that could be printed like newspaper sheets. These films can bend, fold, and still conduct electricity efficiently. Unlike traditional silicon chips, polymer semiconductors are lightweight, biodegradable, and can be integrated into clothing or medical patches. Imagine a shirt that monitors your heartbeat or a bandage that tracks wound healing in real time. Such innovations extend the idea of semiconductors beyond rigid circuits, showing how manipulating band gaps and carrier mobility in new materials can revolutionize electronics for healthcare, sustainability, and wearable technology.	
	I. Which advantage of semiconductors makes them ideal for wearable devices like smart shirts? A. High voltage operation (~100 V) B. Bulky design and short life C. Low power consumption and reliability D. Requirement of external heating	1
	II. Carbon (diamond) has a band gap of 5.4 eV, while silicon has 1.1 eV. Why is silicon used in electronic devices but not the diamond? A. Diamond has too many free electrons. B. Diamond's band gap is too large for thermal excitation at room temperature. C. Silicon has weaker covalent bonds than diamond. D. Diamond cannot form covalent bonds.	1
	III. In an intrinsic semiconductor at room temperature A. only electrons contribute to conduction. B. only holes contribute to conduction. C. number of electrons equals number of holes. D. no conduction occurs at all.	1
	IV. How will you use the concept of majority and minority carriers to explain the efficiency of polymer semiconductors in wearable technology?	1

30.	In 1905, Albert Einstein explained the photoelectric effect by proposing that light consists of discrete packets of energy called photons. Each photon carries an energy $E=h\nu$. When a photon strikes a metal surface, it can transfer its energy to an electron. If the photon's energy exceeds the work function of the metal, the electron can be emitted with maximum kinetic energy $K_{\max}=h\nu-\phi_0$. This discovery challenged the classical wave theory, which predicted that electron emission should depend only on the intensity of light. Instead, experiments showed that emission of electrons depends on frequency too, proving the particle nature of light.	
	I. Define the term <i>work function</i> .	1
	II. Why the increase in the intensity of light does not increase the maximum kinetic energy of photoelectrons?	1
	III. A metal surface has a work function of 2 eV. The light of frequency $1.2 \times 10^{15}\text{Hz}$ falls on it. Which statement is correct? A. No electron is emitted because the intensity is low. B. Electrons are emitted with maximum kinetic energy less than 2 eV. C. Electrons are emitted with maximum kinetic energy greater than 0 eV. D. Electron emission depends only on the intensity of light and not on the frequency.	1
	IV. Which observation/s directly contradicts the classical wave theory of light? A. Photoelectric current increases with intensity B. The maximum kinetic energy depends only on the frequency and not on the intensity. C. The electrons are emitted instantaneously. D. Both B and C.	1
	SECTION E	
31(A)	I. An isolated conductor cannot have a large capacitance. Why? II. How would you connect 6 μF , 9 μF and 18 μF capacitors to obtain- i. the minimum capacitance ii. the maximum capacitance III. The capacitance of a parallel plate capacitor is increased as the area of the plates increases. What are the other two factors on which the capacitance depends?	2+2+1
	OR	

31(B)	I. Show that the electric field at any point is equal to the negative of the potential gradient at that point. II. A small metallic sphere is gradually charged in open air. It is observed that electrical breakdown of air occurs when the electric field at its surface reaches $2.5 \times 10^6 \text{ V m}^{-1}$. If the sphere is allowed to attain a maximum potential of $5 \times 10^5 \text{ V}$ without causing any discharge, determine the minimum radius the insulated sphere must have.	3+2
32(A)	A compound microscope consists of an objective lens of focal length 2 cm and an eyepiece lens of focal length 5 cm. The object is placed 2.2 cm from the objective lens. I. Calculate the position of the image formed by the objective lens. II. The eyepiece is so placed that the final image is formed at infinity. Find the magnifying power of the microscope. III. Explain briefly why the compound microscope provides much higher magnification compared to a simple magnifier.	2+2+1
	OR	
32(B)	An astronomical telescope uses an objective lens of focal length 100 cm and an eyepiece of focal length 5 cm. I. Calculate the magnifying power of the telescope when the final image is formed at infinity. II. If the least distance of distinct vision of the observer is 25 cm, calculate the magnifying power when the final image is formed at this distance. III. Explain why the objective lens of an astronomical telescope is made with a large focal length and aperture, while the eyepiece has a small focal length.	
33(A)	A certain electrical device is used to convert an alternating voltage of smaller magnitude into a much larger alternating voltage without violating the law of conservation of energy. I. With the help of a neat labelled diagram, describe the principle on which this device operates and explain how it increases the voltage. II. State the basic working mechanism of the device and mention the condition required in its input signal for proper functioning. III. Give one reason why this device does not operate with 100% efficiency in practical situations.	2+2+1
	OR	
33(B)	I. What do you mean by the resonance condition of a series LCR–circuit? II. Write an expression for the resonant frequency. Describe the use of a series resonant circuit in the tuning of a radio receiver.	3+2

Subject: PHYSICS (042)
Marking Scheme
Class – XII
Academic Session 2026–27

Maximum Marks: 70

Time Allowed: 3 hours

Q. No	SECTION A	Marks
1.	C. remain the same According to Gauss's Law, electric flux, $\Phi = \frac{Q}{\epsilon_0}$ Flux depends only on the enclosed charge, not on the shape or size of the Gaussian surface. Therefore, doubling the radius does not change the flux.	1
2.	C. 2000 W For a parallel combination , $P = P_1 + P_2$ $= 1000 + 1000 = 2000 \text{ W}$	1
3.	C. No current will be induced As the cylinder is kept stationary and also the magnetic field is uniform. The flux linked with the cylinder is not changing, so no current is induced in the cylinder.	1
4.	A. $\hat{i}$ The direction of propagation of electromagnetic waves is given by $-\omega/k$ and is along x axis as equation of wave is a function of x	1
5.	D. Origin of spectra All three can be explained by Huygens' construction of wave front but Origin of spectra cannot.	1
6.	C. Plane As star will act as distance point source hence wavefront detected will be plane.	1
7.	B. They are the most tightly bound nuclei. A maximum in binding energy per nucleon means these nuclei are the most stable and most tightly bound. • They do not undergo spontaneous fission (that's typical for very heavy nuclei like uranium). • They are certainly not the least stable — in fact, they are the most stable. • They can still participate in nuclear reactions, but they are at the “energy valley,” so both fusion (lighter nuclei) and fission (heavier nuclei) tend to release energy by moving toward iron.	1

8.	D. Away from the bar magnet and opposite to that of bar magnet As the ball is dipped in liquid nitrogen, its temperature becomes less than the critical temperature and it becomes a superconductor. In this state, the ball becomes diamagnetic.	1
9.	B. 5 A The Wheatstone bridge is balanced, because $\frac{2\Omega}{4\Omega} = \frac{3\Omega}{6\Omega}$ The 5 Ω resistance is ineffective, we now have- (2 Ω + 4 Ω) and (3 Ω + 6 Ω) resistances in parallel. $R_{AB} = \frac{6 \times 9}{6+9} = \frac{18}{5} \Omega$ Now, $I = V/R$ Or, $I = \frac{18}{18/5} A = 5A$ <u>For Visually Impaired Students only</u> B. R In the balanced condition, the resistance R of the galvanometer is ineffective. We have (R+R) and (R+R) resistances in parallel. $R_{eq} = \frac{2R \times 2R}{2R+2R} = R$	1
10.	A. 5:3 Here $P_1=60 \text{ W}$, $P_2=100 \text{ W}$ $R_1 = \frac{V^2}{P_1} \quad \text{and} \quad R_2 = \frac{V^2}{P_2}$ $\therefore \frac{R_1}{R_2} = \frac{P_2}{P_1} = \frac{100}{60} = 5:3$	1
11.	C. 22 km Typical nuclear radius $\approx 10^{-15} \text{ m}$ (1 femtometer). Atom radius (electron orbit, roughly Bohr radius) $\sim 10^{-10} \text{ m}$ Ratio of atom size to nucleus size $\sim 10^5$. Football (nucleus) radius $\sim 22 \text{ cm} = 0.22 \text{ m}$. Multiply by 10^5 $0.22 \text{ m} \times 10^5 = 22,000 \text{ m} = 22 \text{ km}$.	1
12.	C. $5 \pi \mu T$ $B = \frac{\mu_0 I}{4R} = \frac{4\pi \times 10^{-7} \times 5}{4 \times 0.10} T = 5\pi \times 10^{-6} T = 5 \pi \mu T$	1

	For Questions 13 to 16, two statements are given –one labelled Assertion (A) and other labelled Reason (R). Select the correct answer to these questions from the options as given below. A. both Assertion and Reason are true and Reason is the correct explanation of Assertion. B. both Assertion and Reason are true but Reason is not the correct explanation of Assertion. C. Assertion is true but Reason is false. D. both Assertion and Reason are false.	
13.	B. both Assertion and Reason are true but Reason is not the correct explanation of Assertion. Explanation: Both are true; most of the space is empty (nucleus tiny), so alpha particles pass undeflected; electron mass has negligible deflecting effect on energetic alpha particles, as reason for statement is “most of the space is empty (nucleus tiny)”	1
14.	A. both Assertion and Reason are true and Reason is the correct explanation of Assertion. Explanation: Both true and R explains A; lens maker's formula uses relative index $(\frac{\mu_{lens}}{\mu_{medium}} - 1)$, so in water the relative refractive index decreases and f increases.	1
15.	C. Assertion is true but Reason is false Fringe width in YDSE is inversely proportional to the slit separation and directly proportional to the wavelength of light.	1
16.	D. both Assertion and Reason are false. Electrons in a conductor move freely. When an external field is applied, charges rearrange until the internal field they create exactly cancels the external field. This is the reason the net internal field becomes zero.	1
	SECTION B	
17.	I. Refractive index of medium $(\mu) = \frac{c}{v_{medium}}$ $C = 3 \times 10^8 \text{ m/s}$ $V_{medium} = \frac{2\pi \times 10^{18}}{\pi \times 10^{10}} = 2 \times 10^8 \text{ m/s}$ $\mu = \frac{3 \times 10^8}{2 \times 10^8} = 1.5$ II. Angular frequency $(\omega) = 2\pi \times 10^{18} \text{ rad s}^{-1}$	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$

	Or, $2\pi\nu = 2\pi \times 10^{18} \text{ rad s}^{-1}$ Or, $\nu = 10^{18} \text{ s}^{-1}$ - This frequency correspond to X Ray	$\frac{1}{2}$
18.	The nature of the path of free electrons in a conductor differs depending on whether an electric field is present or not: a. In the presence of an electric field - Free electrons experience a net force opposite to the direction of the electric field. - This causes them to drift slowly in the direction opposite to the field (since electrons are negatively charged). - Despite this drift, electrons still undergo frequent collisions with atoms in the conductor, resulting in a zigzag or random motion superimposed with a net drift. - This net movement of electrons constitutes an electric current. b. In the absence of an electric field - Electrons move randomly due to thermal energy. - There is no net movement of electrons in any particular direction. - The motion is random and chaotic, similar to the movement of gas molecules. - As a result, no electric current flows in the conductor.	1 1
19.	At the midpoint, distance from both charges is $d/2$ Potential due to one charge +q at the midpoint of the line: $V_1 = \frac{kq}{\frac{d}{2}} = \frac{2kq}{d}$ Potential due to both charges; $V = 2 \times \frac{2kq}{d} = \frac{4kq}{d}$ Work done by external gent : $W = qV = q \left(\frac{4kq}{d} \right) = 4kq^2/d$	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$
20(A)	Given: Relative magnetic permeability, $\mu_r=800$ Since the relative permeability is much greater than 1, the material is a ferromagnetic material. Properties: - Ferromagnetic materials are strongly attracted by a magnetic field because they have a very high value of magnetic permeability. - They can retain magnetism even after the external magnetic field is removed, meaning they show hysteresis and can be made into permanent magnets.	1 $\frac{1}{2} \times 2$

	$n = \frac{c}{v}$ hence, $\frac{v_1}{v_2} = \frac{n_2}{n_1}$ Therefore, $n_1 \sin i = n_2 \sin r$ This is Snell's law of refraction. Prediction of wave theory later experimentally verified The wave theory of light (from Huygens' construction) predicted that light travels more slowly in an optically denser medium than in a rarer medium: $v \propto \frac{1}{n}$ This prediction was experimentally verified by Foucault (and later Fizeau), who showed that the speed of light in water is less than its speed in air—contradicting the earlier corpuscular (Newtonian) theory.	1
27(A)	I. The original ammeter can be treated as the galvanometer. $S = \frac{I_g G}{I - I_g}$ $= \frac{100 \times 13}{750 - 100}$ $= \frac{1300}{650} = 2 \Omega$ II. To provide electromagnetic damping. The induced currents set up in the metal frame help to damp the oscillation of the coil in the magnetic field.	1 $\frac{1}{2}$ $\frac{1}{2}$ 1
OR		
27(B)	I. Magnetic dipole moment SI unit: ampere metre² (Am²) or joule per tesla (JT⁻¹) II. Pole strength, $q_m = \frac{m}{l}$ When the wire is bent into a semicircular arc, the separation between the poles changes from l to $2r$, where r is the radius of the semicircular arc. $l = \pi r$ $r = \frac{l}{\pi}$ New magnetic moment = $q_m \times 2r$ $= \frac{m}{l} \times \frac{2l}{\pi}$ $= \frac{2m}{\pi}$	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$
28.	I. As the magnet falls, the magnetic flux linked with the copper ring increases. The current induced in the ring opposes the downward motion of the magnet. II. Self Inductance, $L \propto \frac{N^2 A}{l}$ Here $N \rightarrow 5N$ Area as square of linear dimension, $A \rightarrow 5^2 A = 25 A$	1 $\frac{1}{2}$

	Magnetic path Length, $l \rightarrow 5l$ $\frac{L'}{L} = \frac{(5N)^2 \cdot 25A/5l}{N^2 A/l}$ $= \frac{25 \times 25}{5} = 125$ $L' = 125 L$	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$
	SECTION D	
29.	I. C. Low power consumption and reliability Wearable devices need to operate continuously with minimal energy usage and dependable performance, which semiconductors provide.	1
	II. B. Diamond's band gap is too large for thermal excitation at room temperature. Because of its large band gap, diamond does not allow sufficient charge carriers to be generated at room temperature, making it unsuitable as a semiconductor	1
	III. C. Number of electrons equals number of holes. In intrinsic semiconductors, electrons and holes are generated in pairs, so their numbers are equal.	1
	IV. In polymer semiconductors, electrical conduction mainly occurs due to majority carriers (electrons in n-type or holes in p-type materials). By controlling the concentration and mobility of these carriers, polymer semiconductors can conduct electricity efficiently even when bent or stretched. Minority carriers play a role in recombination processes and stability. This balance allows polymer semiconductors to function reliably at low power, making them well-suited for flexible, lightweight, and wearable technologies such as smart clothing and medical patches.	1
30.	I. The work function (ϕ_0) of a metal is the minimum energy required to remove an electron from the surface of the metal so that it just escapes with zero kinetic energy.	1
	II. Increasing light intensity increases the number of photons, not the energy of each photon. Since the energy of a photon depends only on its frequency ($E = h\nu$), the maximum kinetic energy of emitted electrons depends only on frequency, not intensity. Higher intensity only increases the number of emitted electrons (photoelectric current).	1
	III. C. Electrons are emitted with maximum kinetic energy greater than 0 eV. Photon energy: $E = h\nu \approx 4.14 \times 10^{-15} \times 1.2 \times 10^{15} \approx 5 \text{ eV}$ Maximum kinetic energy: $K_{\max} = E - \phi_0 = 5 - 2 = 3 \text{ eV}$	1

	IV. D. (Both B and C) • B: Maximum kinetic energy depends only on frequency, not intensity • C: Electrons are emitted instantaneously Both observations cannot be explained by classical wave theory and support the particle nature of light	1
	SECTION E	
31(A)	I. An isolated conductor cannot have a large capacitance because its capacitance depends directly on its size (radius). For an isolated sphere: $C = 4\pi\epsilon_0 R$ Since ϵ_0 is a constant, the only way to increase capacitance is by increasing R (the radius). A very large capacitance would require an extremely large-sized conductor, which is not practically possible. Therefore, an isolated conductor always has a small capacitance. II. i. For minimum capacitance, the three capacitors must be connected in series, $\frac{1}{C_{min}} = \frac{1}{6} + \frac{1}{9} + \frac{1}{18} = \frac{6}{18} = \frac{1}{3}$ $C_{min} = 3 \mu F$ ii. For maximum capacitance, the three capacitors must be connected in parallel, $C_{max} = 6 + 9 + 18 = 33 \mu F$ III. The other two factors on which capacitance of a parallel plate capacitor depends, are- i. Distance between the plates ($C \propto 1/d$) ii. Permittivity of the medium between the plates ($C \propto \epsilon$)	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2} \times 2$
	OR	

31(B)	I. Consider a small positive charge +q placed in an electric field $\vec{E}$. Suppose it is displaced through a very small distance dx in the direction of the field. Force on the charge, $\vec{F} = q\vec{E}$ Work done by the electric field in moving the charge through distance dr, $dW = \vec{F} \cdot d\vec{r} = qE.dr \quad \dots\dots(1)$ Here, the change in electric potential , $dV = \frac{dW}{q}$ From (1)- $dV = \frac{qE.dr}{q}$ $dV = - E.dr$ $\Rightarrow E = - \frac{dV}{dr}$ i.e. The electric field at any point is equal to the negative gradient of electric potential at that point. II. Potential gradient, $\frac{dV}{dr} = 2.5 \times 10^6 \text{ Vm}^{-1}$ $dV = 2.5 \times 10^6 dr$ $V = 2.5 \times 10^6 r$ $r = \frac{V}{2.5 \times 10^6}$ $= \frac{5 \times 10^5}{2.5 \times 10^6}$ $r = 2 \times 10^{-1} = 0.2 \text{ m}$	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$
32(A)	I. Position of the image formed by the objective lens Using the lens formula: $\frac{1}{f_o} = \frac{1}{v_o} - \frac{1}{u_o}$ $\frac{1}{2} = \frac{1}{v_o} - \left(\frac{1}{-2.2} \right)$ $\frac{1}{v_o} = \frac{1}{2} - \frac{1}{2.2}$ $\frac{1}{v_o} = \frac{2.2 - 2}{4.4} = \frac{0.2}{4.4}$ $v_o = 22 \text{ cm}$ Image formed by the objective lens is at 22 cm from it. II. Magnifying power of the microscope (final image at infinity)	2+2+1

	Magnifying power of a compound microscope: $M = \left(\frac{v_o}{u_o}\right) \left(\frac{D}{f_e}\right)$ where $D = 25$ cm (least distance of distinct vision) $M = \left(\frac{22}{2.2}\right) \left(\frac{25}{5}\right)$ $M = 10 \times 5 = 50$ Magnifying power of the microscope = 50 III. A compound microscope provides much higher magnification than a simple magnifier because: A compound microscope uses two lenses: - The objective lens produces a highly magnified real image of a very small object. - The eyepiece lens further magnifies this image. Thus, the total magnification is the product of the magnifications of the objective and the eyepiece, making it much greater than that of a simple magnifier, which uses only a single lens.	
	OR	
32(B)	Given: Focal length of objective lens, $f_o = 100$ cm Focal length of eyepiece lens, $f_e = 5$ cm Least distance of distinct vision, $D = 25$ cm I. Magnifying power when final image is formed at infinity For an astronomical telescope (normal adjustment): $M = \frac{f_o}{f_e}$ $M = \frac{100}{5} = 20$ Magnifying power = 20 II. Magnifying power when final image is formed at the least distance of distinct vision $M = \frac{f_o}{f_e} \left(1 + \frac{f_e}{D}\right)$ $M = \frac{100}{5} \left(1 + \frac{5}{25}\right)$ $M = 20(1 + 0.2) = 20 \times 1.2 = 24$ Magnifying power = 24 III. Reason for design of objective and eyepiece in an astronomical telescope	2+2+1

	- The objective lens is made with a large focal length to produce a highly magnified real image of distant celestial objects and with a large aperture to collect more light, increasing brightness and resolution. - The eyepiece lens has a small focal length so that it can further magnify the image formed by the objective. This combination results in high magnifying power and a brighter, clearer image of distant astronomical objects.	
33(A)	I. Device: Step-up transformer Principle – Mutual induction: When an alternating current flows in the primary coil, it produces a time-varying magnetic flux in the soft iron core. This changing flux links with the secondary coil and, by Faraday’s law of electromagnetic induction, an emf is induced in the secondary. For an ideal transformer : $\frac{V_s}{V_p} = \frac{N_s}{N_p}$ If $N_s > N_p$, then $V_s > V_p$: the transformer steps up the voltage. Because in an ideal transformer- $P_{in} = P_{out} \Rightarrow V_p I_p = V_s I_s,$ The law of conservation of energy is not violated: when voltage increases, current decreases correspondingly. II. Working mechanism: - The primary coil is supplied with an alternating voltage. - This produces an alternating magnetic field in the core. - The changing magnetic flux linked with the secondary coil induces an alternating emf in it. - Thus energy is transferred from primary to secondary coil through the changing magnetic field in the core, without any electrical contact between the two windings.	1 1/2 1/2 1 1

	Condition for proper functioning: The input must be alternating current (a.c.), not direct current (d.c.) With d.c. there is no change of flux, hence no induced emf in the secondary coil. III. Any one of the following : • Copper losses • Eddy current losses. • Hysteresis loss • Flux leakage Because of these losses, output power is less than input power, so efficiency is less than 100%.	1
	OR	
33(B)	I. Resonance condition in a series LCR circuit & resonant frequency A series LCR circuit has a resistor (R), inductor (L) and capacitor (C) all in series with an AC source. Resonance condition: The circuit is said to be in resonance when its inductive reactance equals its capacitive reactance: $X_L = X_C$ $\omega L = \frac{1}{\omega C}$ Where ω is the angular frequency of the a.c. supply. At resonance: • The net reactance $X = X_L - X_C = 0$ • The impedance $Z = R$ (minimum) • The current in the circuit is maximum for the given applied voltage Hence the circuit behaves as a purely resistive circuit at resonance. The resonant frequency, $f_0 = \frac{\omega_0}{2\pi} = \frac{1}{2\pi\sqrt{LC}}$ II. Use of a series resonant circuit in tuning a radio receiver A radio station transmits electromagnetic waves of a definite frequency. In a radio receiver, the input stage contains a tuneable series LCR circuit (or LC tank) whose resonance frequency can be changed. • The inductor (L) is usually fixed. • The capacitor (C) is made variable (variable capacitor).	1 $\frac{1}{2}$ $\frac{1}{2}$ 1 1

	By adjusting the variable capacitor C, the resonant frequency, $f_0 = \frac{1}{2\pi\sqrt{LC}}$ is changed until it becomes equal to the frequency of the desired radio station. At this condition: • The LCR circuit is at resonance with that station's frequency. • Its impedance is minimum, so the current (and hence signal voltage) is maximum for that particular station. • Signals of other frequencies (other stations) are not at resonance, so their currents are much smaller and get largely rejected. Thus, by using a series resonant circuit, the radio receiver can select (tune to) one particular station and reject others.	1
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CHEMISTRY (CODE - 043)
SAMPLE QUESTION PAPER*
CLASS XII (2026-27)

Time: 3 hours

Max. Marks: 70

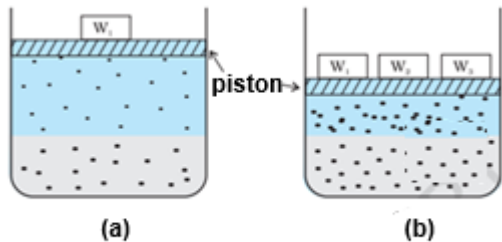
GENERAL INSTRUCTIONS:

Read the following instructions carefully.

1. There are **33** questions in this question paper with internal choice.
2. SECTION A consists of 16 multiple-choice questions carrying 1 mark each.
3. SECTION B consists of 5 very short answer questions carrying 2 marks each.
4. SECTION C consists of 7 short answer questions carrying 3 marks each.
5. SECTION D consists of 2 case-based questions carrying 4 marks each.
6. SECTION E consists of 3 long answer questions carrying 5 marks each.
7. All questions are compulsory.
8. In addition to this, a separate question has been provided for visually impaired candidates in lieu of questions having visual inputs.
9. Use of log tables and calculators is not allowed.

Section-A														
Question 1 to 16 are multiple choice questions. Only one of the choices is correct. Select and write the correct choice as well as the answer to these questions.														
1	The boiling points and K_b values of isomeric amines are given in table 1. <table><tr><th>Amine</th><th>Boiling point/K</th><th>pK_b (approx)</th></tr><tr><td>P</td><td>329.3</td><td>3.00</td></tr><tr><td>Q</td><td>310.5</td><td>9.83</td></tr><tr><td>R</td><td>350.8</td><td>3.22</td></tr></table> Table 1 Which one of the following statement is correct? A. Amine P is more volatile than amine R, but less basic B. Amine R will give white precipitate with Hinsberg reagent, which is soluble in NaOH C. Amine Q is more soluble in water as compared to R. D. Amine P and Q can be prepared by Gabriel Phthalimide process.	Amine	Boiling point/K	pK_b (approx)	P	329.3	3.00	Q	310.5	9.83	R	350.8	3.22	1
Amine	Boiling point/K	pK_b (approx)												
P	329.3	3.00												
Q	310.5	9.83												
R	350.8	3.22												
2	Which of the following complex is tetrahedral in shape? A. $[\text{Ni}(\text{CN})_4]^{2-}$ B. $[\text{Cu}(\text{NH}_3)_4]^{2+}$ C. $[\text{NiCl}_4]^{2-}$ D. $[\text{Co}(\text{en})_3]^{3+}$	1												

* There is no change in the Question Paper Design and Assessment Pattern for Academic Session 2026-27.

3	The quantity of charge required to obtain one mole of metal “M” from M_2O_3 is: A. 1F B. 6F C. 3F D. 2F	1
4	An organic compound “X” on reaction with chloroform and alcoholic KOH gives foul smelling product. In which of the following case compound X would be produced: A. Chloromethane is treated with AgCN. B. Nitrobenzene is reduced. C. Benzene diazonium chloride is treated with Cu/KCN D. Aniline reacts with Acetyl chloride.	1
5	Consider a system in a state of dynamic equilibrium, as shown in Fig. 1(a). The lower part is solution and the upper part is gaseous system at pressure p and temperature T. If the pressure is increased over the solution phase by compressing the gas to a smaller volume as shown in Fig 1(b).  Figure 1 Which of the following statements is true about figure 1(b) A. solubility of gas will increase until dynamic equilibrium is reached B. solubility of gas will decrease until dynamic equilibrium is reached C. solubility of gas will increase until static equilibrium is reached D. solubility of gas will decrease until static equilibrium is reached (For Visually Challenged Learners) According to Henry's law partial pressure P of a gas above the liquid at constant temperature is directly proportional to A. volume of the gas B. mole fraction of the gas in the solution C. atmospheric pressure D. vapour pressure of the solution	1
6	Aavya carries out hydrolysis of acetyl chloride. The reaction is represented by the following equation: $CH_3COCl + H_2O \longrightarrow CH_3COOH + HCl$ She carries out the reaction with (i) equimolar amounts of acetyl chloride and water (ii) excess of water. The rate law obeyed in the two cases will be: A. (i) First order (ii) Second Order B. (i) First order (ii) First order C. (i) Second order (ii) Second order D. (i) Second order (ii) First order	1

7	The amino acid $\text{HOOC-CH}_2\text{-CH}_2\text{-CH (NH}_2\text{) COOH}$, can be synthesised within our body. Which of the following is true about this amino acid? $\text{HOOC-CH}_2\text{-CH}_2\text{-CH(NH}_2\text{) COOH}$ is: A. an acidic and non-essential amino acid. B. a neutral and non- essential amino acid. C. an acidic and essential amino acid D. a neutral and essential amino acid	1
8	Identify the Grignard reagent and carbonyl compound which on reaction followed by hydrolysis will give 3-methyl pentan-3-ol. (i) $\text{C}_2\text{H}_5\text{COC}_2\text{H}_5 + \text{CH}_3\text{MgCl}$ (ii) $\text{C}_2\text{H}_5\text{COCH}_3 + \text{C}_2\text{H}_5\text{MgCl}$ (iii) $\text{CH}_3\text{CHO} + \text{C}_2\text{H}_5 - \underset{\text{MgCl}}{\underset{ }{\text{C}}} \text{H} \text{C}_2\text{H}_5$ (iv) $\text{C}_2\text{H}_5\text{CHO} + \text{CH}_3 - \underset{\text{MgCl}}{\underset{ }{\text{C}}} \text{H} \text{C}_2\text{H}_5$ A. (i) and (iii) B. (ii) and (iv) C. (iii) and (iv) D. (i) and (ii)	1
9	Which one of the following element will be strong oxidising agent in their +3 oxidation state? (Atomic no. Cr=24, Mn=25, Ti=22, Fe=26) A. Cr B. Mn C. Ti D. Fe	1
10	When (–)-2-bromohexane reacts with sodium hydroxide, (+)-hexan-2-ol is formed. Which one of the following observation would be correct? A. The reaction follows S_N^2 mechanism and is accompanied by inversion of configuration. B. The reaction follows S_N^1 mechanism and is accompanied by inversion of configuration. C. The reaction follows S_N^2 mechanism and is accompanied by retention of configuration. D. The reaction follows S_N^1 mechanism and is accompanied by retention of configuration.	1
11	If half-life of a first order reaction is 16 minutes, how much time does it take to complete 75% of the reaction? A. 16 min B. 32 min C. 48 min D. 64 min	1
12	Which solution has the highest conductivity? A. 0.1 M HCl B. 0.1 M CH_3COOH C. 0.1 M glucose D. 0.1 M NH_4OH	1

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13	Assertion (A): Nitration of aniline gives significant amount of meta derivative. Reason (R): -NH₂ is ortho and para directing and highly activating group. Select the most appropriate answer from the options given below: A. Both A and R are true, and R is the correct explanation of A. B. Both A and R are true, and R is not the correct explanation of A. C. A is true but R is false. D. A is false but R is true.	1
14	Assertion (A): Permanganate and manganate ions have tetrahedral structure Reason (R): In permanganate and manganate ions, pi bonding takes place which is due to overlap of p orbitals of oxygen with p orbitals of manganese. Select the most appropriate answer from the options given below: A. Both A and R are true, and R is the correct explanation of A. B. Both A and R are true, and R is not the correct explanation of A. C. A is true but R is false. D. A is false but R is true.	1
15	Assertion (A): Miscibility of ethers with water resembles those of alcohols of the same molecular mass. Reason (R): The oxygen of ether can also form hydrogen bonds with water. Select the most appropriate answer from the options given below: A. Both A and R are true, and R is the correct explanation of A. B. Both A and R are true, and R is not the correct explanation of A. C. A is true but R is false. D. A is false but R is true	1
16	Assertion (A): [Co(NH₃)₆]³⁺ is diamagnetic. Reason (R): NH₃ is a strong field ligand and causes pairing of electrons. Select the most appropriate answer from the options given below: A. Both A and R are true, and R is the correct explanation of A. B. Both A and R are true, and R is not the correct explanation of A. C. A is true but R is false. D. A is false but R is true	1
Section-B Question No. 17 to 21 are very short answer questions carrying 2 marks each.		
17(A)	Attempt either A or B (I) Complete and balance the following reaction $\text{SO}_3^{2-} + \text{MnO}_4^- + \text{H}^+ \rightarrow$ (II) Why does titanium melt at a lower temperature than chromium? OR	1 1

* There is no change in the Question Paper Design and Assessment Pattern for Academic Session 2026-27.

17(B)	(I) Why do titanium and scandium forms complex compounds, whereas potassium and calcium do not, although they belong to same period? (II) Complete and balance the following reaction $\text{Fe}^{2+} + \text{Cr}_2\text{O}_7^{2-} + \text{H}^+ \rightarrow$	1 1
18	“The rate of reaction remains constant during the course of reaction.” Is this statement always true or is true under certain conditions? Reflect on the statement.	2
19	(I) Complete the sequence of nitrogenous bases in the given DNA strand (Figure 2) (II) Milk contains a protein called casein. How does the structure of casein change on addition of a few drops of lemon juice to milk? (For Visually Challenged Learners) (I) Name the nitrogenous bases in DNA (II) Milk contains a protein called casein. How does the structure of casein change on addition of a few drops of lemon juice to milk?	Figure 2 1 1
	Chlorobenzene can be converted into phenol by heating in aqueous sodium hydroxide solution at a temperature of 623K and 300 atm, however presence of a substituent group effects its activity towards this nucleophilic substitution reaction. Which substituent (i) nitro or (ii) methoxy will increase the reactivity of chlorobenzene and why?	2
21	Account for the following: (I) Underground iron pipelines are often protected by connecting them to a more reactive metal like magnesium. (II) Write the reactions occurring at cathode and anode during the electrolysis of molten magnesium chloride.	2x1
Section-C Question No. 22 to 28 are short answer questions, carrying 3 marks each.		
22	(I) Which of the following has the highest magnetic moment? Justify your answer. Ti^{2+}, Co^{2+}, Fe^{2+} [Atomic No. Ti = 22 Co = 27 , Fe = 26]	1
	(II) Which characteristic of iron make it suitable to: a) act as catalyst in Haber's process. b) form interstitial compound with oxygen.	2

23

The values of log k and 1/T for a reaction are given-

3

S.No.	Log k	1/T (/K)
1.	-4.46	0.00333
2.	-3.91	0.00323
3.	-3.37	0.00313
4.	-2.82	0.00303
5.	-2.31	0.00294

The plot of log k vs 1/T obtained for the above data is as shown in Figure 3.

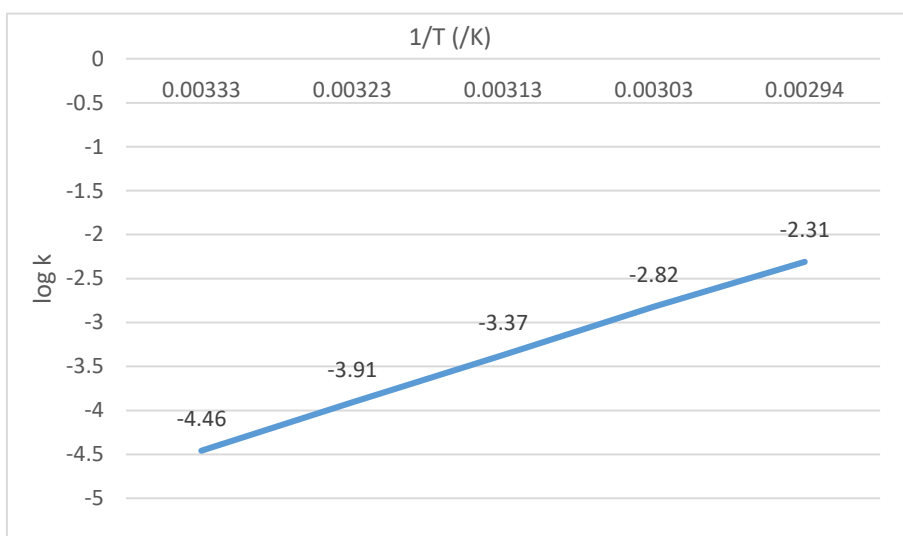


Figure 3

Here k is the rate constant and T is the absolute temperature.

Calculate E_a for the reaction. (Given $R = 8.314 \text{ JK}^{-1}\text{mol}^{-1}$)

(For Visually Challenged Learners)

Rate constant k of a reaction varies with temperature 'T' according to the equation

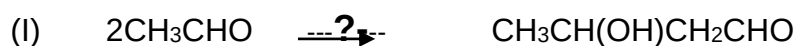
$$\log k = \log A - \frac{E_a}{2.303RT}$$

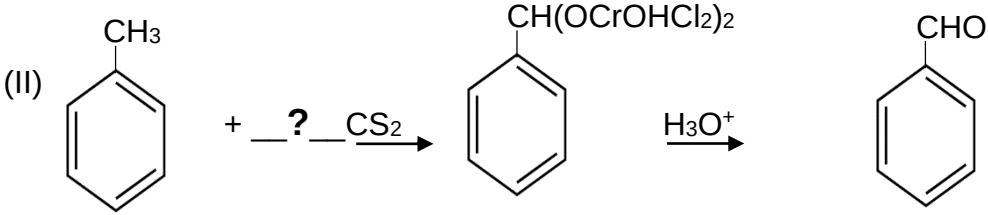
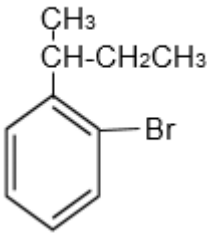
where E_a is the activation energy. When a graph is plotted for log k vs 1/T, a straight line with a slope of -4250 K is obtained. Calculate E_a for the reaction. (Given $R = 8.314 \text{ JK}^{-1}\text{mol}^{-1}$).

24

Identify each name reaction and complete the missing reactant/ product in the given reaction sequence.

3x1

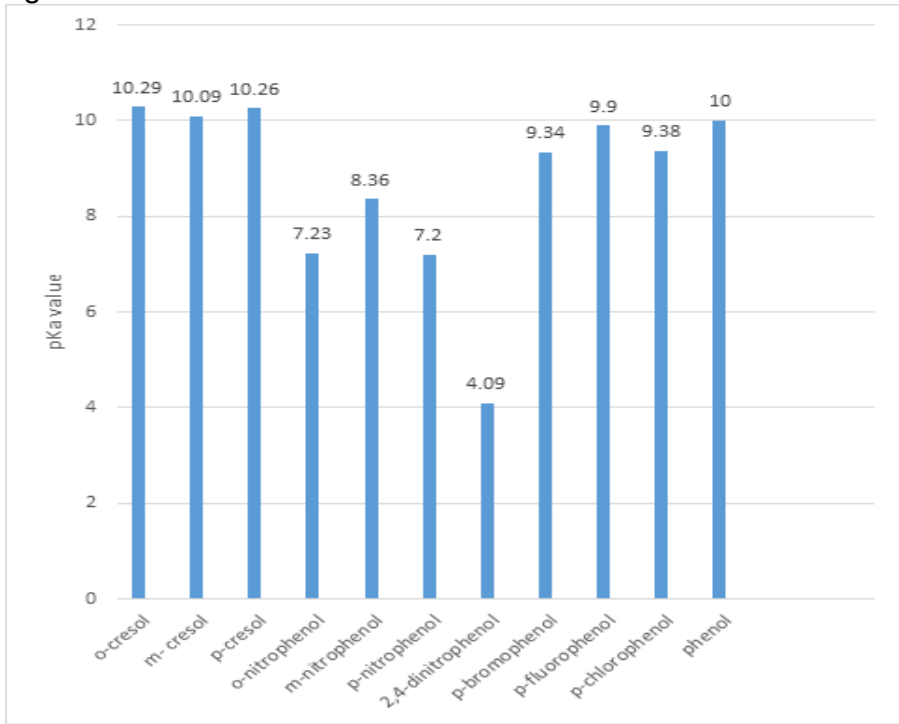


	(II)  (III) $>C=O \xrightarrow[-H_2O]{NH_2NH_2} \text{---?---} \xrightarrow[\text{Heat}]{KOH/\text{ethylene glycol}} >CH_2 + N_2$	
25	(I) Aman prepared a solution by dissolving 10 ml of Acetone and 10 ml of Carbon disulphide. The net volume of resulting solution was not found to be 20 mL. a) What would be the observation in this case? Comment. b) In case carbon disulphide is replaced by chloroform in the above case, what would be the expected changes in volume of the resulting solution? Support your answer with appropriate reason. (II) Calculate the concentration of oxygen (in ppm) present in 1 litre of sea water. Given that a litre of sea water weighs 1030 g and contains about 6×10^{-3} g of dissolved oxygen.	1+1 1
26	(I) Convert the following; a) Nitrobenzene to flourobenzene b) Benzoic acid to benzylamine (II) Aniline undergoes electrophilic substitution reactions readily. However, acetylation of aniline is required to obtain monosubstituted products. Give reason for your answer	2 1
27(A)	Attempt either A or B (I) Write the IUPAC name of the following compound  (II) When $CH_3CH_2CH_2Cl$ reacts with $AgCN$ and KCN, Compound "X" and "Y" respectively are formed. Identify "X" and "Y". Support your answer with appropriate reason. OR	1 2
27(B)	(I) What is the IUPAC nomenclature of the compound: $(CH_3)_3C-C(CH_3)Br-CH_2CH_3$	1

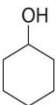
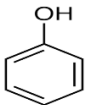
	(II) Which of the following will be hydrolysed more readily? $\text{CH}_2=\text{CH}-\text{CH}_2\text{Cl}$ or $(\text{CH}_3)_2\text{CHCl}$ Support your answer with reason.	2
28	(I) On adding 100 g of non-volatile solute A in 1000 g of water, the vapour gets reduced by 50 percent. Calculate the molar mass of solute A.	2
	(II) It has been observed that nitric acid solution containing 32% of water by mass, cannot be separated into its components through fractional distillation. Why?	1

Section D

Question No. 29 & 30 are case-based/data -based questions carrying 4 marks each.

29	Acidity of substituted phenols Phenol and substituted phenols are relatively more acidic than aliphatic alcohols. The pKa value is a quantitative measure of the acidic strength. The effect of substituents on acidity of phenols (pKa values) is given in Figure 4.  Figure 4 Study the graph and answer the following questions (I) The pKa value of 2,4,6- trinitrophenol will be: A. more than 8.36 B. between 7.2 and 8.3 C. between 4.09 and 2.3 D. less than 4.09 (II) The order of acidity of p-halophenols is : A. p-bromophenol > p-chlorophenol > p-fluorophenol > phenol B. phenol > p-fluorophenol > p-chlorophenol > p-bromophenol C. p-chlorophenol > p-bromophenol > p-fluorophenol > phenol	1 1
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* There is no change in the Question Paper Design and Assessment Pattern for Academic Session 2026-27.

	D. phenol > p-flourophenol > p-bromophenol > p-chlorophenol Attempt either (IIIA) or (IIIB). (IIIA) Predict which one of the following two compounds will have lower value of pKa .  OR  Give reason in support of your reason. OR (IIIB) Predict whether 4 chloro-2, 6- dinitrophenol is more or less acidic than 2,4,6-trinitrophenol? Use the values in the graph to support your answer. (For Visually Challenged Learners) Read the passage and answer the questions that follow The presence of electron withdrawing groups such as nitro group, enhances the acidic strength of phenol. It is due to the effective delocalisation of negative charge in phenoxide ion. On the other hand, electron releasing groups, such as alkyl groups, in general, do not favour the formation of phenoxide ion resulting in decrease in acid strength. Cresols, for example, are less acidic than phenol. The pKa value is a quantitative measure of the acidic strength. Higher the pKa value lower is the acidic strength. (I) Which of the following will form least stable phenoxide ion? - phenol - o-cresol - o-nitrophenol - o-chlorophenol (II) Which group causes the maximum increase in pKa value of phenol: – CH₃ – OCH₃ – NO₂ – Cl Attempt either (IIIA) or (IIIB) (IIIA). Which of the following will be more acidic? Nitrophenol or 2,4-Dinitrophenol. Support your answer with appropriate reason? OR (IIIB). Predict whether pka value of p-cresol or p-nitrophenol will be higher or lower than phenol. Give reason to support your answer.	2 2 1 1 2 2
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30	Identification of carbohydrate Students of class 12 are given a sample of carbohydrate obtained from a plant extract. They conducted the following tests to identify the carbohydrate. The students find that the given carbohydrate is soluble in water. They take about 1-2 mL of aqueous solution of the carbohydrate in a test tube and add 2 mL of Benedict's reagent. The test tube is heated in water bath for 3-5 minutes. A brick red precipitate is obtained. The sample of the given carbohydrate on hydrolysis with dilute acid, gives only one type of monosaccharide. Read the passage and answer the following questions: (I) The sample gives a positive Benedict's test. We can conclude that the given carbohydrate is a - monosaccharide - reducing sugar - non-reducing sugar - polysaccharide (II) Which of the following is plant based carbohydrate? (i) sucrose (ii) lactose (iii) starch (iv) glycogen (i) and (ii) (i) and (iii) (iii) and (iv) (i) and (iv) Attempt either (IIIA) or (IIIB) (IIIA) Considering all observations reported in the passage the sample is most likely (i) glucose (ii) fructose (iii) sucrose (iv) lactose (v) maltose. Justify your answer. OR (IIIB) Ravi reports that the given sample is starch. What could be his justification, based on the observations in the passage? Do you agree with Ravi? Why or why not?	1 1 2 2
Section-E Question No. 31 to 33 are long answer type questions carrying 5 marks each.		
31(A)	Attempt either A or B (I) Account for the following - The pH should be around 3.5 during the addition of ammonia derivative compounds to aldehyde/ ketone. - Alcohols are added to carbonyl compounds in the presence of dry HCl gas. - The reaction of aldehydes with sodium hydrogen sulphite is commonly used for the separation and purification of aldehydes. (II) A student has three colourless samples: methanol, acetaldehyde, and acetic acid. They have only NaHCO_3, and 2,4-DNP reagent	3x1 2

* There is no change in the Question Paper Design and Assessment Pattern for Academic Session 2026-27.

31(B)	Devise a flowchart to identify each compound using only these two reagents. OR (I) Arrange the following according to the property indicated a) CH_3CHO, HCHO, $\text{C}_6\text{H}_5\text{CHO}$ (decreasing order of the ease of oxidation) b) CH_3COCl, CH_3COOH, CH_3CONH_2, $\text{CH}_3\text{COOCH}_3$ (increasing order of nucleophilic acyl substitution) c) CH_3CHO, CH_3COCH_3, CF_3CHO (increasing order of electrophilicity of carbonyl carbon) (II) Write any two possible isomers of the compound having molecular formula $\text{C}_3\text{H}_6\text{O}$. Identify which of these isomer/s will give a positive Tollen's test and explain the reason.	3x1 2
32(A)	Attempt either A or B Answer the following questions: (I) Two test tubes, X and Y, contain solutions of the complexes $[\text{Cr}(\text{H}_2\text{O})_3\text{Cl}_3]$ and $[\text{Cr}(\text{en})_3]^{3+}$ respectively. If plane-polarized light is passed through these solutions, which solution will rotate the plane of polarization and why? (II) $[\text{Ni}(\text{CO})_4]$ and $[\text{Ni}(\text{H}_2\text{O})_6]^{2+}$ are two complexes of Ni. Which complex will have higher crystal field splitting energy, and which factor determines this difference? (III) A solution of the coordination compound $\text{PdCl}_2 \cdot 4\text{NH}_3$ is treated with AgNO_3, and 2 mole of AgCl precipitate form. Determine the primary valency and secondary valency of Pd in the compound. (IV) The complex $[\text{Fe}(\text{CN})_6]^{4-}$ exhibits d^2sp^3 hybridisation. Based on this, comment on the strength of the ligand CN^- and its effect on the geometry of the complex. (V) Why is anhydrous CuSO_4 white, but $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ blue in colour?	5x1
32(B)	OR Answer the following questions: (I) Three coordination compounds of cobalt(III) are given: Compound A: $[\text{Co}(\text{NH}_3)_6]\text{Cl}_3$ Compound B: $[\text{Co}(\text{NH}_3)_5\text{Cl}]\text{Cl}_2$ Compound C: $[\text{Co}(\text{NH}_3)_4\text{Cl}_2]\text{Cl}$ Which of the three compounds will show maximum electrolytic conductivity and why? (II) On the basis of crystal field theory, write the electronic configuration for d^5 ion if $\Delta_0 > P$. (III) Using IUPAC norms, write the formulae of Diaquadiammine (oxalato) chromium(III) chloride. (IV) Compare the optical activity of $[\text{Co}(\text{NH}_3)_2\text{Cl}_2(\text{en})]\text{Cl}$ and $[\text{Co}(\text{NH}_3)_4\text{Cl}_2]\text{Cl}$. Which one is optically active and why? (V) Explain why $[\text{Cu}(\text{NH}_3)_4]^{2+}$ shows a blue colour while $[\text{Cu}(\text{H}_2\text{O})_4]^{2+}$ shows a greenish colour. Which factor influences the colour difference?	5x1

33(A)	Attempt either A or B			1+2																							
	(I)	A student investigates the effect of concentration on the cell potential of a Zn–Cu galvanic cell at 298 K. The cell is: $\text{Zn(s)} \mid \text{Zn}^{2+}(\text{aq}) \parallel \text{Cu}^{2+}(\text{aq}) \mid \text{Cu(s)}$ standard electrode potentials: $E^0(\text{Zn}^{2+}/\text{Zn}) = -0.76 \text{ V}$, $E^0\text{Cu}^{2+}/\text{Cu} = +0.34 \text{ V}$, $E^0_{\text{cell}} = 1.10 \text{ V}$ The following experimental data were collected:																									
		<table><tr><th>Experiment</th><th>$[\text{Zn}^{2+}] \text{ (M)}$</th><th>$[\text{Cu}^{2+}] \text{ (M)}$</th><th>Measured EMF (V)</th></tr><tr><td>1</td><td>1.00</td><td>1.00</td><td>1.10</td></tr><tr><td>2</td><td>0.1</td><td>1.00</td><td>1.16</td></tr><tr><td>3</td><td>1.00</td><td>0.10</td><td>1.04</td></tr><tr><td>4</td><td>0.01</td><td>1.00</td><td>1.22</td></tr><tr><td>5</td><td>1.00</td><td>0.01</td><td>0.98</td></tr></table>	Experiment		$[\text{Zn}^{2+}] \text{ (M)}$	$[\text{Cu}^{2+}] \text{ (M)}$	Measured EMF (V)	1	1.00	1.00	1.10	2	0.1	1.00	1.16	3	1.00	0.10	1.04	4	0.01	1.00	1.22	5	1.00	0.01	0.98
	Experiment	$[\text{Zn}^{2+}] \text{ (M)}$	$[\text{Cu}^{2+}] \text{ (M)}$		Measured EMF (V)																						
	1	1.00	1.00		1.10																						
	2	0.1	1.00		1.16																						
	3	1.00	0.10		1.04																						
	4	0.01	1.00		1.22																						
	5	1.00	0.01		0.98																						
	a)	Why does experiment 4 show the maximum EMF?																									
b)	For experiment 3, calculate the theoretical EMF using the Nernst equation. Suggest one possible reason why the measured EMF differs slightly from the calculated value.																										
(II)	If k is expressed in Sm^{-1} and the concentration, c in mol m^{-3} then the units of molar conductivity are in $\text{Sm}^2\text{mol}^{-1}$. However, if we use Scm^{-1} as the units for k and molcm^{-3} , the units of concentration, then the units of molar conductivity are in $\text{Scm}^2\text{mol}^{-1}$. Show how $1 \text{ Sm}^2\text{mol}^{-1}$ is related to $1 \text{ S cm}^2\text{mol}^{-1}$																										
(III)	What happens to the specific gravity of electrolyte in lead storage battery during charging and discharging of battery?																										
OR																											
33(B)	I. For aqueous NaCl at 25°C the molar conductivities at two concentrations are measured as: $\Lambda_m(0.010 \text{ M}) = 123.9 \text{ S cm}^2 \text{ mol}^{-1}$ $\Lambda_m(0.040 \text{ M}) = 120.7 \text{ S cm}^2 \text{ mol}^{-1}$ Molar conductivity for strong electrolytes can be represented as $\Lambda_m = \Lambda^\circ_m - A\sqrt{c}$. Determine Λ° (molar conductivity at infinite dilution) and the constant A for NaCl solution.																										
	II. Write the electrode reactions that occur in a hydrogen–oxygen fuel cell. Also, state two advantages of fuel cells compared to conventional batteries.																										

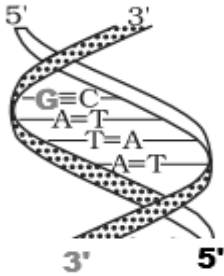
CHEMISTRY (CODE – 043)**MARKING SCHEME****CLASS XII (2026-27)****Time: 3 hours****Max. Marks: 70****GENERAL INSTRUCTIONS:****Read the following instructions carefully.**

1. There are **33** questions in this question paper with internal choice.
2. SECTION A consists of 16 multiple-choice questions carrying 1 mark each.
3. SECTION B consists of 5 very short answer questions carrying 2 marks each.
4. SECTION C consists of 7 short answer questions carrying 3 marks each.
5. SECTION D consists of 2 case-based questions carrying 4 marks each.
6. SECTION E consists of 3 long answer questions carrying 5 marks each.
7. All questions are compulsory.
8. In addition to this, a separate question has been provided for visually impaired candidates in lieu of questions having visual inputs.
9. Use of log tables and calculators is not allowed.

Section-A		
1	B. Amine R will give white precipitate with Hinsberg reagent, which is soluble in NaOH. On the basis of information, P is secondary, Q is tertiary and R is primary amine. Primary amine gives white precipitate with Hinsberg reagent , which is soluble in NaOH.	1
2	C. $[\text{NiCl}_4]^{2-}$ $[\text{NiCl}_4]^{2-}$ is tetrahedral because Cl^- is a weak field ligand, so it does not cause pairing of electrons. The other complexes are square planar or octahedral.	1
3	C. $3F$ $\text{M}^{3+} + 3\text{e}^- \rightarrow \text{M}$ Quantity of charge = $3F$	1
4	B. Nitrobenzene is reduced. In the above case, aniline is formed. The foul smell is given by the isocyanides produced, when aliphatic and aromatic primary amine compound undergoes carbylamine reaction. Out of the following, option B provides aromatic amine which will undergo carbylamine reaction. Hence (B) will give foul smell.	1

5	A. Solubility of gas will increase until dynamic equilibrium is reached Henry's law (for visually challenged learners) B. mole fraction of the gas in the solution	1
6	D. (i) second order (ii) first order The rate of reaction will depend on both the reactants in case (i) In case (ii), when water is in excess, the rate of reaction is independent of concentration of water. Such reactions are called pseudounimolecular reactions.	1
7	A. an acidic, non-essential amino acid. The amino acid can be synthesised in our bodies so it is non-essential. It has two –COOH groups and one -NH₂ group, therefore it is acidic.	1
8	D. (i) and (ii) (i) $\text{C}_2\text{H}_5\text{COC}_2\text{H}_5 + \text{CH}_3\text{MgCl} \rightarrow \begin{array}{c} \text{OMgCl} \\ \\ \text{C}_2\text{H}_5\text{CC}_2\text{H}_5 \\ \\ \text{CH}_3 \end{array} \xrightarrow{\text{hydrolysis}} \begin{array}{c} \text{OH} \\ \\ \text{C}_2\text{H}_5\text{CC}_2\text{H}_5 \\ \\ \text{CH}_3 \end{array}$ (ii) $\text{C}_2\text{H}_5\text{COCH}_3 + \text{C}_2\text{H}_5\text{MgCl} \rightarrow \begin{array}{c} \text{OMgCl} \\ \\ \text{C}_2\text{H}_5\text{CCH}_3 \\ \\ \text{C}_2\text{H}_5 \end{array} \xrightarrow{\text{hydrolysis}} \begin{array}{c} \text{OH} \\ \\ \text{C}_2\text{H}_5\text{CCH}_3 \\ \\ \text{C}_2\text{H}_5 \end{array}$ (iii) $\text{C}_2\text{H}_5\text{CH}(\text{MgCl})\text{C}_2\text{H}_5 + \text{CH}_3\text{CHO} \rightarrow \begin{array}{c} \text{OMgCl} \\ \\ \text{CH}_3\text{CH} \\ \\ \text{C}_2\text{H}_5\text{CC}_2\text{H}_5 \end{array} \xrightarrow{\text{hydrolysis}} \begin{array}{c} \text{OH} \\ \\ \text{CH}_3\text{CH} \\ \\ \text{C}_2\text{H}_5\text{CHC}_2\text{H}_5 \end{array}$ (iv) $\text{C}_2\text{H}_5\text{CH}(\text{MgCl})\text{CH}_3 + \text{C}_2\text{H}_5\text{CHO} \rightarrow \begin{array}{c} \text{OMgCl} \\ \\ \text{C}_2\text{H}_5\text{CH} \\ \\ \text{C}_2\text{H}_5\text{CHCH}_3 \end{array} \xrightarrow{\text{hydrolysis}} \begin{array}{c} \text{OH} \\ \\ \text{C}_2\text{H}_5\text{CH} \\ \\ \text{C}_2\text{H}_5\text{CHCH}_3 \end{array}$	1
9	B: Mn Mn³⁺ act as strong oxidising agent.	1
10	A. The reaction follows S_N² mechanism and is accompanied by inversion of configuration.	1
11	B. 32 min 50% reaction is completed in 16 min. For remaining 50% of the substance to reduce to its half (25%) time required will be 16 min. Therefore 50% + 25% = 75% of the reaction will be completed in 32 min	1

12	A. HCl is a strong acid and fully dissociates into H ⁺ and Cl ⁻ ions. More ions lead to higher conductivity. CH ₃ COOH and NH ₃ are weak electrolytes and are partially ionized having lower conductivity. Glucose is a non-electrolyte, no ions and hence no conductivity.	1
13	B. A and R are true, and R is not the correct explanation of A	1
14	C. A is true but R is false. Reason is false, the correct statement - The pi bonding takes place by overlapping of p orbitals of oxygen with d orbitals of manganese.	1
15	A. A and R are true, and R is the correct explanation of A	1
16	A. A and R are true, and R is the correct explanation of A [Co(NH ₃) ₆] ³⁺ is diamagnetic because all electrons are paired. NH ₃ is a strong field ligand, so it causes electron pairing in the d-orbitals. Hence, the reason correctly explains the assertion.	1
Section-B		
Question No. 17 to 21 are very short answer questions carrying 2 marks each		
17A	I. $2\text{MnO}_4^- + 5\text{SO}_3^{2-} + 6\text{H}^+ \rightarrow 2\text{Mn}^{2+} + 5\text{SO}_4^{2-} + 3\text{H}_2\text{O}$	1
	II. Chromium has more number of unpaired electrons than Titanium leading to stronger interatomic attractions holding its atoms together requiring more energy to break as compared to titanium.	1
	OR	
17B	I. The transition metals form a large number of complex compounds. This is due to the comparatively smaller sizes of the metal ions, their high ionic charges and the availability of d orbitals for bond formation. Hence Titanium forms complex compounds, whereas Potassium and calcium do not.	1
	II. $\text{Cr}_2\text{O}_7^{2-} + 14\text{H}^+ + 6\text{Fe}^{2+} \rightarrow 2\text{Cr}^{3+} + 6\text{Fe}^{3+} + 7\text{H}_2\text{O}$	1
18	The statement is true for a zero order reaction as the rate is independent of concentration of reactants. For reactions of order other than zero, like order 1, 2 etc. the rate of reaction decreases with the decrease in concentration of reactants.	1 1

19	I.  II. Addition of lemon juice lowers the pH which breaks the hydrogen bonds, the globules of casein unfold and it gets denatured. For Visually Challenged Learners I. Adenine, Guanine, Cytosine and Thymine II. Addition of lemon juice lowers the pH which breaks the hydrogen bonds, the globules of casein unfold and it gets denatured.	1 1 1 1
20	Nitro group will increase the reactivity. The nitro group is a strong electron-withdrawing group (EWG) due to both its inductive (-I) and resonance (-M) effects whereas methoxy group is electron donating in nature. In chlorobenzene when nitro group is present at the <i>ortho</i> or <i>para</i> position, it withdraws electron density from the ring and stabilizes this negative charge through resonance. Hence increases its reactivity towards nucleophilic	1 ½ ½
21	I. Magnesium being more reactive than iron acts as a sacrificial anode and undergoes oxidation ($\text{Mg} \rightarrow \text{Mg}^{2+} + 2\text{e}^-$), supplying electrons to the iron pipe, which behaves like cathode, thus preventing corrosion. II. Cathode: $\text{Mg}^{2+} + 2\text{e}^- \rightarrow \text{Mg (l)}$ Anode: $2\text{Cl}^- \rightarrow \text{Cl}_2 (\text{g}) + 2\text{e}^-$	1 ½ ½
Section-C Question No. 22 to 28 are short answer questions, carrying 3 marks each.		
22	I. Fe^{2+} (4 unpaired electrons) has higher magnetic moment, as it contains more unpaired electrons as compared to other two. II. a) It provides large surface area and variable oxidation state. b) Iron has large crystal lattices containing interstitial sites large enough to accommodate small non-metal atoms like oxygen, carbon, nitrogen.	½, ½ 1 1
23	$\log K = \log A - \frac{Ea}{2.303RT}$ Slope = $-\frac{Ea}{2.303R}$	½ ½

	Slope = $\frac{y_2 - y_1}{x_2 - x_1} = \frac{-4.46 - (-3.91)}{.00333 - .00323} = -5500 \text{ J/K/mol}$ (value of slope may vary slightly if different values of y_2, y_1, x_2 and x_1 are chosen) Equating the value of slope to the expression – $-\frac{E_a}{2.303R} = -5500 \text{ where } R = 8.314 \text{ JK}^{-1}\text{mol}^{-1}$ $E_a = 5500 \times 2.303 \times 8.314$ $E_a = 105.31 \text{ kJmol}^{-1}$ For Visually challenged learners $\log k = \log A - \frac{E_a}{2.303RT}$ $\text{Slope} = -\frac{E_a}{2.303R}$ $-\frac{E_a}{2.303R} = -4500 \text{ where } R = 8.314 \text{ JK}^{-1}\text{mol}^{-1}$ $E_a = 4500 \times 2.303 \times 8.314$ $E_a = 86.16 \text{ kJmol}^{-1}$	1 (Correct answer and correct unit) $\frac{1}{2}, \frac{1}{2}$ 1 1 $\frac{1}{2}, \frac{1}{2}$ (Correct answer and correct unit)
24	I. Aldol condensation, dil NaOH II. Etard Reaction, CrO_2Cl_2 III. Wolf -kishner reduction, $>\text{C}=\text{N.NH}_2$	$\frac{1}{2} + \frac{1}{2}$ $\frac{1}{2} + \frac{1}{2}$ $\frac{1}{2} + \frac{1}{2}$
25	I. a) The net volume of resulting solution was found to be slightly more than 20 mL. Carbon disulphide and acetone have weak intermolecular interactions which leads to increase in the volume of the solution. b) When solution is replaced with chloroform, net volume shows slight decrease from 20 mL, as chloroform and acetone have strong intermolecular interactions owing to hydrogen bonding.	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$

	II. Parts per million = $\frac{\text{Number of parts of the component} \times 10^6}{\text{Total number of parts of all components}}$ $= \frac{6 \times 10^{-3} \times 10^6}{1030 + 0.006}$ $= \frac{6 \times 10^{-3} \times 10^6}{1030}$ $= 5.8 \text{ ppm}$	$\frac{1}{2}$ $\frac{1}{2}$
26	I. a) Nitrobenzene to fluorebenzene $\text{C}_6\text{H}_5\text{NO}_2 \xrightarrow{\text{Sn/HCl}} \text{C}_6\text{H}_5\text{NH}_2 \xrightarrow{\text{NaNO}_2/\text{HCl}} \text{C}_6\text{H}_5\text{N}^{2+}\text{Cl}^- \xrightarrow{\text{NaBF}_4} \text{C}_6\text{H}_5\text{F}$ b) Benzoic acid to benzylamine $\text{C}_6\text{H}_5\text{COOH} + \text{NH}_3 \xrightarrow{\text{heat}} \text{C}_6\text{H}_5\text{CONH}_2 \xrightarrow{\text{LiAlH}_4} \text{C}_6\text{H}_5\text{CH}_2\text{NH}_2$ II. $-\text{NH}_2$ group in aniline is strongly activating in electrophilic substitutions, hence giving 2,4,6 trisubstituted products. Acetylation converts $-\text{NH}_2$ to $-\text{NHCOCH}_3$ which is less activating due to resonance with the carbonyl group, hence controlling and enabling the substitution at para position .	1 1 $\frac{1}{2}$ $\frac{1}{2}$
27(A)	I. 1-Bromo-2(1-methylpropyl) benzene II. When $\text{CH}_3\text{CH}_2\text{CH}_2\text{Cl}$ reacts with AgCN Compound X = $\text{CH}_3\text{CH}_2\text{CH}_2\text{NC}$ When $\text{CH}_3\text{CH}_2\text{CH}_2\text{Cl}$ reacts with KCN Compound Y = $\text{CH}_3\text{CH}_2\text{CH}_2\text{CN}$ KCN is predominantly an ionic compound, which it dissociates in solution to produce free cyanide ions which is an ambident nucleophile and attacks through C- side. AgCN is a covalent compound, in this case, the bond formation occurs through the nitrogen atom of the cyanide group, leading to the formation of the isocyanide. OR	1 $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$
27(B)	I. 3-bromo-2,2,3-trimethylpentane II. $\text{CH}_2=\text{CH}-\text{CH}_2\text{Cl}$ (allyl chloride) will be hydrolysed more readily than $(\text{CH}_3)_2\text{CHCl}$	1 1

	allyl carbocation ($\text{CH}_2=\text{CH}-\text{CH}_2^+$) is more stabilised than secondary carbocation formed ($(\text{CH}_3)_2\text{CH}^+$). Due to resonance in allyl carbocation, where positive charge is delocalised on two carbons, makes it more stable.	1
28	I. The relative lowering of vapour pressure is given by: $\frac{P^\circ - P_S}{P^\circ} = \chi_B = \frac{n_B}{n_A + n_B}$ n_A = number of moles of water = $1000/18 = 55.56$ mol n_B = number of moles of solute = W_B/M_B $\frac{P^\circ - P_S}{P^\circ} = 0.5$ (as 50 % reduction is there) Substituting the value: $0.5 = n_B / (n_B + 55.56)$ $0.5 n_B + 0.5 \times 55.56 = n_B$ Or $0.5 n_B = 0.5 \times 55.56$ $n_B = \mathbf{55.56 \text{ mol}} = W_B/M_B$ On calculation: $M_B = 100/55.56 = 1.8 \text{ g/mol}$ II. Nitric acid solution containing 32% of water by mass forms an azeotropic solution. It has the <i>same composition</i> in both the liquid and vapor phases. Hence cannot be separated into its components through fractional distillation.	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ 1
29	I. D. less than 4.09 II. A. p-bromophenol > p-chlorophenol > p-fluorophenol > phenol III. A. Phenol is more stronger acid than the cyclohexanol so will have less pKa value than cyclohexanol. Phenol loses hydrogen ion to form its conjugate base - phenoxide ion, which is stabilised by resonance. Where as in the Cyclohexanol, conjugate base formed is less stable due to localisation of negative charge on oxygen atom. OR III. B. pKa of p-nitrophenol is 7.2 while p-chlorophenol is 9.38. Following this trend, more the nitro groups, lower will be the pKa value. Therefore, pKa value of 4-chloro-2,6-dinitrophenol is higher than	1 1 1 1 1

	2,4,6-trinitrophenol. More the pKa values, lower is the acidic strength, therefore 4 chloro-2,6- dinitrophenol is less acidic than 2,4,6 trinitrophenol. For visually challenged learners I. B. o-cresol II. B. – OCH₃ III. A. 2,4 Dinitrophenol is more acidic in nature. The nitro group is a strong electron withdrawing group. It exerts both –I effect and –M effect, hence withdraws electrondensity from the ring. Phenoxide ion formed is stabilised. Presence of two nitro groups make the phenoxide ion formed more stable as compared to the presence of one nitro group. OR III. B. pKa of cresol will be higher than phenol. The pKa values increases due to presence of electron donating groups. pKa of p-nitrophenol will be lower than phenol. The pKa values decreases due to presence of electron withdrawing groups	1 1 1 1+1 $\frac{1}{2}+\frac{1}{2}$ $\frac{1}{2}+\frac{1}{2}$
30	I. B. reducing sugars give a brick red ppt. with Benedict's solution II. B. sucrose and starch are plant based carbohydrates. lactose is milk sugar (animal milk) and glycogen is animal starch III. A. Sample is maltose. The sugar is reducing in nature as it gives positive Benedict's test – it is not sucrose. The sugar undergoes hydrolysis so it is not a monosaccharide –i.e not glucose or fructose. The sugar gives same monosaccharide on hydrolysis lactose gives glucose and galactose while maltose gives 2 glucose molecules. Therefore, it is maltose. OR III. B. The carbohydrate gives only one monosaccharide on hydrolysis. Starch on hydrolysis gives glucose. No, the carbohydrate is not starch. The carbohydrate is soluble in water while starch is insoluble. Moreover starch is not a reducing sugar.	1 1 1+1 1+1
31(A)	I. a) A highly acidic medium protonates the ammonia derivatives, reducing their nucleophilicity. In a basic medium, the carbonyl compound is not protonated. reducing its electrophilicity for nucleophilic attack. Hence, a mildly acidic pH of about 3.5 gives the best rate for derivative formation.	1

	b) Dry hydrogen chloride protonates the oxygen of the carbonyl compounds and therefore, increases the electrophilicity of the carbonyl carbon facilitating the nucleophilic attack of alcohol. c) The hydrogen sulphite addition compound is water soluble and can be converted back to the original carbonyl compound by treating it with dilute mineral acid or alkali. Therefore, these are useful for separation and purification of aldehydes. II. <pre> graph TD A[Methanol, Acetaldehyde and Acetic acid] --> B[Add NaHCO₃] B --> C[Brisk effervescence of CO₂, sample is acetic acid] B --> D[No Brisk effervescence of CO₂ sample is either methanol or acetaldehyde] D --> E[Add 2,4-DNP reagent] E --> F[Orange yellow ppt, sample is acetaldehyde] E --> G[No orange yellow ppt, sample is methanol] </pre> 31(B) OR I. a) $\text{HCHO} > \text{CH}_3\text{CHO} > \text{C}_6\text{H}_5\text{CHO}$ b) $\text{CH}_3\text{CONH}_2 < \text{CH}_3\text{COOH} < \text{CH}_3\text{COOCH}_3 < \text{CH}_3\text{COCl}$ c) $\text{CH}_3\text{COCH}_3 < \text{CH}_3\text{CHO} < \text{CF}_3\text{CHO}$ II. The possible isomers of compound with molecular formula $\text{C}_3\text{H}_6\text{O}$ are: Propan-1-al: $\text{CH}_3\text{—CH}_2\text{—CHO}$ Propanone: $\text{CH}_3\text{—CO—CH}_3$ (a ketone) Propanal ($\text{CH}_3\text{CH}_2\text{CHO}$) gives a positive Tollens' test (silver mirror). Tollens' reagent oxidises aldehydes to carboxylates, reducing Ag^+ to metallic Ag. Ketones and alcohols do not give this test.	1 1 $\frac{1}{2} + \frac{1}{2}$ $\frac{1}{2} + \frac{1}{2}$ 1 1 1 $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2} + \frac{1}{2}$
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32(A)	I. $[\text{Cr}(\text{en})_3]^{3+}$ contains three bidentate ethylenediamine ligands arranged in a chiral octahedral geometry, so it is optically active and will rotate the plane of polarization whereas $[\text{Cr}(\text{H}_2\text{O})_3\text{Cl}_3]$ exists as a fac and mer isomers but is not optically active because it is symmetrical (has a plane of symmetry). II. $[\text{Ni}(\text{CO})_4]$ has higher crystal field splitting due to the strong field ligand CO as compared to $[\text{Ni}(\text{H}_2\text{O})_6]^{2+}$ which has weak ligand H_2O. The ligand nature (strong vs weak field) determines the difference. III. Primary valency is oxidation number of the metal which is 2 and secondary valency is coordination number which is 4 and is satisfied by all ligands coordinated to the metal. IV. CN^- is a strong field ligand, causing low-spin octahedral geometry with d^2sp^3 hybridisation. V. $[\text{Cu}(\text{H}_2\text{O})_4]\text{SO}_4 \cdot \text{H}_2\text{O}$ is a complex, the blue colour is due to water that acts as ligand. In absence of ligand, crystal field splitting does not occur, hence on losing water of crystallisation copper sulphate becomes colourless.	1 $\frac{1}{2} + \frac{1}{2}$ $\frac{1}{2} + \frac{1}{2}$ $\frac{1}{2} + \frac{1}{2}$ 1
32(B)	OR I. Compound A shows maximum conductivity. On dissociation $\text{A} \rightarrow [\text{Co}(\text{NH}_3)_6]^{3+} + 3\text{Cl}^-$ (total 4 ions), $\text{B} \rightarrow [\text{Co}(\text{NH}_3)_5\text{Cl}]^{2+} + 2\text{Cl}^-$ (3 ions), $\text{C} \rightarrow [\text{Co}(\text{NH}_3)_4\text{Cl}_2]^+ + \text{Cl}^-$ (2 ions). The more the number of ions in solution, the higher is its conductivity. II. $t_{2g}^5 e_g^0$ Strong field causes pairing in t_{2g}, only one unpaired electron remains. III. $[\text{Cr}(\text{NH}_3)_2(\text{H}_2\text{O})_2(\text{C}_2\text{O}_4)]\text{Cl}$ IV. $[\text{Co}(\text{NH}_3)_2\text{Cl}_2(\text{en})]\text{Cl}$ is optically active; $[\text{Co}(\text{NH}_3)_4\text{Cl}_2]\text{Cl}$ is not. The bidentate ligand en can produce a chiral (non-superimposable) octahedral arrangement (no internal mirror plane), giving optical isomerism. Complexes with only monodentate ligands like MA_4B_2 are symmetric and achiral. V. The different ligands (NH_3 vs H_2O) produce different crystal field splitting (Δ), so they absorb different wavelengths of light which gives different observed colours. Ligand nature ie strength of ligand determines crystal field splitting and thus the energy (wavelength) of d–d transitions, affecting colour.	1 1 1 1 $\frac{1}{2} + \frac{1}{2}$

	II. Electrode Reactions in a Hydrogen–Oxygen Fuel Cell: Anode: $2\text{H}_2 \rightarrow 4\text{H}^+ + 4\text{e}^-$ Cathode : $\text{O}_2 + 4\text{H}^+ + 4\text{e}^- \rightarrow 2\text{H}_2\text{O}$ Overall Reaction: $2\text{H}_2 + \text{O}_2 \rightarrow 2\text{H}_2\text{O}$ The two advantages of fuel cells compared to conventional batteries are: • Higher efficiency: Fuel cells can convert chemical energy to electrical energy more efficiently than many conventional batteries. • Continuous operation: As long as fuel (hydrogen) and oxidant (oxygen) are supplied, fuel cells can operate indefinitely, unlike batteries which need recharging.	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$
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BIOLOGY CODE NO. 044
MARKING SCHEME
CLASS – XII (2026–27)

Q. No.	Answer	Marks
Section - A		
1	C. It ensures cross-pollination	1
2	A. Blockage of sperm transport into the ejaculatory duct and urethra	1
3	B. It provides essential nutrients to developing embryo and helps in its implantation.	1
4	C. Directional selection as giraffes with longer neck lengths are selected. <u>For Visually impaired students</u> B. Nature selects for fitness.	1
5	D. A - Promoter, B - RNA polymerase, C - Sigma factor, D-DNA helix <u>For Visually impaired students</u> B. 5' (upstream) end and 3' (downstream) end, respectively of the transcription unit	1
6	A. No transformation <u>For Visually impaired students</u> C. Both (A) and (B)	1
7	A. 25% hybrid and 75% light	1
8	B. Sickle cell anaemia <u>For Visually impaired students</u> D. Sex-linked recessive	1
9	B. Inflammation or fluid buildup in the lungs	1
10	C. 40,000 bp and $13,600 \times 10^{-9}$ m	1
11	C. Ensuring sterile handling, sterilised equipment, and aseptic transfer before and during fermentation.	1
12	C. Adding spores of <i>Glomus</i> to the soil	1
13	A. Both Assertion (A) and Reason (R) are true, and Reason (R) is the correct explanation of Assertion (A).	1
14	D. A is false but R is true.	1
15	C. A is true but R is false.	1
16	B. Both A and R are true but R is not the correct explanation of A.	1

Section - B

17	<u>Attempt either option A or B.</u> A. Geitonogamy involves transfer of pollen grains from the anther to the stigma of another flower of the same plant. (1) Although geitonogamy is functionally cross-pollination involving pollinating agents, genetically it is similar to autogamy since the pollen grains come from the same plant. (1) OR B. Mohit can emasculate (remove anthers) from selected flowers before pollen release and then manually pollinate them with pollen from the chosen male parent, followed by bagging. (1) This prevents self-pollination and unwanted pollen and ensures that only the desired cross produces seeds. (1)	2
18	There were in South America mammals resembling horse, hippopotamus, bear and rabbit. Due to continental drift, when South America joined North America, these animals were overridden by North American fauna. (1) Due to continental drift, a number of Australian marsupials, each different from the other, evolved from an ancestral stock, but all within the Australian island continent. These pouched mammals of Australia survived because of lack of competition from any other mammals. (1)	2
19	A. As tumor size increases, glucose levels decrease, suggesting that larger tumors consume more glucose due to higher metabolic demand, possibly indicating a more aggressive growth pattern. (1) B. As tumor size increases, the viability of neighboring cells decreases suggesting that growing tumors create a hostile microenvironment, due to nutrient competition and less oxygen is available leading to stress or death of surrounding normal cells. /As these cells actively divide and grow they also starve the normal cells by competing for vital nutrients. (1)	2
20	<u>Attempt either option A or B.</u> A. I. Normal cow's milk (~0.1 g/L) is least suitable. Reason: Very low α-lactalbumin compared to human milk. (1) II. (i) Going beyond morality genetical modification of organisms can have long term unpredictable results. (ii) patenting for resource (iii) loss of genetic diversity of natural cows (iv) economic exploitation Any one (1) OR B. (i) Increased pesticide use due to lack of pest resistance. (ii) Lower yield under abiotic stress conditions. (iii) Faster depletion of soil nutrients due to inefficient mineral usage. Any two (1+1)	2

21	<u>Attempt either option A or B.</u> A. I. Region X will have greater species diversity/Tropical region because Temperatures are near-constant across seasons in X (27–28–27–26 °C), which supports stable conditions / higher diversity/ Higher productivity/GPP 3500/ higher NPP in X vs lower productivity in Y. (1) II. NPP of Region X = GPP – R = 3500 – 1300 = 2200 g/m²/year. Net primary productivity is the available biomass for the consumption to heterotrophs (herbivores and decomposers) (1) OR B. I. P3 → drop of over 50 percentage points without main pollinator/ other plants show comparatively less drop in seed set without pollinator. (1) II. The relationship is Mutualism as both species benefit; here, plants gain pollination and pollinators obtain nectar/food. (1)	2
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Section – C

22	ART 1: Intracytoplasmic Sperm Injection (ICSI) Justification: ICSI is required to address Male B's low sperm count. It is an advanced procedure to form the embryo in vitro, where a sperm is directly injected into the ovum. (1.5) ART 2: In vitro fertilisation followed by Intrauterine Transfer (IUT) Justification: IVF followed by IUT is required to address Female A's blocked fallopian tubes. Since the natural path for the egg is blocked, the embryo (formed via IVF/ICSI) must be transferred directly to the uterus. (1.5)	3
23	A. Structure P (Zygote) is diploid and Structure Q (Primary Endosperm Nucleus) is triploid. (1) B. The statement is False. The Primary Endosperm Nucleus (PEN/'Q') divides much earlier than zygote ('P') to form the endosperm tissue for nutrition of embryo. (1) C. The cells of endosperm tissue are filled with reserve food materials which act as the primary source of nutrition for the developing embryo. (1) ----- <u>For Visually impaired students</u> A. Zygote/Embryo and Primary Endosperm Nucleus/Endosperm. (1) B. Zygote/Embryo is diploid and Primary Endosperm Nucleus/Endosperm is triploid. (1) C. The Primary Endosperm Nucleus (PEN) divides much earlier than zygote to form the endosperm tissue. The cells of endosperm tissue are filled with reserve food materials which act as the primary source of nutrition for the developing embryo. (1)	3

24	A. Female mice: Heterozygous for running (Rr) and brown hair (bb), so its genotype is Rrbb. Male mice: Heterozygous for running (Rr) and heterozygous for black hair (Bb), so its genotype is RrBb. Possible gametes Female (Rrbb): Rb, Rb, rb, rb Male (RrBb): RB, Rb, rB, rb (1) Punnett square <table><tr><td></td><td>RB</td><td>Rb</td><td>rB</td><td>rb</td></tr><tr><td>Rb</td><td>RRBb</td><td>RRbb</td><td>RrBb</td><td>Rrbb</td></tr><tr><td>Rb</td><td>RRBb</td><td>RRbb</td><td>RrBb</td><td>Rrbb</td></tr><tr><td>rb</td><td>RrBb</td><td>Rrbb</td><td>rrBb</td><td>rrbb</td></tr><tr><td>rb</td><td>RrBb</td><td>Rrbb</td><td>rrBb</td><td>rrbb</td></tr></table> B. Probable phenotypes of the progeny Running black (RRBb x 2, RrBb x 4,): 6/16 Running brown (RRbb x 2, Rrbb x 4): 6/16 Walking black (rrBb x 2,): 2/16 Walking brown (rrbb x 2): 2/16 Ratio will be 6:6:2:2 OR 3:3:1:1 (1) C. 24 will show running black phenotype. (1)		RB	Rb	rB	rb	Rb	RRBb	RRbb	RrBb	Rrbb	Rb	RRBb	RRbb	RrBb	Rrbb	rb	RrBb	Rrbb	rrBb	rrbb	rb	RrBb	Rrbb	rrBb	rrbb	3
	RB	Rb	rB	rb																							
Rb	RRBb	RRbb	RrBb	Rrbb																							
Rb	RRBb	RRbb	RrBb	Rrbb																							
rb	RrBb	Rrbb	rrBb	rrbb																							
rb	RrBb	Rrbb	rrBb	rrbb																							
25	The disease is caused by a single gene mutation resulting in an inborn error of metabolism where the affected individual lacks an enzyme that converts the amino acid phenylalanine into tyrosine. (1) As a result of this phenylalanine is accumulated and converted into phenyl pyruvic acid and other derivatives. Accumulation of these in the brain results in mental retardation. (1) In pleiotropy a single gene can exhibit multiple phenotypic expressions by affecting metabolic pathways in different ways. (1)	3																									
26	Addiction - – Psychological attachment to effects of drugs/alcohol ($\frac{1}{2}$) → driven by desire for euphoria/well-being even when not needed ($\frac{1}{2}$). (1) Dependence – Physical tendency of the body → manifests withdrawal symptoms (anxiety, shakiness, nausea, sweating) when drug is stopped. (1) Reason for increased intake – Repeated drug use increases tolerance level of body receptors → receptors respond only to higher doses for the same effect. (1)	3																									
27	I. Certain pathogens naturally have the ability to transfer their DNA into host cells. Scientists have modified these pathogens by removing their disease-causing genes, while retaining their ability to deliver DNA, making them useful cloning vectors. (1) II. In animals, retroviruses have been engineered to remove cancer-causing genes, while keeping their capacity to integrate DNA into the host genome, making them effective vectors for gene delivery. (1)	3																									

	III. In transgenic plants, nematode-specific genes were introduced via Ti plasmid of <i>Agrobacterium tumefaciens</i> to produce dsRNA, which triggered RNA interference (RNAi) and silenced nematode mRNA, protecting the plant from the parasite. (1)	
28	A. If the ant dies too soon, the nematode won't complete its development and won't be transmitted to new hosts. (1) B. Natural selection favors nematodes that keep the ant alive until it can be eaten by a bird, ensuring better dispersal and survival of the nematode. The birds eat only the red-bellied ant. This ensures complete maturation of nematode and its dispersal and protects the other ants from predation. (1) C. Type: Parasitism, Definition: An interaction where one organism benefits and the other is harmed. (1)	3

Section – D

29	A. Anaemia due to excessive blood loss. (1) B. Without a distinct LH surge, ovulation may not occur, so no corpus luteum forms to secrete progesterone. As a result, the endometrial lining grows excessively under unopposed estrogen and is then unpredictably or heavily shed, causing irregular and heavy periods. (2) <u>Attempt either subpart C or D.</u> C. It suggests lack of ovulation due to hormonal imbalance affecting ovarian function. (1) OR D. GnRH secretion from hypothalamus and subsequent LH/FSH secretion from pituitary would be disrupted. (1)	4
30	A. NPV is species-specific and affects only target insect pests, narrow spectrum insecticide; causes no harm to plants, pollinators, mammals, birds, fish, or non-target insects. (1) B. He could have sprayed the spores of <i>Bacillus thuringiensis</i>, in the gut of the larvae, the bacterial toxin is released and the larvae get killed. (2) C. Baculovirus (1) OR D. Because it is a biological method for controlling plant diseases and pests. (1)	4

Section – E

31	<u>Attempt either option A or B.</u> A. I. The term given to a segment of DNA that codes for a polypeptide is Cistron. (0.5) II. (a) 3'-- TACAAAAGAAGAAAAGAAATT--5'—Point Mutation. (1) (b) 3'—TACAAAAGAAGAAAAGAAATT--5'—Deletion / Frameshift mutation. (1)	5
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- III. Methionine -Phenylalanine -Phenylalanine -Phenylalanine -
Phenylalanine -Phenylalanine –Phenylalanine; 7 amino acids. (2)
- IV. Degenerate. (0.5)

OR

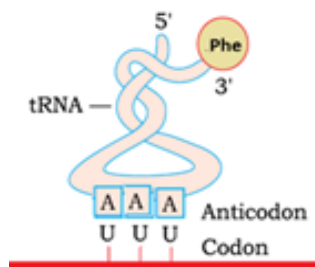
B.

- I. AUGACCGUAGCGUUUGUAUCUUUAGUAGUGGUAUUAGUAGGC
Nine amino acids will be translated from the mature or processed RNA. (1)

5' ACGUCG ----- UAAAA3' Location of the untranslated region from the above messenger RNA will be at the 5' end and 3'prime end and their sequences are 5'ACGU and 3' end UAAAA. (2)

They are required for efficient translation process. (0.5)

II.



4th triplet codon codes for phenylalanine. (0.5)

(1)

(0.5)

32

Attempt either option A or B.

5

A.

- I. Plate B fails to show radioactivity because the probe could not hybridise with its DNA sequence, indicating the presence of the mutated β -globin gene (sickle mutation). Plates A and C show signals since their DNA has the normal complementary sequence. (2)

II.

- Normal individual: Probe binds fully → strong radioactivity observed
- Carrier (heterozygote): Both normal and mutated sequences present → partial hybridisation (mixed pattern).
- Patient (homozygous mutant): No hybridisation with the probe → no radioactivity seen. (2)

- III. Insertional inactivation (1)

OR

B.

- I. Test tube A (bacteria): DNA isolation will fail because bacteria require lysozyme, not cellulase, to digest the peptidoglycan cell wall.
- Test tube B (plant): DNA isolation will succeed because plants require cellulase to digest cellulose walls.
 - Test tube C (fungus): DNA isolation will fail because fungi require chitinase to digest chitin walls.
 - Correction: Use lysozyme for bacteria, cellulase for plants, and chitinase for fungi. (2)

- II. The further steps are
- Break open cells → DNA released with RNA, proteins, polysaccharides, and lipids.
 - Remove contaminants:
 - RNase digests RNA
 - Protease digests proteins
 - Remove polysaccharides and lipids by specific treatments.
 - Add chilled ethanol → DNA precipitates as white threads, spooled on a glass rod. (2)
- III. Spooled DNA can be used in genetic engineering, PCR amplification, DNA fingerprinting, or sequencing. (1)

33

Attempt either option A or B.

5

A.

(a)

Biodiversity Threat	Explanation of the effect it will have
Overexploitation	Unsustainable sourcing of wild medicinal plants by the cosmetic brand threatens plant species/may lead to depletion and extinction of valuable species. (1)
Invasion by alien species	Ornamental grass from another country spreading aggressively into native grassland/outcompetes native grasses, reduces local biodiversity. (1)
Co-extinction	Disappearance of nesting tree species causing sharp decline in migratory bird population/ disrupts ecological balance, loss of niches. (1)
Habitat loss and fragmentation	Forest fires lead to habitat loss and fragmentation by destroying forest vegetation and breaking continuous habitats into smaller, isolated patches. This forces species to migrate, reduces population sizes, and alters species distribution, often resulting in local extinction and decline in biodiversity. (1)

(b) Example: Declaration of *Green Valley X* as a **protected area** (wildlife sanctuary/national park/biosphere reserve/sacred grove/hotspot). Justification: Maintains species in their natural habitat, preserves ecological interactions, and allows long-term protection of genetic, species, and ecosystem diversity. (1)

OR

B.

I.

Step / Process	Description
Fragmentation	Breaking down of waste into smaller particles by detritivores (e.g., earthworms, termites). (1)
Leaching	Soluble inorganic nutrients dissolve in water and percolate into the composting soil. (1)

	Catabolism	Enzymatic breakdown of complex organic matter into simpler inorganic substances by bacteria/fungi. (1)
	Humification & Mineralisation	Formation of humus and release of inorganic nutrients into the compost by microbes. (1)
	II. A dry spell would lower moisture content, slowing microbial activity and enzymatic breakdown, thereby reducing the rate of decomposition and delaying the reduction in waste volume. (1)	

BIOLOGY – CODE NO. 044
SAMPLE QUESTION PAPER*
CLASS – XII (2026-27)

Maximum Marks: 70

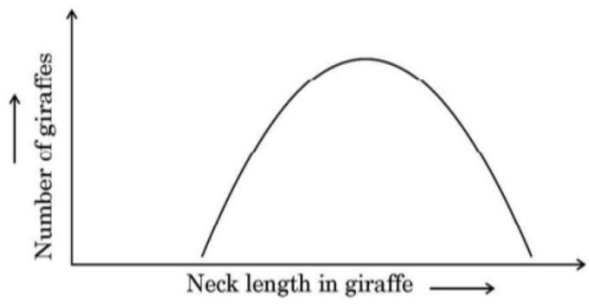
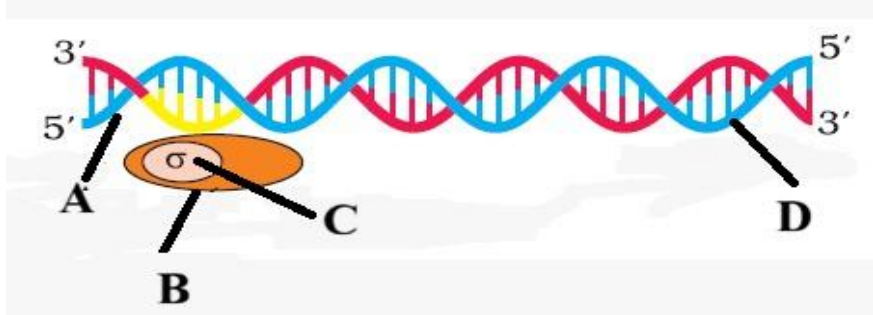
Time: 3 hours

General Instructions:

- (i) All questions are compulsory.
- (ii) The question paper has five sections and 33 questions.
- (iii) Section–A has 16 questions of 1 mark each; Section–B has 5 questions of 2 marks each; Section– C has 7 questions of 3 marks each; Section– D has 2 case-based questions of 4 marks each; and Section–E has 3 questions of 5 marks each.
- (iv) There is no overall choice. Answer all 33 questions. However, internal choices have been provided in some questions. A student has to attempt only one of the alternatives in such questions.
- (v) Wherever necessary, neat and properly labeled diagrams should be drawn.

Section – A		
Q. Nos. 1 to 12 are multiple choice questions. Only one of the choices is correct. Select and write the correct choice as well as the answer to these questions.		
Q. No.	Question	Marks
1	A researcher observes that in a particular flowering plant, the pistil matures several days before the stamens in all flowers of the plant. What is the most significant consequence of this timing difference? A. It guarantees self-pollination B. It promotes autogamy C. It ensures cross-pollination D. It leads to geitonogamy	1
2	A male patient undergoes a medical procedure where a small section of the vas deferens is cut and tied at both ends. Which of the following effects is the intended and direct result of this procedure? A. Blockage of sperm transport into the ejaculatory duct and urethra. B. Inhibition of testosterone production by the testes. C. Suppression of the formation of seminal plasma by accessory glands. D. Prevention of spermatogenesis in the seminiferous tubules.	1
3	During the early stage of human embryonic development, the blastomeres are arranged into an outer layer and an inner group of cells known as the Inner Cell Mass (ICM). What is the fundamental significance of the outer layer, the trophoblast? A. It is responsible for forming the primary germ layers (ectoderm, mesoderm, endoderm).	1

**There is no change in the Question Paper Design and Assessment Pattern for Academic Session 2026-27.*

	B. It provides essential nutrients to developing embryo and helps in its implantation. C. It secretes colostrum which contains antibodies. D. It gives rise to all the organs of the future embryo (organogenesis).	
4	Select the option that gives the correct description of the process of natural selection with respect to the length of the neck of the giraffe.  A. Stabilising selection as giraffes with longer neck lengths are selected further. B. Disruptive selection as giraffes with smaller and longer neck lengths are selected. C. Directional selection as giraffes with longer neck lengths are selected. D. Stabilising selection as giraffes with medium neck lengths are selected. ----- <u>For Visually impaired students</u> Evolution of antibiotic-resistant bacterial population signifies the information that A. Acquired traits are inherited. B. Nature selects for fitness. C. Genetic variations are not a prerequisite factor for natural selection. D. The theory of spontaneous generation of life holds true.	1
5	The initiation step during the process of transcription in bacteria is shown below. Identify A, B, C and D by selecting the option:  A. A-RNA polymerase, B-Promoter, C-Sigma factor, D-DNA helix B. A-Promoter, B-Sigma factor, C-RNA polymerase, D-DNA helix C. A-Promoter, B-RNA polymerase, C-DNA helix, D-Sigma factor D. A-Promoter, B-RNA polymerase, C-Sigma factor, D-DNA helix	1

For Visually impaired students

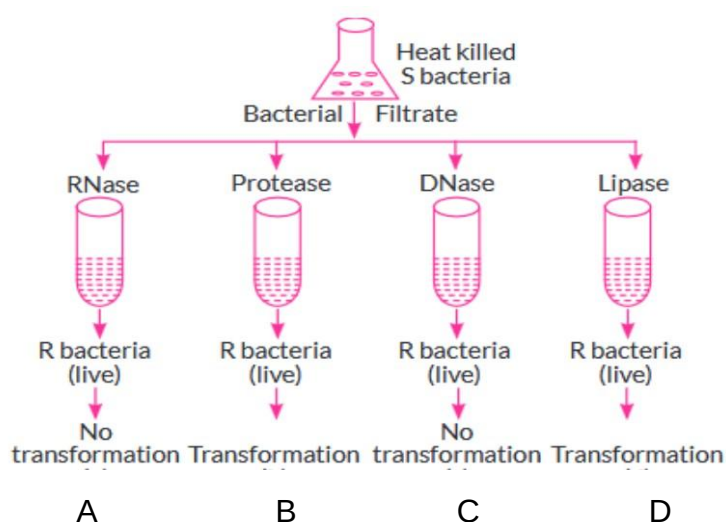
The promoter site and the terminator site for transcription are located at:

- A. 3' (downstream) end and 5' (upstream) end, respectively of the transcription unit
- B. 5' (upstream) end and 3' (downstream) end, respectively of the transcription unit
- C. the 5' (upstream) end
- D. the 3' (downstream) end

6

Given below is the illustration of the different steps of experiments conducted by MacLeod, McCarty and Avery to find the chemical nature of the 'transforming principle' as DNA. Select the option that **incorrectly** depicts the step of the experiment.

1



For Visually impaired students

In the Griffith experiment, which of the following, when injected into mice, did not cause pneumonia?

- A. Heat-killed S strain only
- B. Live R strain only
- C. Both (A) and (B)
- D. Live S strain only

7

A scientist was culturing *E.coli* in a $^{15}\text{NH}_4\text{Cl}$ medium initially, then he shifted *E.coli* to a $^{14}\text{NH}_4\text{Cl}$ medium. The DNA was extracted from *E.coli* after 60 minutes of transfer to $^{14}\text{NH}_4\text{Cl}$ Medium and performed density gradient centrifugation to check the isotope distribution in newly replicated DNA. What will be the densities of DNA molecules formed?

1

- A. 25% hybrid and 75% light
- B. 50% hybrid and 50% light
- C. 75% hybrid and 25% light
- D. 85% hybrid and 15% light

8	Study the given pedigree and identify the disease represented A. Myotonic Dystrophy B. Sickle cell anaemia C. Haemophilia D. Colour blindness ----- <u>For Visually impaired students</u> If a genetic disease is transferred from a phenotypically normal but carrier female to only some of the male progeny the disease is: A. Autosomal dominant B. Autosomal recessive C. Sex-linked dominant D. Sex-linked recessive	1
9	A patient with fever, chest pain, cough and breathing difficulty undergoes a chest X-ray. The film shows patchy opacities and reduced clarity of lung fields. Which observation best supports pneumonia? A. Enlarged heart size B. Inflammation or fluid buildup in the lungs C. Fractured ribs D. Air pockets in the lungs	1
10	A stretch of an euchromatin has 200 nucleosomes, how many base pairs (bp) will be there in the stretch and what would be the length of the typical euchromatin? A. 20,000 bp and $13,000 \times 10^{-9}$ m B. 10,000 bp and $10,000 \times 10^{-9}$ m C. 40,000 bp and $13,600 \times 10^{-9}$ m D. 40,000 bp and $13,900 \times 10^{-9}$ m	1
11	A biotechnology company grew <i>Streptomyces</i> in a fermenter to produce an antibiotic. It was observed that Day 7 onwards, the actual yield drops sharply, even though nutrient level, temperature, and aeration remain	1

	unchanged. Also, Microscopy revealed new colonies of bacteria which were not present in the original culture. So the fermenter was stopped. What measures should be taken to prevent the fall in yield in future fermentations? A. Increasing temperature only at the end of fermentation to kill contaminants. B. Adding antibiotics to the culture so unwanted microbes cannot grow. C. Ensuring sterile handling, sterilised equipment, and aseptic transfer before and during fermentation. D. Using a genetically modified strain designed to grow faster than contaminants.	
12	A rice farmer's field, which typically thrives in waterlogged conditions and requires soil rich in nutrients like phosphorus, is experiencing a severe drought this year. The crop is also susceptible to root infestation by pathogens. Which of the following techniques is best to address all these issues? A. Adding nitrogen-fixing bacteria to the soil B. Applying chemical fertilizers C. Adding spores of <i>Glomus</i> to the soil D. Flooding the field artificially to mimic normal conditions	1
Question No. 13 to 16 consist of two statements – Assertion (A) and Reason (R). Answer these questions selecting the appropriate option given below: A. Both A and R are true and R is the correct explanation of A. B. Both A and R are true but R is not the correct explanation of A. C. A is true but R is false. D. A is False but R is true.		
13	Assertion (A): Spermatogenesis is an ongoing process throughout the reproductive life of a human male, while oogenesis is a discontinuous process. Reason (R): Oogenesis begins during the embryonic stage, gets arrested at prophase-I, resumes after puberty, and is arrested again at metaphase-II.	1
14	Assertion (A): There is no variation in the percentage recombination due to loosely or tightly linked genes. Reason (R): Linked genes result in occurrence of higher proportion of parental gene combinations.	1
15	Assertion (A): The primary goal of sewage treatment is to eliminate all organic matter from the effluent. Reason (R): High BOD indicates a low level of organic matter in the water, which can lead to increased oxygen consumption by microorganisms, potentially harming aquatic life.	1
16	Assertion (A): Tissue culture is used when traditional breeding technique is insufficient to keep pace with the demand of crop improvement.	1

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Reason (R): Totipotency is the ability of a single plant cell or explant to regenerate into a whole plant under sterile conditions in nutrient media.

Section - B

17 **Attempt either option A or B.** 2

A. Geitonogamy can be compared with cross-pollination as well as self-pollination. Comment.

OR

B. Mohit wants to produce hybrid seeds in a plant in his field in which male and female flowers mature at the same time and are close together. Suggest one strategy to promote only desired cross pollination and justify your answer.

18 The movement of landmasses over geological time changed the distribution and evolution of animals. Explain this idea using two examples from different regions of the world. 2

19 The following is a realistic example dataset and not a real world patient dataset: 2

Sample ID	Tumor size (mm ³)	Glucose level mM/litre	Oxygen level (mmHg)	Neighboring cell's viability/ vitality (%)
1	150	2.0	15	60
2	50	4.5	30	85
3	200	1.3	10	50
4	100	3.0	20	70
5	250	0.9	7	40

A. Interpret the relationship between tumor size and glucose level.
B. Evaluate the data to determine how tumor progression may affect the viability/vitality of neighboring cells. Provide a brief explanation.

20 **Attempt either option A or B.** 2

A. The table below shows hypothetical data comparing α -lactalbumin concentration in three types of milk, including that of Rosie, a transgenic cow designed to express human milk proteins.

Source of Milk	α -lactalbumin Content approximately (g/L)
Normal cow's milk	0.1
Rosie cow's milk	2.4
Human milk	3.5

- I. Assuming all other nutritional components are identical, which milk would provide the lowest nutritional contribution from α -lactalbumin?
- II. If further genetic modification increases α -lactalbumin levels in Rosie to 3.5 g/L, predict one ethical concern that might arise from such a development.

OR

- B. A farmer replaces the GM crop with a conventional variety. Predict any two challenges she/he may face. Support your answer with two reasons.

21 **Attempt either option A or B.**

2

- A. The table below is a hypothetical data on Seasonal Temperatures seen over two different zones

Region	Temp. in Spring (°C)	Temp. in Summer (°C)	Temp. in Autumn (°C)	Temp. in Winter (°C)	Primary Productivity (GPP) (g/m ² /year)	Respiration (R) (g/m ² /year)
Region X	27	28	27	26	3500	1300
Region Y	12	20	14	4	2000	800

- I. Justify which region will have greater species diversity based on the given data?
- II. Calculate the net primary productivity (NPP) of the region mentioned in (I) and give its significance?

OR

- B. Following is a hypothetical data on Plant Pollinator interaction

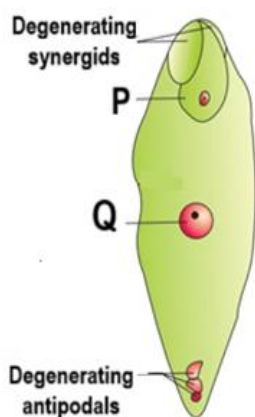
Plant	Main Pollinator	Seed set (%) with pollinator	Seed set (%) without pollinator
P1	H1 (Bee)	80	40
P2	H2 (Butterfly)	75	45
P3	H3 (Moth)	85	35

- I. From the data above, justify which plant shows the highest dependence on its main pollinator?
- II. What kind of ecological interaction is shown in the table above? Define it in one sentence.

Section - C

- 22 A couple, A and B, visit a fertility clinic. Examination reveals that female A has a blockage in her fallopian tubes, but her ovaries can produce viable ova. Male B produces sperm with a very low sperm count, making natural fertilization unlikely.
Which two different Assisted Reproductive Technologies (ARTs) would a doctor

3

	most likely recommend for this couple to increase their chances of conceiving? Justify your selection by briefly stating the principle behind each chosen technique concerning the couple's specific issues.	
23	In the post-fertilization embryo sac shown in figure, structure 'P' results from the fusion of one male gamete with the egg cell, and structure 'Q' results from the fusion of the other male gamete with the polar nuclei.  Figure: Fertilised embryo sac in a flowering plant A. Identify structure 'P' and structure 'Q' and state their ploidy. B. Evaluate the following statement: "The division of 'P' always precedes the division of 'Q'." Justify your evaluation based on the nutritional requirements for seed development. C. Which characteristic feature of endosperm helps in its nutritive role? ----- <u>For Visually impaired students</u> A. Which two products are formed after double fertilization in the embryo sac of a flowering plant? B. State the ploidy of these two structures. C. Which of these two structures develops first during embryonic development? State its significance.	3
24	In mice, the traits for running ability and hair colour assort independently. Running (R) is dominant over walking in circles (r). Black hair (B) is dominant over brown hair (b). A heterozygous running, brown-haired female mouse was artificially inseminated using sperm from a heterozygous running, heterozygous black male. A. Write the genotypes of both parents and draw a Punnett square showing all possible offspring combinations. (1) B. Using the Punnett square, state the phenotypic ratio for: Running–Black, Running–Brown, Walking–Black, Walking–Brown. (1) C. If 64 offspring were produced, calculate how many would be expected to show the Running–Black phenotype. (1)	3

25	How can a single gene defect caused by the mutation result in Phenylketonuria (PKU)? Explain the molecular mechanism underlying pleiotropy.	3
26	Drug-use disorders often begin with occasional consumption but may progress into a compulsive state. Analyse how addiction differs from dependence in both origin and consequence, and justify why long-term drug intake forces the user to increase dose over time.	3
27	Pathogens are often considered harmful, yet they have been adapted as powerful tools in genetic engineering. Explain how pathogens have been modified into useful vectors. Describe the role of a similarly modified plant vector and animal vector.	3
28	The nematode <i>Myrmeconema neotropicum</i> lives inside the abdomen of certain tropical ants (<i>Cephalotes atratus</i>). Inside the ant's body, the nematode develops slowly without killing it. Once mature, it changes the color of the ant's abdomen to bright red, making it resemble a berry. Birds, mistaking it for a fruit, eat the ant. The nematode's eggs survive in the bird's digestive system and pass out in droppings, which other ants contact while foraging, starting the cycle again. A. Why would harming the ant too early be disadvantageous for the nematode? (1) B. How is natural selection playing a vital role in maintaining this interaction? (1) C. What kind of ecological interaction is seen between nematode and ant? Define it in one sentence. (1)	3

Section - D

29	Madhuri, a 17-year-old girl, has been experiencing irregular periods for the past one year. Sometimes, her cycles are as short as 20 days and sometimes as long as 45 days. She occasionally has very heavy bleeding that lasts over a week, causing fatigue and weakness. A doctor reviews her menstrual diary and explains that these changes can be linked to hormonal fluctuations in the hypothalamic-pituitary-ovarian (HPO) axis. He shows Madhuri the lack of a clear ovulation peak and low progesterone levels in her recent cycles. A. Madhuri experiences heavy bleeding lasting over a week causing fatigue. What possible complication could arise from this condition? (1) B. Examine how the absence of a distinct LH (luteinizing hormone) surge in the menstrual cycle might explain both the irregularity and heaviness of Madhuri's periods. (2) <u>Attempt either subpart C or D.</u> C. Madhuri's cycles vary between 20 and 45 days. What might this irregularity indicate about her ovarian function? (1)	4
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*There is no change in the Question Paper Design and Assessment Pattern for Academic Session 2026-27.

	OR	
	D. If a doctor suspects hypothalamic-pituitary dysfunction in Madhuri, which hormone secretion pattern would you expect to be disrupted? (1)	
30	A tribal farmer is cultivating <i>Brassica oleracea</i> (cabbage) in a forest region rich in pollinators and rare butterflies. Recently, his crops have been heavily damaged by cabbage looper caterpillars. To manage the pest outbreak, he applies Nucleopolyhedrovirus (NPV). After a few weeks, the pest population decreases significantly without affecting other insects or animals in the area. A. Justify with reasons why the use of Nucleopolyhedrovirus (NPV) was a suitable choice for controlling cabbage looper caterpillars. (1) B. Suggest another IPM strategy suitable for controlling caterpillar pests, and briefly describe its mode of action. (2) <u>Attempt either subpart C or D.</u> C. Name the group of pathogens to which <i>Nucleopolyhedrovirus</i> belong. (1) OR D. Justify why the use of NPV is considered a biocontrol method. (1)	4

Section - E

31	<u>Attempt either option A or B.</u> A. A short stretch of DNA strand that codes for a polypeptide is shown below: 3'—TACAAAAGAAGAAAAGAAGATT--5' Due to exposure to harmful UV radiation two different types of errors occurred during DNA replication affecting their sequences of bases in the DNA in two different cells. I. What is the term given to a segment of DNA that codes for a polypeptide? II. Which type of mutation could have occurred in each of the following due to the error during replication? a) 3'-- TACAAAAGAAGAAAAGAAATT--5' b) 3'-- TACAAAAGAAGAAAAGAGATT--5' III. If DNA strand (a) codes for Methionine and sequences of Phenylalanine, mention the sequence of amino acids that will constitute the polypeptide chain after translation. How many amino acids will be translated from this strand? IV. If all the codons of the stretch code for Phenylalanine excluding the initiator codon which feature does it depict? OR B. I. If GUA is an intron how many amino acids will be translated from the mature or processed RNA. Pick out the untranslated region from the following messenger RNA and mention their location and sequence.	5
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	What is its significance? 5'ACGUCGAUGACCGUAGCGUUUGUAUCUUUAGUAGUGGUAAUUA GUAGGCUAAAAA3' II. If AAA is the anticodon of phenylalanine, draw the tRNA adaptor molecule, Mention the position of amino acid Phenylalanine in the sequence of polypeptide counting the triplet codons.	
32	<u>Attempt either option A or B.</u> A. A scientist is screening bacterial transformants engineered with DNA fragments of the β-globin gene. A radioactive DNA probe complementary to the normal β-globin sequence is used. After autoradiography: - Plates A and C show strong and weak radioactive signals respectively. - Plate B shows no radioactivity. Answer the following: I. Why does plate B fail to show radioactivity, while A and C do? (2) II. How can this experiment help in distinguishing a normal individual, a carrier, and a patient of sickle cell anaemia? (2) III. Name one other commonly used technique (apart from autoradiography) to differentiate recombinants from non-recombinants. (1) OR B. A student placed DNA from three different sources: bacteria, plant tissue, and fungal cells in a test tube A, B and C respectively. During the process of isolating and purifying DNA, the student added cellulase to all test tubes. I. Predict and explain in which trial(s) DNA isolation would fail, and why? Also suggest how it could be corrected. (2) II. After rectifying the mistake made in 'a', outline the steps to obtain visible spooled DNA from the sample. (2) III. Suggest one application of the spooled DNA in biotechnology. (1)	5
33	<u>Attempt either option A or B.</u> A. A Green Valley X, home to rare medicinal plants and several migratory bird species, is facing multiple environmental challenges. I. A luxury brand of cosmetics with little regulation has been sourcing wild medicinal plants from the valley. II. The company has introduced an ornamental grass species from another country, which has taken over large areas of native grassland. III. There is also a reported drastic decline in the endemic trees. IV. Large scale forest fire in a part of the valley. a) From the above hypothetical case, identify and explain the four major biodiversity threats. (4) b) Suggest one in-situ conservation practice that could help protect the biodiversity of Green Valley X, and justify your choice. (1)	5

OR

B. At a composting ground, after a community clean-up drive, large amounts of vegetable peels, garden leaves, and other organic waste are piled up. Over the next few weeks, the volume of the waste decreases noticeably.

I. Explain the sequence of processes that could have led to this transformation, and name the major organisms involved at each step. (4)

II. If a prolonged dry spell occurs during this composting period, explain how it could affect the rate of the above processes. (1)

SUBJECT: MATHEMATICS (041)
SAMPLE QUESTION PAPER
CLASS- XII (2026 - 27)

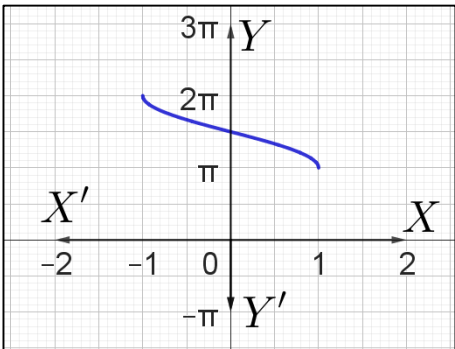
Maximum Marks:80

Time Allowed: 3 Hours

General Instructions:

Read the following instructions very carefully and strictly follow them:

1. This question paper contains 38 questions. All questions are compulsory.
2. This question paper is divided into five Sections - A, B, C, D and E.
3. In Section A, Question no. 1 to 18 are multiple choice questions (MCQs) and Questions no. 19 and 20 are Assertion-Reason based questions of 1 mark each.
4. In Section B, Question no. 21 to 25 are Very Short Answer (VSA)-type questions, carrying 2 marks each.
5. In Section C, Question no. 26 to 31 are Short Answer (SA)-type questions, carrying 3 marks each.
6. In Section D, Question no. 32 to 35 are Long Answer (LA)-type questions, carrying 5 marks each.
7. In Section E, Question no. 36 to 38 are case study-based questions carrying 4 marks each.
8. There is no overall choice. However, an internal choice has been provided in 2 questions in Section B, 3 questions in Section C, 2 questions in Section D and one sub-part each in 2 questions of Section E.
9. Draw neat and clean figures wherever required. Take $\pi = \frac{22}{7}$ wherever required, if not stated.
10. Use of calculators is not allowed.

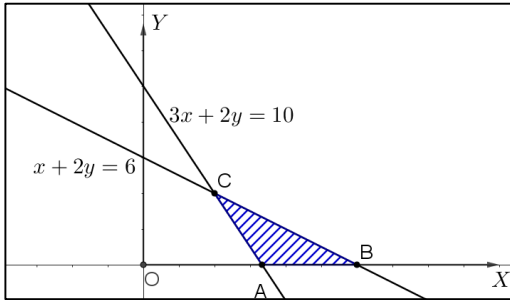
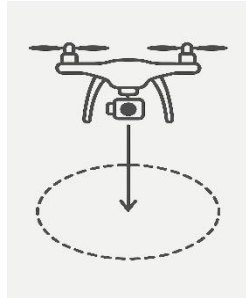
SECTION – A (20 x 1 = 20)		
This section comprises of 18 multiple choice questions and two assertion and reason type questions of 1 mark each.		
Q.No.	Questions	Marks
Q1.	Identify the function whose graph is given below:  (A) $\cos^{-1}\left(\frac{x}{2}\right)$ (B) $\cos^{-1}(2x)$ (C) $\pi - \cos^{-1} x$ (D) $\pi + \cos^{-1} x$	1

*There is no change in the Question Paper Design and Assessment Pattern for Academic Session 2026-27

	For Visually Impaired: Find the range of $\frac{\pi}{2} + \sec^{-1}\left(\frac{x}{2}\right)$ (A) $[0, \pi]$ (B) $[0, \pi] - \left\{\frac{\pi}{2}\right\}$ (C) $\left[\frac{\pi}{2}, \frac{3\pi}{2}\right]$ (D) $\left[\frac{\pi}{2}, \frac{3\pi}{2}\right] - \{\pi\}$	
Q2.	Domain of the function: $\sec^{-1}(2x)$ is (A) $(-\infty, \infty)$ (B) $\left(-\frac{1}{2}, \frac{1}{2}\right)$ (C) $\left(-\infty, -\frac{1}{2}\right) \cup \left(\frac{1}{2}, \infty\right)$ (D) $\left(-\infty, -\frac{1}{2}\right] \cup \left[\frac{1}{2}, \infty\right)$	1
Q3.	Value of $\cot^{-1}\left(2 \cos\left(\frac{1}{2} \sin^{-1}\left(\frac{\sqrt{3}}{2}\right)\right)\right)$ (A) $\frac{\pi}{6}$ (B) $\frac{\pi}{4}$ (C) $\frac{\pi}{3}$ (D) $\frac{\pi}{2}$	1
Q4.	If $A = \begin{bmatrix} 2 & 1 & -2 \\ 3a & 0 & 4 \\ b & 2c & 1 \end{bmatrix}$ is a symmetric matrix, then value of $\sqrt{6a + 2b + 3c}$ is: (A) -2 (B) 2 (C) ± 2 (D) 4	1
Q5.	If P and Q are matrices of same order such that $P = \begin{bmatrix} 2 & 1 \\ 0 & 1 \end{bmatrix}$, $ Q = 3$, then find $ adj(PQ) $ (A) -3 (B) 1 (C) 6 (D) 36	1
Q6.	If $\begin{bmatrix} 1 & x \end{bmatrix} \begin{bmatrix} 1 & 0 \\ 0 & 2 \end{bmatrix} \begin{bmatrix} 4 \\ -1 \end{bmatrix} = 0$, then value of x is (A) -2 (B) -1 (C) 1 (D) 2	1
Q7.	The derivative of $\cos^{-1}(2x^2 - 1)$ with respect to $\cos^{-1}(x)$ is (A) 2 (B) ± 1 (C) $\frac{1}{2}$ (D) -2	1
Q8.	If a, b, c are arbitrary constants such that the function defined by $f(x) = \begin{cases} ax^2 + b, & b \neq 0, x \leq 1 \\ bx^2 + ax + c, & x > 1 \end{cases}$ is differentiable at $x = 1$, then which of the following could be a triplet for (a, b, c) ? (A) $(3, 2, 0)$ (B) $(0, 0, 3)$ (C) $\left(\frac{3}{2}, 2, 0\right)$ (D) $\left(3, \frac{3}{2}, 0\right)$	1
Q9.	If $y = a \left\{x + 2a \sin\left(\frac{x}{a}\right)\right\}$, $a > 0, x \in [0, \pi a]$; is a decreasing function, then the interval in which x lies is (A) $\left(\frac{5\pi}{6}, \pi\right]$ (B) $\left(\frac{2\pi}{3}, \pi\right]$ (C) $\left(\frac{5\pi a}{6}, \pi a\right]$ (D) $\left(\frac{2\pi a}{3}, \pi a\right]$	1

Q10.	The values of x for which the derivative of the function $y = x^4$ is greater than the value of the function are (A) $0 < x < 4$ (B) $0 < x \leq 4$ (C) $x < 0$ or $x > 4$ (D) $x < 0$ or $x \geq 4$	1
Q11.	The degree and order of the differential equation $y - x \left(\frac{dy}{dx} \right)^3 = a \left(y + \frac{d^2y}{dx^2} \right)^2$ are respectively (A) 3, 1 (B) 2, 2 (C) 3, 2 (D) 4, 2	1
Q12.	If $\int \frac{1}{1+e^{2x}} dx = x - P \log(1 + e^{2x}) + C$, then 'P' is equal to (A) $-\frac{1}{2}$ (B) $-\frac{1}{3}$ (C) $\frac{1}{3}$ (D) $\frac{1}{2}$	1
Q13.	If vector $2\hat{i} - u\hat{j} + 3\hat{k}$ has magnitude 4, then value of 'u' is (A) 1 (B) $\sqrt{2}$ (C) $\pm\sqrt{3}$ (D) ± 2	1
Q14.	Angle made by the vector $\hat{i} + \hat{j} + \sqrt{2}\hat{k}$ with positive direction of z-axis is (A) $\frac{\pi}{6}$ (B) $\frac{\pi}{4}$ (C) $\frac{\pi}{3}$ (D) $\frac{\pi}{2}$	1
Q15.	A vector perpendicular to the vectors $\hat{i} + \hat{j}$ and $\hat{i} - \hat{j}$ is (A) $-2\hat{j}$ (B) $3\hat{k}$ (C) $2\hat{i}$ (D) $2\hat{i} + \hat{k}$	1
Q16.	The probability that it rains on a particular day is $\frac{1}{5}$. Assuming weather conditions of any two days are independent, find the probability that it rains on three consecutive days. (A) $\frac{4}{5}$ (B) $\frac{1}{5}$ (C) $\frac{1}{25}$ (D) $\frac{1}{125}$	1
Q17.	A die is thrown twice. What is the probability that at least one number is 4, given the sum of the numbers appearing is a multiple of 5? (A) $\frac{3}{5}$ (B) $\frac{4}{5}$ (C) $\frac{3}{7}$ (D) $\frac{4}{7}$	1
Q18.	A and B are two independent events such that $P(A) = \frac{1}{6}$, $P(B) = k$. If the probability of occurrence of exactly one of them is $\frac{1}{3}$, then find the value of k. (A) $\frac{1}{4}$ (B) $\frac{2}{3}$ (C) $\frac{3}{4}$ (D) $\frac{5}{6}$	1

Assertion-Reason Based Questions Directions: Question numbers 19 and 20 are Assertion and Reason based questions carrying 1 mark each. Two statements are given, one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer from the options (A), (B), (C) and (D) as given below: (A) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A). (B) Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A). (C) Assertion (A) is true but Reason (R) is false. (D) Assertion (A) is false but Reason (R) is true.		
Q19.	Assertion: The value of the integral $\int_{-1}^1 x - 2 dx$ is 4 Reason: If $f(-x) = f(x)$ then $\int_{-a}^a f(x)dx = 2 \int_0^a f(x)dx$	1
Q20.	Assertion: The general solution of a differential equation represents a family of curves. Reason: The derivative of an arbitrary constant is zero.	1
SECTION – B (5 x 2 = 10) This section comprises of 5 very short answer (VSA) type questions of 2 marks each		
Q21 (A).	Evaluate $\int \frac{1}{x \sqrt{x^6-1}} dx$	2
	OR	
Q21 (B).	Evaluate $\int \frac{\cos x - \sin x}{\sqrt{\sin(2x)}} dx$	
Q22.	If $y = \sin(x + y)$ and $\frac{dy}{dx} = 0$, then prove that $y = \pm 1$.	2
Q23 (A).	A line passing through the points $(2, 6, 5)$, and $(3, p, 7)$ is parallel to the line joining the points $(-4, 3, 4)$ and $(-1, 0, q)$. Find the value of $\frac{q}{p}$.	2
	OR	
Q23 (B).	A rectangle ABCD is such that $\overrightarrow{AC} = \vec{u}$, and $\overrightarrow{BD} = \vec{v}$, then find the vectors representing four sides of the rectangle (in a cyclic order starting from $\overrightarrow{AB}$).	
Q24.	For two non-zero vectors $\vec{a}$ and $\vec{b}$, $ \vec{a} = \sqrt{6}$, $\vec{a} \cdot \vec{b} = 1$ and $\vec{b} \times \vec{a} = 3\hat{i} + 4\hat{j} - 2\hat{k}$. Find $ \vec{b} $.	2

Q25.	The feasible region of a linear programming problem is shown in the given figure:  Write all the constraints on the decision variables involved For Visually Impaired: For a linear programming problem, the maximum value of an objective function $Z = 3x + 4y$ exists at the points (p, q) and $(2p, \frac{q}{2})$. Find the relation between p and q.	2
SECTION – C (6 x 3 = 18) This section comprises of 6 short answer (SA) type questions of 3 marks each.		
Q26.	For two matrices, $P = \begin{bmatrix} 2 & 0 & 0 \\ 0 & 1 & 2 \end{bmatrix}$ and $Q = \begin{bmatrix} 1 & 0 \\ 0 & 2 \\ 1 & 0 \end{bmatrix}$, find PQ and QP, whichever is defined. Also, find the inverse of the product matrix, if it exists.	3
Q27.	The circular area of vision on the ground by a surveillance drone fitted with camera increases at the rate of 44 m^2 per metre as it gains vertical height. The radius of the circle on the ground increases at the rate of 6 m/s. Find the rate at which the height of the drone increases with time, at the instant when the radius of the circular area on the ground is 14 m. (Use $\pi = \frac{22}{7}$) 	3
Q28 (A).	If $x = \sin^3 t, y = \cos^3 t$, Evaluate $\frac{d^2y}{dx^2}$ at $(\frac{1}{2\sqrt{2}}, \frac{1}{2\sqrt{2}})$.	3
OR		
Q28 (B).	If $y = x^{\log x} + (\log x)^x; x > 1$, then evaluate $\frac{dy}{dx}$	
Q29 (A).	Find the particular solution of the differential equation $xdy + (y - x^2e^x)dx = 0$, given that $y(1) = 0$	3
OR		
Q29 (B).	Find the particular solution of the differential equation $(x^2 + y^2)dy = xydx$, given that $y(0) = 1$	

Q30 (A).	Find the foot of the perpendicular drawn from the point (2,1,4) on the line $x - 2 = \frac{2y+3}{4} = 2 - z$. Also find the equation of the line passing through this point and the point (2,1,4).	3
	OR	
Q30 (B).	Find the angle between the lines: $\frac{x-1}{2} = \frac{y-1}{2} = \frac{z-2}{1}$ and $\frac{x-5}{2} = y - \frac{1}{2} = \frac{3-z}{2}$. Also find the cartesian equation of a line passing through the point (1,1,1) and perpendicular to both lines.	
Q31.	Solve the linear programming problem graphically: Maximize $Z = 40x + 30y$ Subject to constraints: $x + y \leq 6, 2x \geq y, y \geq 2$ For Visually Impaired: For a linear programming problem, vertices of the feasible region are (20,0), (40,0), (30,10), (0,20) and (0,10). Minimize and maximize the objective function $Z = 50x - 20y$	3
SECTION – D (4 x 5 = 20) This section comprises of 4 long answer (LA) type questions of 5 marks each.		
Q32 (A).	Let $A = N \times N$, where N is the set of natural numbers and a relation R is defined on A such that $(a,b)R(c,d)$ if and only if $a^2 + d^2 = b^2 + c^2$. Check whether R is an equivalence relation or not?	5
	OR	
Q32 (B).	A relation $R: (-\infty, \infty) \rightarrow [0, \infty)$ is defined as $R = \{(x,y): y = x^2 + 5\}$. Draw its graph and check whether it is a function or not. If the given relation is a function, then examine whether the function is injective, and whether it is surjective or not. For Visually Impaired: A relation $R: (-\infty, \infty) \rightarrow [0, \infty)$ is defined as $R = \{(x,y): y = x^2 + 7\}$. Check whether it is a function or not. If the given relation is a function, then examine whether the function is injective, surjective, or both, and conclude whether it is bijective or not.	
Q33.	Evaluate $\int_{-a}^a \sqrt{\frac{a-x}{a+x}} dx$	5
Q34 (A).	Using Integration, find the area of the region $\{(x,y): 0 \leq y \leq \sqrt{4-x^2}, x \geq 2-y\}$.	5
	OR	
Q34 (B).	Using Integration, find the area of the region bounded by the curve $y^2 = 2x$ and the line $x - 2y = 0$.	

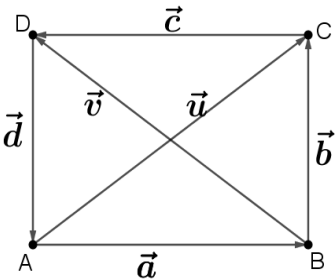
	For Visually Impaired:	
Q34 (A).	Using Integration, find the area of the region enclosed within $25x^2 + 16y^2 = 400$	5
	OR	
Q34 (B).	Using Integration find the area of the region in the first quadrant bounded by the curve $y^2 = 8x$, and the lines $x = 2$, $x = 5$ and x-axis.	
Q35.	A fitness app syncs with four types of smartwatches: Alpha, Beta, Gamma and Delta. 45% of the users use Alpha, 30% use Beta, 15% use Gamma and 10% use Delta. Due to device errors, the probabilities of getting a false heart-rate alert from the Alpha, Beta, Gamma and Delta smartwatches are respectively 0.01, 0.02, 0.05, and 0.01. Based on the given information, answer the following questions: (i) Find the probability that a randomly selected user gets a false alert. (ii) If a false alert occurs, what is the probability that it came from a Beta smartwatch?	5
SECTION – E (3 x 4 = 12) This section comprises of 3 case-study/passage-based questions of 4 marks each with sub parts. The first two case study questions have three sub parts (i), (ii), (iii) of marks 1, 1, 2 respectively. The third case study question has two sub parts of 2 marks each.		
Q36.	Two security sensors in a multi-storey mall emit laser beams for movement detection. Three of these beams travel along the following lines: $l_1: \vec{r} = (\lambda + 1)\hat{i} + (3\lambda + 2)\hat{j} + (3 - \lambda)\hat{k} \text{ and}$ $l_2: \vec{r} = 2(\mu + 1)\hat{i} + (3\mu - 1)\hat{j} + (\mu + 1)\hat{k}$ $l_3: \vec{r} = (\gamma + 3)\hat{i} + (3\gamma - 1)\hat{j} + (1 - \gamma)\hat{k}$  Based on the given information, answer the following questions: (i) Show that the lines l_1 and l_2 are not parallel to each other. (ii) Show that the lines l_1 and l_3 are parallel to each other. (iii) (a) Find the shortest distance between the lines l_1 and l_2. OR (b) Find the shortest distance between the lines l_1 and l_3.	1 1 2

Q37.	Water is essential for life, and rivers are vital water sources across the world. The Yamuna Action Plan (YAP), one of India's largest river restoration projects, was launched to clean the Yamuna, but its effectiveness (WQI) the Water Quality Index must be measured through cost-benefit, economic and environmental analysis. Therefore, comprehensive pollutant treatment, prevention of further contamination, and community awareness are crucial for sustainable river management. Implementing the same concept to the river Yamuna, if an initial base line WQI is 35, a quadratic expression is formed to measure the impact of investment of ₹x crore on the WQI i.e., $W(x)$ as $W(x) = 35 + 1.6x - 0.02x^2, \text{ where } x \text{ is in Rupees in crores}$  Use the given $W(x)$ to answer the following questions: (i) Find the value of x at the stationary point for the function $W(x)$. (ii) Find the maximum value of the WQI using the second derivative test? (iii) (a) If the investment is ₹ 35 crores, find by how much the WQI is short of its maximum achievable value. Or (b) Evaluate the WQI when the investment is ₹60 crore. Determine whether this indicates an enhancement or a diminishing return in our objective when compared with the optimum WQI.	1 1 2
Q38.	To celebrate their child's birthday, a family decided to distribute fruits among children in three orphanages. The fruit vendor packed three different types of baskets, according to the quantity required at each orphanage, details are given as follows: Basket A contains 5 kg Apples, 10 kg Oranges and 5 kg Pomegranate Basket B contains 10 kg Apples, 10 kg Oranges and 5kg Pomegranate Basket C contains 8 kg Apples, 15 kg Oranges and 7kg Pomegranate Cost of basket A, B and C are respectively ₹2750, ₹3500, and ₹4100.  Based on the given information, answer the following questions: (i) Write the matrix form of the equations involved in this situation and find the adjoint of the coefficient matrix involved. (ii) Using inverse of the matrix, calculate the price of each fruit per kg.	2 2

MATHEMATICS (041)
MARKING SCHEME
CLASS XII (2026-27)

SECTION: A (Solution of MCQs of 1 Mark each, no part marks)

Q. No.	ANS	HINTS/SOLUTION	Marks
1.	(D)	$\pi + \cos^{-1} x$	1
	(D)	For Visually Impaired: $\left[\frac{\pi}{2}, \frac{3\pi}{2}\right] - \{\pi\}$	1
2.	(D)	$\left(-\infty, -\frac{1}{2}\right] \cup \left[\frac{1}{2}, \infty\right)$	1
3.	(A)	$\cot^{-1}\left(2 \cos\left(\frac{1}{2} \sin^{-1}\left(\frac{\sqrt{3}}{2}\right)\right)\right) = \cot^{-1}\left(2 \cos\left(\frac{1}{2} \times \frac{\pi}{3}\right)\right)$ $= \cot^{-1}\left(2 \cos\left(\frac{\pi}{6}\right)\right) = \cot^{-1}\left(2 \times \frac{\sqrt{3}}{2}\right) = \cot^{-1}(\sqrt{3}) = \frac{\pi}{6}$	1
4.	(B)	$3a = 1, b = -2, 2c = 4 \Rightarrow \sqrt{6a + 2b + 3c} = \sqrt{2 - 4 + 6} = \sqrt{4} = 2$	1
5.	(C)	$ adj(PQ) = PQ = P Q = 2 \times 3 = 6$ ($\because$ order of P and $Q = 2 \times 2$)	1
6.	(D)	$\begin{bmatrix} 1 & x \end{bmatrix} \begin{bmatrix} 1 & 0 \\ 0 & 2 \end{bmatrix} \begin{bmatrix} 4 \\ -1 \end{bmatrix} = 0 \Rightarrow \begin{bmatrix} 1 & 2x \end{bmatrix} \begin{bmatrix} 4 \\ -1 \end{bmatrix} = 0 \Rightarrow 4 - 2x = 0 \Rightarrow x = 2$	1
7.	(A)	Let $y = \cos^{-1}(2x^2 - 1)$ and $u = \cos^{-1}(x)$ $\Rightarrow y = \cos^{-1}(2\cos^2 u - 1)$ as $\cos u = x$ $\Rightarrow y = \cos^{-1}(\cos(2u)) = 2u$ $\Rightarrow \frac{dy}{du} = 2$	1
8.	(D)	$f(x)$ is differentiable $\Rightarrow f(x)$ is continuous $\Rightarrow c = 0$ and $a = 2b$ $\Rightarrow (a, b, c)$ becomes $(2b, b, 0)$ which is satisfied by option (D) $(3, \frac{3}{2}, 0)$ only	1
9.	(D)	y is decreasing $\Rightarrow \frac{dy}{dx} < 0 \Rightarrow a \{1 + 2 \cos\left(\frac{x}{a}\right)\} < 0 \Rightarrow \cos\left(\frac{x}{a}\right) < -\frac{1}{2}$ $\Rightarrow \frac{x}{a} \in \left(\frac{2\pi}{3}, \pi\right] \Rightarrow x \in \left(\frac{2\pi a}{3}, \pi a\right]$	1
10.	(A)	$\frac{dy}{dx} > y \Rightarrow 4x^3 > x^4 \Rightarrow x^3(4 - x) > 0 \Rightarrow x(x - 4) < 0 \Rightarrow 0 < x < 4$	1
11.	(B)	The order is 2 and the term containing $\frac{d^2 y}{dx^2}$ has the maximum power 2 in the equation, so the degree is 2	1
12.	(D)	$\int \frac{1}{1+e^{2x}} dx = \int \left(\frac{1+e^{2x}}{1+e^{2x}} - \frac{e^{2x}}{1+e^{2x}}\right) dx = x - \frac{1}{2} \log 1 + e^{2x} + C$ So $P = \frac{1}{2}$	1
13.	(C)	Magnitude of $2\hat{i} - u\hat{j} + 3\hat{k} = 4 \Rightarrow \sqrt{4 + u^2 + 9} = 4$ $\Rightarrow u^2 = 16 - 13 = 3 \Rightarrow u = \pm\sqrt{3}$	1
14.	(B)	Direction cosines of the vector $\hat{i} + \hat{j} + \sqrt{2}\hat{k}$ are $\frac{1}{2}, \frac{1}{2}, \frac{1}{\sqrt{2}}$ Let angle = γ . Then $\cos \gamma = \frac{1}{\sqrt{2}} \Rightarrow \gamma = \frac{\pi}{4}$	1
15.	(B)	Both the vectors $\hat{i} + \hat{j}$ and $\hat{i} - \hat{j}$ are in XY-plane So a vector perpendicular to both is $3\hat{k}$	1

	Alternative way: $y = \sin(x + y) \Rightarrow \frac{dy}{dx} = \cos(x + y) \left(1 + \frac{dy}{dx}\right)$ $\Rightarrow \frac{dy}{dx} (1 - \cos(x + y)) = \cos(x + y)$ $\Rightarrow \cos(x + y) = 0 \text{ as } \frac{dy}{dx} = 0$ $\Rightarrow \sin(x + y) = \pm 1 \Rightarrow y = \pm 1$	1 1
23(A).	Given points are $A(2,6,5)$, $B(3,p,7)$, $C(-4,3,4)$ and $D(-1,0,q)$ Direction ratios of the line $\overrightarrow{AB}$ are $\langle 1, p-6, 2 \rangle$ and Direction ratios of the line $\overrightarrow{CD}$ are $\langle 3, -3, q-4 \rangle$ As the lines are parallel, so we have $\frac{1}{3} = \frac{p-6}{-3} = \frac{2}{q-4}$ $\Rightarrow -1 = p-6 \text{ and } q-4 = 3 \times 2$ $\Rightarrow p = -1 + 6 = 5, q = 6 + 4 = 10$ Thus, $\frac{q}{p} = \frac{10}{5} = 2$	1 $\frac{1}{2}$ $\frac{1}{2}$
	OR	
23 (B).	 Let vectors representing the four sides of the rectangle are as follows $\overrightarrow{AB} = \vec{a}, \overrightarrow{BC} = \vec{b}, \overrightarrow{CD} = \vec{c}, \text{ and } \overrightarrow{DA} = \vec{d}$ Then $\overrightarrow{AC} = \vec{u} = \vec{a} + \vec{b}$... (i) and $\overrightarrow{BD} = \vec{v} = \vec{b} + \vec{c} = \vec{b} - \vec{a}$... (ii) Solving (i) and (ii), $\vec{a} = \frac{1}{2}(\vec{u} - \vec{v}) \text{ and } \vec{b} = \frac{1}{2}(\vec{u} + \vec{v})$ Also, $\vec{c} = -\vec{a} = \frac{1}{2}(\vec{v} - \vec{u})$ and $\vec{d} = -\vec{b} = -\frac{1}{2}(\vec{u} + \vec{v})$	$\frac{1}{2}$ 1 $\frac{1}{2}$
24.	Given $\vec{a} = \sqrt{6}$, $\vec{a} \cdot \vec{b} = 1$ and $\vec{b} \times \vec{a} = 3\hat{i} + 4\hat{j} - 2\hat{k}$ So $\vec{a} \times \vec{b} = \vec{b} \times \vec{a} = \sqrt{29}$ We know, $\vec{a} \times \vec{b} ^2 + \vec{a} \cdot \vec{b} ^2 = \vec{a} ^2 \vec{b} ^2$ $\Rightarrow 29 + 1 = 6 \vec{b} ^2 \Rightarrow \vec{b} ^2 = \frac{30}{6} = 5 \Rightarrow \vec{b} = \sqrt{5}$	$\frac{1}{2}$ $\frac{1}{2}$ 1
25.	Constraints are $3x + 2y \geq 10, x + 2y \leq 6,$ $y \geq 0$	1½ $\frac{1}{2}$

	For Visually Impaired: As maximum value exists at (p, q) and $(2p, \frac{q}{2})$ So Z at $(p, q) = Z$ at $(2p, \frac{q}{2})$ $\Rightarrow 3p + 4q = 3 \times 2p + 4 \times \frac{q}{2}$ $\Rightarrow 3p + 4q = 6p + 2q$ $\Rightarrow 6p - 3p = 4q - 2q$ $\Rightarrow 3p = 2q$	1 1
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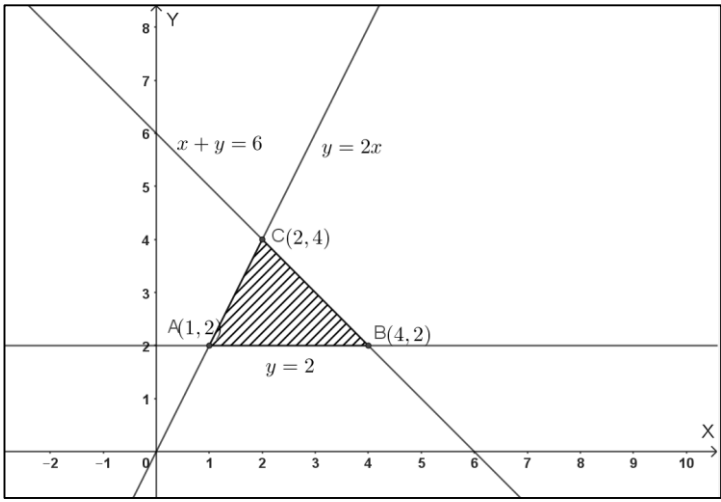
Section –C

[This section comprises of solution of short answer type questions (SA) of 3 marks each]

26(A)	Let $A = PQ$ and $B = QP$. Then $A = PQ = \begin{bmatrix} 2 & 0 & 0 \\ 0 & 1 & 2 \\ 1 & 0 & 0 \end{bmatrix} \begin{bmatrix} 1 & 0 \\ 0 & 2 \\ 1 & 0 \end{bmatrix} = \begin{bmatrix} 2 & 0 \\ 2 & 2 \\ 2 & 0 \end{bmatrix}$ $B = QP = \begin{bmatrix} 1 & 0 \\ 0 & 2 \\ 1 & 0 \end{bmatrix} \begin{bmatrix} 2 & 0 & 0 \\ 0 & 1 & 2 \\ 2 & 0 & 0 \end{bmatrix} = \begin{bmatrix} 2 & 0 & 0 \\ 0 & 2 & 4 \\ 2 & 0 & 0 \end{bmatrix}$ Here $A = 4 \neq 0$ So, A is a non-singular matrix, hence its inverse exists. $\text{Now } A^{-1} = \frac{1}{ A } \text{adj } A = \frac{1}{4} \begin{bmatrix} 2 & 0 \\ -2 & 2 \end{bmatrix} = \begin{bmatrix} \frac{1}{2} & 0 \\ -\frac{1}{2} & \frac{1}{2} \end{bmatrix}$ Here $B = 0$ So, B is a singular matrix, hence its inverse does not exist.	1 1 $\frac{1}{2}$ $\frac{1}{2}$
27.	Let A be the area of the circular region covered by the drone and let r be its radius. Let h be the height of the drone at any time t. Given $\frac{dA}{dh} = 44 \text{ m}^2 \text{ per metre}$ and $\frac{dr}{dt} = 6 \text{ m/s}$ To find $\frac{dh}{dt}$ when $r = 14 \text{ m}$. $A = \pi r^2 \Rightarrow \frac{dA}{dt} = 2\pi r \frac{dr}{dt} \Rightarrow \frac{dA}{dh} \cdot \frac{dh}{dt} = 2\pi r \frac{dr}{dt}$ $44 \frac{dh}{dt} = 2\left(\frac{22}{7}\right)6r \Rightarrow \left[\frac{dh}{dt}\right]_{r=14\text{m}} = 12 \text{ m/s}$ The height of the drone increases at the rate of 12 m/s at that moment.	$\frac{1}{2}$ 1 ½ 1
28(A).	$\frac{dx}{dt} = 3\sin^2 t \cos t \quad \text{and} \quad \frac{dy}{dt} = -3 \cos^2 t \sin t$ $\frac{dy}{dx} = \frac{\frac{dy}{dt}}{\frac{dx}{dt}} = -\cot t$ $\frac{d^2y}{dx^2} = \frac{d}{dt} \left(\frac{dy}{dx} \right) \cdot \frac{dt}{dx} = \text{cosec}^2 t \left(\frac{1}{3\sin^2 t \cos t} \right) = \frac{1}{3} (\sec t \cdot \text{cosec}^4 t)$ At the point $\left(\frac{1}{2\sqrt{2}}, \frac{1}{2\sqrt{2}}\right)$, $\sin^3 t = \frac{1}{2\sqrt{2}} \Rightarrow t = \frac{\pi}{4}$ $\left[\frac{d^2y}{dx^2}\right]_{t=\frac{\pi}{4}} = \frac{4\sqrt{2}}{3}$	1 1 1

	OR	
28(B).	Let $y = x^{\log x} + (\log x)^x = u + v$ where $u = x^{\log x}$ and $v = (\log x)^x$ $\log u = (\log x)^2$ and $\log v = x \cdot \log(\log x)$ $\frac{1}{u} \frac{du}{dx} = 2(\log x) \cdot \frac{1}{x}$ and $\frac{1}{v} \frac{dv}{dx} = \log(\log x) + \frac{1}{\log x}$ $\frac{du}{dx} = x^{\log x} \left(2(\log x) \cdot \frac{1}{x} \right)$ and $\frac{dv}{dx} = (\log x)^x \left(\log(\log x) + \frac{1}{\log x} \right)$ $\frac{dy}{dx} = \frac{du}{dx} + \frac{dv}{dx}$ $\Rightarrow \frac{dy}{dx} = \frac{2}{x} x^{\log x} \log x + (\log x)^x \left(\log(\log x) + \frac{1}{\log x} \right)$ Alternative Solution: Since $x = e^{\log x}$ $y = x^{\log x} + (\log x)^x = e^{\log(x^{\log x})} + e^{\log((\log x)^x)}$ $= e^{(\log x)^2} + e^{x \log(\log x)}$ $\frac{dy}{dx} = e^{(\log x)^2} \left[\frac{2 \log x}{x} \right] + e^{x \log(\log x)} [\log(\log x) + x \left(\frac{1}{\log x} \right) \left(\frac{1}{x} \right)]$ OR $x^{\log x} \left[\frac{2 \log x}{x} \right] + (\log x)^x [\log(\log x) + \left(\frac{1}{\log x} \right)]$	1 1 1 1 1+1
29(A).	$xdy + (y - x^2 e^x)dx = 0$ is a linear differential equation given by $\frac{dy}{dx} + \frac{1}{x} y = x e^x$ I.F = $e^{\int \frac{1}{x} dx} = e^{\log x} = x$ Solution is $y \cdot x = \int x^2 e^x dx$ using by parts $yx = x^2 e^x - \int 2x e^x dx$ using by parts again $yx = x^2 e^x - 2\{x e^x - e^x\} + C$ $y(1) = 0 \Rightarrow C = -e$ Particular solution is $yx = x^2 e^x - 2\{x e^x - e^x\} - e = e^x \{x^2 - 2x + 2\} - e$	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$
	OR	
29(B).	$\frac{dy}{dx} = \frac{xy}{x^2 + y^2}$ is a homogeneous differential equation. Let $y = v x \Rightarrow \frac{dy}{dx} = v + x \frac{dv}{dx}$ So, equation reduces to	

	$v + x \frac{dv}{dx} = \frac{v}{1+v^2} \Rightarrow x \frac{dv}{dx} = \frac{v-v-v^3}{1+v^2}$ $\int \frac{1+v^2}{v^3} dv = - \int \frac{dx}{x}$ $\int \left(\frac{1}{v^3} + \frac{1}{v} \right) dv = -\log x + \log C \Rightarrow \frac{-1}{2v^2} + \log v = -\log x + \log C$ $\log \left \frac{y}{C} \right = \frac{x^2}{2y^2} \quad \text{or} \quad y = C e^{\frac{x^2}{2y^2}}$ $C = 1$ when $x = 0$ and $y = 1$. The particular solution is $y = e^{\frac{x^2}{2y^2}}$	1 1 1
30(A).	A point on the line $x - 2 = \frac{2y+3}{4} = 2 - z = k$ is $P \left(k + 2, \frac{4k-3}{2}, 2 - k \right)$ And direction ratios of the given line are $\langle 1, 2, -1 \rangle$. Direction Ratios of the line joining the points $A(2,1,4)$ and this point P are $\langle k + 2 - 2, \frac{4k-3}{2} - 1, 2 - k - 4 \rangle = \langle k, \frac{4k-5}{2}, -k - 2 \rangle$ As $\overrightarrow{AP}$ is perpendicular to the given line, So $1 \times k + 2 \times \frac{4k-5}{2} + (-1) \times (-k - 2) = 0$ $\Rightarrow k + 4k - 5 + k + 2 = 0 \Rightarrow 6k - 3 = 0 \Rightarrow k = \frac{1}{2}$ So, foot of the perpendicular is $P \left(k + 2, \frac{4k-3}{2}, 2 - k \right) = \left(\frac{1}{2} + 2, \frac{2-3}{2}, 2 - \frac{1}{2} \right) = \left(\frac{5}{2}, \frac{-1}{2}, \frac{3}{2} \right)$ Direction ratios of the line $\overleftrightarrow{AP}$ are $\langle k, \frac{4k-5}{2}, -k - 2 \rangle = \langle \frac{1}{2}, -\frac{3}{2}, -\frac{5}{2} \rangle$ or $\langle 1, -3, -5 \rangle$ And equation of $\overleftrightarrow{AP}$ is $\frac{x-2}{1} = \frac{y-1}{-3} = \frac{z-4}{-5} \quad \text{OR} \quad x - 2 = \frac{1-y}{3} = \frac{4-z}{5}$	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$
	OR	
30(B).	Given lines are $\frac{x-1}{2} = \frac{y-1}{2} = \frac{z-2}{1}$ and $\frac{x-5}{2} = y - \frac{1}{2} = \frac{3-z}{2} \Rightarrow \frac{x-5}{2} = \frac{y-\frac{1}{2}}{1} = \frac{z-3}{-2}$ Let the angle between the lines be θ, then $\cos \theta = \frac{2 \times 2 + 2 \times 1 + 1 \times (-2)}{\sqrt{9} \times \sqrt{9}} = \frac{4}{9} \Rightarrow \theta = \cos^{-1} \left(\frac{4}{9} \right)$ Now required line will be in the direction of the vector $\begin{vmatrix} \hat{i} & \hat{j} & \hat{k} \\ 2 & 2 & 1 \\ 2 & 1 & -2 \end{vmatrix} = -5\hat{i} + 6\hat{j} - 2\hat{k}$ So required line is $\frac{x-1}{-5} = \frac{y-1}{6} = \frac{z-1}{-2}$ OR $\frac{x-1}{5} = \frac{y-1}{-6} = \frac{z-1}{2}$	$\frac{1}{2}$ 1 1 $\frac{1}{2}$

31.	 Feasible region is bounded with three vertices $A(1,2), B(4,2), C(2,4)$ Now $Z_A = 100, Z_B = 220, Z_C = 200$ So, Maximum Value of Z is 220 at the point $B(4,2)$.	1 ½ 1 ½
	For Visually Impaired: The vertices of the feasible region are $A(20,0), B(40,0), C(30,10), D(0,20)$ and $E(0,10)$. Now $Z_A = 50 \times 20 - 20 \times 0 = 1000$ $Z_B = 50 \times 40 - 20 \times 0 = 2000$ $Z_C = 50 \times 30 - 20 \times 10 = 1300$ $Z_D = 50 \times 0 - 20 \times 20 = -400$ $Z_E = 50 \times 0 - 20 \times 10 = -200$ Minimum value of Z is -400 at $D(0,20)$ Maximum Value of Z is 2000 at $B(40,0)$	2 1

Section –D

[This section comprises of solution of long answer type questions (LA) of 5 marks each]

32(A).	Given relation R is defined on $A = N \times N$ such that $(a, b)R(c, d)$ if and only if $a^2 + d^2 = b^2 + c^2$ Reflexive: Let $(p, q) \in A = N \times N$ Then as $p, q \in N$, so $p^2 + q^2 = q^2 + p^2$ $\Rightarrow (p, q)R(p, q) \forall (p, q) \in N \times N$ $\Rightarrow R$ is a reflexive relation. Symmetric: Let (p, q) and $(r, s) \in A = N \times N$ such that $(p, q) R (r, s)$ $\Rightarrow p^2 + s^2 = q^2 + r^2$ $\Rightarrow q^2 + r^2 = p^2 + s^2$ $\Rightarrow r^2 + q^2 = s^2 + p^2$ $\Rightarrow (r, s) R (p, q)$ Thus, R is a symmetric relation. Transitive:	1 ½ 1 ½
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	Let $(p, q), (r, s), (u, v) \in A$ such that $(p, q) R (r, s)$ and $(r, s) R (u, v)$ $\Rightarrow p^2 + s^2 = q^2 + r^2 \dots (i)$ and $r^2 + v^2 = s^2 + u^2 \dots (ii)$ Adding (i) and (ii), $p^2 + s^2 + r^2 + v^2 = q^2 + r^2 + s^2 + u^2$ $\Rightarrow p^2 + v^2 = q^2 + u^2$ $\Rightarrow (p, q) R (u, v)$ Thus, R is a transitive relation So, R is a reflexive, symmetric and transitive relation. Hence R is an equivalence relation	1 ½ ½
	OR	
32(B).	Yes, R is a function as the graph shows every element of the set $(-\infty, \infty)$ has a unique image in the set $[0, \infty)$. Now, let us denote this function by $f: (-\infty, \infty) \rightarrow [0, \infty)$ as $f(x) = x^2 + 5$ Injective Function: Here $f(-1) = (-1)^2 + 5 = 6$ and $f(1) = 1^2 + 5 = 6$ So $f(-1) = f(1) = 6$ Thus f is a many-one function, so not an injective function. Surjective Function: Range of $f(x) = [5, \infty) \neq \text{co-domain} = [0, \infty)$ So, it is not surjective. Alternate Method: Correct graph as above Yes, R is a function as the graph shows every element of the set $(-\infty, \infty)$ has a unique image in the set $[0, \infty)$. Now, let us denote this function by $f: (-\infty, \infty) \rightarrow [0, \infty)$ as $f(x) = x^2 + 5$ Injective Function: Let $a, b \in (-\infty, \infty)$, such that $f(a) = f(b)$ $\Rightarrow a^2 + 5 = b^2 + 5 \Rightarrow a^2 = b^2 \Rightarrow a = \pm b$ So f is not injective. Surjective Function: For $y = 1$ there is no pre-image as if $1 = x^2 + 5 \Rightarrow x^2 = -4$ not possible. So, it is not surjective. For Visually Impaired: For every element a of the set $(-\infty, \infty)$, $a^2 \in [0, \infty)$ and therefore $a^2 + 7 \in [7, \infty)$ Hence every element of the set $(-\infty, \infty)$ has a unique image in the set $[0, \infty)$.	1 for correct graph 1 1 ½ 1 ½ 1 1 1 ½ 1 ½

	So, $f: (-\infty, \infty) \rightarrow [0, \infty)$, $f(x) = x^2 + 7$ is a function. Now, let us denote this function by $f: (-\infty, \infty) \rightarrow [0, \infty)$ as $f(x) = x^2 + 7$ Injective Function: Here $f(-1) = (-1)^2 + 7 = 8$ and $f(1) = 1^2 + 7 = 8$ So $f(-1) = f(1) = 8$ Thus f is a many-one function, so not an injective function. Surjective Function: Range of $f(x) = [7, \infty) \neq \text{co-domain} = [0, \infty)$ So, it is not surjective. Thus $f(x)$ is neither injective nor surjective and hence not bijective	1 1 ½ 1 ½ 1
33.	Let $I = \int_{-a}^a \sqrt{\frac{a-x}{a+x}} dx$ $I = \int_{-a}^a \sqrt{\frac{a-x}{a+x}} \times \frac{a-x}{a-x} dx$ $= \int_{-a}^a \frac{a-x}{\sqrt{a^2-x^2}} dx = \int_{-a}^a \frac{a}{\sqrt{a^2-x^2}} dx - \int_{-a}^a \frac{x}{\sqrt{a^2-x^2}} dx = I_1 - I_2$ $I_1 = a \int_{-a}^a \frac{1}{\sqrt{a^2-x^2}} dx$ $= 2a \int_0^a \frac{1}{\sqrt{a^2-x^2}} dx$ using $\int_{-a}^a f(x) dx = 2 \int_0^a f(x) dx$ if $f(-x) = f(x)$ $I_1 = 2a \left[\sin^{-1} \left(\frac{x}{a} \right) \right]_0^a = 2a \left(\frac{\pi}{2} \right) = \pi a$ and $I_2 = \int_{-a}^a \frac{x}{\sqrt{a^2-x^2}} dx = 0$ using $\int_{-a}^a f(x) dx = 0$ if $f(-x) = -f(x)$ $I = I_1 - I_2 = \pi a$ Alternate Method: Let $x = a \cos 2\theta \Rightarrow dx = -2a \sin(2\theta) d\theta$ When $x = -a$, $\theta = \frac{\pi}{2}$ and $x = a$, $\theta = 0$ $I = \int_{-a}^a \sqrt{\frac{a-x}{a+x}} dx = -2a \int_{\frac{\pi}{2}}^0 \tan \theta \sin(2\theta) d\theta$ $I = 2a \int_0^{\frac{\pi}{2}} \tan \theta \sin(2\theta) d\theta$(i) using $\int_a^b f(x) dx = - \int_b^a f(x) dx$ $I = 2a \int_0^{\frac{\pi}{2}} \tan \left(\frac{\pi}{2} - \theta \right) \sin(\pi - 2\theta) d\theta$ using $\int_0^a f(x) dx = \int_0^a f(a-x) dx$ $I = 2a \int_0^{\frac{\pi}{2}} \cot(\theta) \sin(2\theta) d\theta$(ii) Adding equations (i) and (ii) $2I = 2a \int_0^{\frac{\pi}{2}} (\tan \theta + \cot \theta) \sin(2\theta) d\theta$ $\Rightarrow I = 2a \int_0^{\frac{\pi}{2}} (\sin^2 \theta + \cos^2 \theta) d\theta$ $\Rightarrow I = 2a \int_0^{\frac{\pi}{2}} 1 d\theta = 2a \left(\frac{\pi}{2} \right) = \pi a$	½ 1 1 1 1 ½ ½ 1 1 1 1

34(A).	1 mark for correct figure $y = \sqrt{4 - x^2}$ is a semi-circle with radius 2 units and centre (0,0) $x = 2 - y$ which is $x + y = 2$ is a line with intercepts 2 on each axis. Curves meet at (0,2) and (2,0) Area = $\int_0^2 (\sqrt{4 - x^2} - (2 - x)) dx$ $= \left[\frac{x}{2} \sqrt{4 - x^2} + 2 \sin^{-1} \left(\frac{x}{2} \right) - 2x + \frac{x^2}{2} \right]_0^2$ $= \pi - 4 + 2 = (\pi - 2)$ sq. units	1 1 1 1
34(B).	OR 1 mark for correct figure. $y^2 = 2x$ represents a parabola, whose points of intersection with the given line $x = 2y$ are (0,0), (8,4) Area = $\int_0^8 (\sqrt{2x} - \frac{x}{2}) dx$ $= \left[\sqrt{2} \frac{2}{3} x^{\frac{3}{2}} - \frac{x^2}{4} \right]_0^8$ $= \frac{64}{3} - 16 = \frac{16}{3}$ sq. units	1 1 1 1
34(A).	For Visually Impaired: $25x^2 + 16y^2 = 400$ is an Ellipse with the standard equation as $\frac{x^2}{16} + \frac{y^2}{25} = 1$ $\Rightarrow y = \frac{5}{4} \sqrt{4^2 - x^2}$ Area = $4 \int_0^4 \left(\frac{5}{4} \sqrt{4^2 - x^2} \right) dx$ $= 5 \int_0^4 (\sqrt{4^2 - x^2}) dx$ $= 5 \left[\frac{x}{2} \sqrt{16 - x^2} + 8 \sin^{-1} \left(\frac{x}{4} \right) \right]_0^4$ $= 5[4(\pi)] = 20\pi$ sq. units	$\frac{1}{2}$ 1 1 1½ 1
	OR	

[illegible]

Section –E

[This section comprises solution of 3 case- study/passage-based questions of 4 marks]

36.	(i) Given lines are $l_1: \vec{r} = \hat{i} + 2\hat{j} + 3\hat{k} + \lambda(\hat{i} + 3\hat{j} - \hat{k}) \equiv \vec{a} + \lambda \vec{b}$ and $l_2: \vec{r} = 2\hat{i} - \hat{j} + \hat{k} + \mu(2\hat{i} + 3\hat{j} + \hat{k}) \equiv \vec{c} + \mu \vec{d}$ Here $\vec{a} = \hat{i} + 2\hat{j} + 3\hat{k}$, $\vec{b} = \hat{i} + 3\hat{j} - \hat{k}$, $\vec{c} = 2\hat{i} - \hat{j} + \hat{k}$, $\vec{d} = 2\hat{i} + 3\hat{j} + \hat{k}$ For direction vectors $\vec{b}$ and $\vec{d}$, $\vec{b} \neq \lambda \vec{d}$, for any $\lambda \in R$ $\Rightarrow \vec{b}$ is not parallel to $\vec{d}$ So, lines are not parallel. (ii) Given lines are $l_1: \vec{r} = \hat{i} + 2\hat{j} + 3\hat{k} + \lambda(\hat{i} + 3\hat{j} - \hat{k}) \equiv \vec{a} + \lambda \vec{b}$ and $l_3: \vec{r} = 3\hat{i} - \hat{j} + \hat{k} + \gamma(\hat{i} + 3\hat{j} - \hat{k}) \equiv \vec{e} + \gamma \vec{f}$	1 1
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	Since $\vec{b} = \vec{f}$, the lines l_1 and l_3 are parallel. (iii) (a) $\vec{c} - \vec{a} = 2\hat{i} - \hat{j} + \hat{k} - (\hat{i} + 2\hat{j} + 3\hat{k}) = \hat{i} - 3\hat{j} - 2\hat{k}$ $\vec{b} \times \vec{d} = \begin{vmatrix} \hat{i} & \hat{j} & \hat{k} \\ 1 & 3 & -1 \\ 2 & 3 & 1 \end{vmatrix} = 6\hat{i} - 3\hat{j} - 3\hat{k} = 3(2\hat{i} - \hat{j} - \hat{k})$ $(\vec{c} - \vec{a}) \cdot (\vec{b} \times \vec{d}) = (\hat{i} - 3\hat{j} - 2\hat{k}) \cdot 3(2\hat{i} - \hat{j} - \hat{k}) = 3(2 + 3 + 2) = 21 \neq 0$ So, the lines are skew lines. $ \vec{b} \times \vec{d} = 3\sqrt{2^2 + (-1)^2 + (-1)^2} = 3\sqrt{6}$ Thus, the shortest distance between the given lines is $D = \left \frac{(\vec{c} - \vec{a}) \cdot (\vec{b} \times \vec{d})}{ \vec{b} \times \vec{d} } \right = \left \frac{21}{3\sqrt{6}} \right = \frac{7}{\sqrt{6}} = \frac{7\sqrt{6}}{6} \text{ units}$ OR (b) $l_1: \vec{r} = \hat{i} + 2\hat{j} + 3\hat{k} + \lambda(\hat{i} + 3\hat{j} - \hat{k}) \equiv \vec{a} + \lambda \vec{b}$ and $l_3: \vec{r} = 3\hat{i} - \hat{j} + \hat{k} + \gamma(\hat{i} + 3\hat{j} - \hat{k}) \equiv \vec{e} + \gamma \vec{b}$ Since the lines are parallel, the shortest distance = $\frac{ \vec{b} \times (\vec{e} - \vec{a}) }{ \vec{b} }$ $= \frac{1}{\sqrt{11}} \left \begin{vmatrix} \hat{i} & \hat{j} & \hat{k} \\ 1 & 3 & -1 \\ 2 & -3 & -2 \end{vmatrix} \right = \frac{ -9\hat{i} - 9\hat{k} }{\sqrt{11}} = \frac{9\sqrt{22}}{11} \text{ units}$	1 1 1 1
37.	(i) $W(x) = 35 + 1.6x - 0.02x^2$ $W'(x) = 1.6 - 0.04x = 0 \Rightarrow x = 40$ Therefore, the value of x is 40 crores at the stationary point of $W(x)$. (ii) $W''(x) = -0.04 < 0 \Rightarrow W(x)$ is maximum at $x = 40$ by the second derivative test. Thus, the WQI is maximum when ₹ 40 crores are spent on the revival. Max. WQI = $W(40) = 35 + 64 - 32 = 67$ (iii) (a) If the investment is ₹35 crores, then the WQI = $W(35)$ $W(35) = 35 + (1.6)(35) - (0.02)(35)^2$ $= (2.6)(35) - (0.02)(1225)$ $= 91 - 24.5 = 66.5$ Also, $67 - 66.5 = 0.5$ So, the WQI is short by 0.5 units of its maximum level. OR (b) $W(60) = 35 + 96 - 72 = 59$ 59 is less than the maximum value 67 of WQI, even when the investment has been increased from 40 crores to 60 crores. This shows that the returns are diminishing.	1 ½ ½ 1 1 1 1

38.	(i) Taking price of each kg of apples, oranges and pomegranate as ₹x, ₹y, ₹z respectively. Matrix form is $AX = B$, where $A = \begin{pmatrix} 5 & 10 & 5 \\ 10 & 10 & 5 \\ 8 & 15 & 7 \end{pmatrix}$, $X = \begin{pmatrix} x \\ y \\ z \end{pmatrix}$, $B = \begin{pmatrix} 2750 \\ 3500 \\ 4100 \end{pmatrix}$ Here $A = 25 \neq 0$ So, the system is consistent and has unique solution Adjoint of the matrix $A = \text{adj}A = \begin{pmatrix} -5 & 5 & 0 \\ -30 & -5 & 25 \\ 70 & 5 & -50 \end{pmatrix}$ (ii) Unique solution of the system is given by $X = A^{-1}B = \frac{1}{25} \begin{pmatrix} -5 & 5 & 0 \\ -30 & -5 & 25 \\ 70 & 5 & -50 \end{pmatrix} \begin{pmatrix} 2750 \\ 3500 \\ 4100 \end{pmatrix}$ $\Rightarrow \begin{pmatrix} x \\ y \\ z \end{pmatrix} = \begin{pmatrix} 150 \\ 100 \\ 200 \end{pmatrix} \Rightarrow x = 150, y = 100, z = 200$ So the price of Apples, Oranges and Pomegranate are respectively ₹150 per kg, ₹100 per kg, ₹200 per kg.	1 1 1 1
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SAMPLE QUESTION PAPER 2026-27

**SUBJECT: - ACCOUNTANCY 055
CLASS XII**

TIME 3 HOURS

MAX. MARKS 80

GENERAL INSTRUCTIONS:

1. This question paper contains 34 questions. All questions are compulsory.
2. This question paper is divided into two parts, Part A and B.
3. **Part - A is compulsory for all candidates.**
4. Part - B has two options i.e. **(i) Analysis of Financial Statements and (ii) Computerised Accounting.** Students must attempt **only one** of the given options.
5. Questions 1 to 16 and 27 to 30 carry 1 mark each.
6. Questions 17 to 20, 31 and 32 carry 3 marks each.
7. Questions from 21, 22 and 33 carry 4 marks each
8. Questions from 23 to 26 and 34 carry 6 marks each
9. There is no overall choice. However, an internal choice has been provided in 2 questions of **three marks**, 2 questions of **four marks** and 2 questions of **six marks**.

Part - A

Part A :- Accounting for Partnership Firms and Companies					
1.	A, B and C are partners sharing profits in the ratio of 4:3:2. W.e.f. 1 st April 2026 they decided to share future profits in the ratio of 1:1:1. On the date of reconstitution, Workmen Compensation Reserve appears in the books of the firm at ₹27,000, and the liability on account of compensation to workmen is calculated at ₹36,000. Partners decided not to alter the books of accounts. What entry will be passed to effect the above-mentioned change?				1
	(A)	A's Capital To C's capital A/c	Dr.	1,000 1,000	
	(B)	C's Capital A/c To A's Capital A/c	Dr.	1,000 1,000	
	(C)	Workmen Compensation Reserve A/c To A's Capital A/c To B's Capital A/c To C's Capital A/c	Dr.	27,000 12,000 9,000 6,000	
	(D)	Workmen Compensation Reserve A/c Revaluation A/c To Workmen Compensation Claim A/c	Dr. Dr.	27,000 9,000 36,000	
2.	Aman and Suman are partners sharing profits and losses in the ratio of 3:2. Their capitals as on 1 st April 2025 were ₹2,00,000 and ₹3,00,000 respectively. After the division of Net profits of ₹3,00,000 for the year 2025-26 among the partners, and adjustment of drawings, their capital balances on 31 st March 2026 were: Aman ₹3,00,000 Suman ₹4,00,000. The accountant omitted to charge interest on drawings. If the firm wants to charge interest on drawings @10% p.a. Interest on Aman's drawings would be:				1
	(A) ₹ 4,000	(B) ₹ 8,000			
	(C) ₹ 40,000	(D) ₹ 80,000			

Note: There is no change in the Question Paper Design and Assessment Pattern for Academic Session 2026-27.

3.	(A) Assertion: Issue price more than face value received on issue of shares is credited to securities premium account but not to statement of profit and loss. (R) Reason: In case of forfeiture of shares, securities premium not received is debited. (A) Both (A) and (R) are true and (R) is correct explanation to (A). (B) Both (A) and (R) are true but (R) is not correct explanation of (A). (C) (A) is false but (R) is correct. (D) (A) is correct but (R) is false.	1
4.	A Ltd. invited applications for 50,000 shares of ₹10 each at par. Applications were received for 80,000 shares. Shares were allotted on a pro-rata basis to applicants of 60,000 shares. If application money was ₹3 per share and allotment money was ₹4 per share, how much amount will be received on allotment from an applicant who applied for 6,000 shares? (A) ₹ 20,000 (B) ₹ 24,000 (C) ₹ 21,000 (D) ₹ 17,000	1
5.	R and S are partners sharing profits and losses in the ratio of 3:2. Their capitals are ₹3,00,000 and ₹1,00,000 respectively. On 1st January 2026, the firm granted loans of ₹24,000 to R and ₹6,000 to S at 10% p.a. The loss before charging interest for the year ended 31st March 2026 was ₹2,650. Calculate the share of loss to be borne by each partner after accounting for interest on loans. (A) Share of loss R ₹ 2,040, and S ₹ 1,360 (B) Share of loss R ₹ 3,390, and S ₹ 2,260 (C) Share of loss R ₹ 1,590, and S ₹ 1,060 (D) Share of loss R ₹ 1,140, and S ₹ 760	1
6.	A, B and C were partners sharing profits and losses in the ratio of 5:3:2. A died on 1st October 2025. The loss till the date of death was calculated at ₹ 75,000. Goodwill is to be valued at two years' purchase of the average profits of the last three years. The profits for the last three years were ₹3,28,000; ₹3,46,000; and ₹4,00,000. Calculate the amount payable by B and C to A's executor towards goodwill. (A) ₹ 1,79,000 and ₹ 1,79,000 (B) ₹ 2,14,800 and ₹ 1,43,200 (C) ₹ 4,29,600 and ₹ 2,86,400 (D) ₹ 2,23,750 and ₹ 1,34,250	1
7.	X, Y, and Z are partners in a firm sharing profits and losses in the ratio 4:3:3. Z is guaranteed a minimum profit of ₹ 50,000 per annum, the deficiency, if any, is to be borne by X and Y equally. The firm's profit for the year ended 31st March 2026 is ₹40,000. The amount of deficiency to be borne by X and Y respectively will be: (A) X ₹25,000 & Y ₹25,000 (B) X ₹21,714 & Y ₹16,286 (C) X ₹19,000 & Y ₹19,000 (D) X ₹5,000 & Y ₹5,000	1

8.	L and M were partners sharing profits in the ratio of 5:3. They admitted N as a new partner and on the date of admission, firm had Investments of ₹3,00,000 and Investment Fluctuation Reserve of ₹40,000. On the same date; • M took over 40% of investments at ₹1,10,000. • The remaining investments were revalued at ₹1,50,000. Identify the effect on the Revaluation Account. (A) Credited ₹10,000 (B) Debited ₹10,000 (C) Credited ₹5,000 (D) No effect on revaluation A/c	1
9.	Ravinder and Savita were partners sharing profits in the ratio of 3:2. Kavita was admitted for 1/5th share in profits and she brought ₹3,00,000, including ₹30,000 towards goodwill. After adjusting for goodwill, revaluation of assets and liabilities, and reserves, calculate Savita's adjusted capital on the basis of Kavita's capital and profit-sharing ratio. (A) ₹4,32,000 (B) ₹5,00,000 (C) ₹3,00,000 (D) ₹6,00,000	1
10.	Machinery was appearing in the books at ₹12,00,000. It was found to be undervalued by 20%. At what amount the machinery will be shown in the Balance Sheet of the reconstituted firm? (A) ₹14,00,000 (B) ₹15,00,000 (C) ₹12,00,000 (D) ₹16,00,000	1
11.	Tanya Ltd. issued 1,00,000 equity shares of ₹10 each at a premium of ₹2 per share. The amount was payable as follows: ₹4 on Application (including ₹1 premium) ₹5 on Allotment (including ₹1 premium) and ₹3 on Call. Applications were received for 95,000 shares, which were duly allotted. Ravi, holding 3,000 shares, failed to pay the allotment, so his shares were forfeited just after allotment. Later, 2,000 of these shares were reissued at ₹9 per share as fully paid up. What amount will be transferred to Capital Reserve? (A) ₹ 4,000 (B) ₹ 7,000 (C) ₹ 10,000 (D) ₹ 6,000	1
12.	Aarav Ltd. acquired the business of Mehul Ltd. as per the following agreement: • Assets of ₹ 20,00,000 were taken over at ₹18,00,000 • Liabilities of ₹ 2,80,000 were taken over at ₹2,50,000 The purchase consideration was discharged by: • Issuing 12,000 equity shares of ₹100 each at a premium of 25% • ₹1,00,000 through bank draft. The amount of Goodwill/ Capital Reserve arising on acquisition will be: (A) Goodwill ₹50,000 (B) Capital Reserve ₹50,000 (C) Goodwill ₹1,50,000 (D) Capital Reserve ₹1,50,000	1
13.	Choose the correct sequence of events in case of retirement of a partner. (i) Preparation of revaluation A/c. (ii) Transfer of amount due to retiring partner to retiring partner's loan A/c. (iii) Preparation of capital A/c to calculate amount due to retiring partner. (iv) Treatment of goodwill. (A) (iv), (i), (ii), (iii) (B) (i), (iv), (iii), (ii) (C) (iii), (ii), (i), (iv) (D) (ii), (iv), (i), (iii)	1

14.	A, B, and C are partners sharing profits in the ratio of 5:3:2. On dissolution, a creditor of ₹40,000 accepts ₹30,000 in full settlement. Another creditor of ₹ 15,000 is paid in full. What amount will be transferred to the Realisation Account to close the creditors A/c? (A) ₹55,000 (B) ₹45,000 (C) ₹70,000 (D) ₹40,000	1																		
15.	Ritika Ltd. issued 1,000 equity shares of ₹80 each at a premium of ₹10 per share. Application and allotment money of ₹50 (including ₹6 premium) per share was called, and the entire amount was duly received. What will be amount reflecting in the Subscribed but not fully paid-up capital: (A) ₹50,000 (B) ₹44,000 (C) ₹56,000 (D) NIL	1																		
16.	Which of the following items is not transferred to the Realisation Account at the time of dissolution of a firm? A. Goodwill appearing in the books. B. Employees Provident Fund C. Provision for doubtful debts D. General reserve E. Debit Bank Balance (A) D only (B) A, B and C (C) D and E (D) B, D and E	1																		
17 A.	Amit, Akash and Ayush decided to dissolve their firm. Pass necessary journal entries for the following transactions after transferring all assets (except Cash and Bank) and outside liabilities to the Realisation Account: I. Debtors amounted to ₹82,000. Provision for Doubtful Debts was ₹6,000. Debtors of ₹12,000 went bad. The remaining debtors were taken over by a debt collection agency at 80% of book value. II. Amit agreed to pay his wife's loan of ₹20,000 in settlement of loan of ₹25,000 given to Amit. III. Creditors amounted to ₹40,000 were payable after three months. Creditors worth ₹10,000 were given furniture costing ₹8,000 in full settlement. The remaining creditors allowed a discount of 10% irrespective of the time period.	3																		
17 B.	L, B and P are partners. They decided to dissolve the firm. In each of the following situations identify the incidence (borne by) of expenditure of dissolution and the paying identity (paid by) related to dissolution expenses of a firm: <table border="1"> <tr> <td>Case I</td><td>Realisation A/c Dr. 10,000</td><td>10,000</td></tr> <tr> <td></td><td>To L's Capital A/c (Being realisation expenses recorded)</td><td></td></tr> <tr> <td>Case II</td><td>L's Capital A/c Dr. 10,000</td><td>10,000</td></tr> <tr> <td></td><td>To P's Capital A/c (Being realisation expenses recorded)</td><td></td></tr> <tr> <td>Case III</td><td>P's Capital A/c Dr. 10,000</td><td>10,000</td></tr> <tr> <td></td><td>To Cash A/c (Being realisation expenses recorded)</td><td></td></tr> </table>	Case I	Realisation A/c Dr. 10,000	10,000		To L's Capital A/c (Being realisation expenses recorded)		Case II	L's Capital A/c Dr. 10,000	10,000		To P's Capital A/c (Being realisation expenses recorded)		Case III	P's Capital A/c Dr. 10,000	10,000		To Cash A/c (Being realisation expenses recorded)		3
Case I	Realisation A/c Dr. 10,000	10,000																		
	To L's Capital A/c (Being realisation expenses recorded)																			
Case II	L's Capital A/c Dr. 10,000	10,000																		
	To P's Capital A/c (Being realisation expenses recorded)																			
Case III	P's Capital A/c Dr. 10,000	10,000																		
	To Cash A/c (Being realisation expenses recorded)																			
18.	B, C and D are partners sharing profits in the ratio of 1:1:1. As per the partnership deed salary is allowed to the partners as follows: • B is entitled to a salary of ₹ 2,000 per month. • C is entitled to salary of ₹ 16,000 p.a.	3																		

Note: There is no change in the Question Paper Design and Assessment Pattern for Academic Session 2026-27.

	• D is entitled to a salary of ₹ 4,000 per quarter. Amit, an employee of the firm was entitled to a salary of ₹ 5,000 on half yearly basis which was omitted to be provided. Calculate the amount of profits to be given to each partner by way of appropriation in each of the following cases, when the profit/loss before the above adjustments is: Case 1. Profit of ₹ 72,000 Case 2. Profit of ₹ 45,000 Case 3. Loss of ₹ 20,000													
19.	Drum Ltd. decided to expand its operations by acquiring the business of Crane Ltd. and agreed to take over assets worth ₹6,00,000 and liabilities worth ₹40,000 at an agreed purchase consideration of ₹6,30,000 The purchase consideration was discharged by issuing 10% Debentures of ₹100 each at 10% discount to Crane Ltd. On the basis of above information: I. Calculate the number of debentures issued to discharge the purchase consideration. II. Pass necessary journal entries in the books of Drum Ltd.	3												
20.	Calculate goodwill of the firm on the basis of 3 years' purchase of the average profits of the last five years which were as follows: <table><thead><tr><th>Year</th><th>Amount (₹)</th></tr></thead><tbody><tr><td>31st March 2022 –</td><td>(1,00,000)</td></tr><tr><td>31st March 2023 –</td><td>30,00,000</td></tr><tr><td>31st March 2024 –</td><td>16,00,000</td></tr><tr><td>31st March 2025 –</td><td>17,50,000</td></tr><tr><td>31st March 2026 –</td><td>18,50,000</td></tr></tbody></table> Additional Information: (i) On 1st January 2025, a fire broke out which resulted into a loss of goods of ₹3,00,000. A claim of ₹ 70,000 was received from the insurance company. (ii) During the year ended 31st March 2026, the firm realised ₹ 80,000 from sale of scrapped machinery. (iii) For the year ending 31st March 2026, wages of ₹ 50,000 were debited twice inadvertently by the accountant of the firm.	Year	Amount (₹)	31 st March 2022 –	(1,00,000)	31 st March 2023 –	30,00,000	31 st March 2024 –	16,00,000	31 st March 2025 –	17,50,000	31 st March 2026 –	18,50,000	3
Year	Amount (₹)													
31 st March 2022 –	(1,00,000)													
31 st March 2023 –	30,00,000													
31 st March 2024 –	16,00,000													
31 st March 2025 –	17,50,000													
31 st March 2026 –	18,50,000													
21.	XYZ Ltd. was registered with an authorised capital of ₹ 80,00,000 divided into 8,00,000 equity shares of ₹ 10 each. The company offered 1,00,000 shares for public subscription at ₹ 2 premium. Share was payable as ₹ 3 on application (including ₹ 1 premium), ₹ 6 (including balance premium) on allotment and balance on call. Public had applied for 1,25,000 shares out of which applications for 5,000 shares were rejected and remaining were allotted on pro-rata basis. All the money has been duly received except allotment and call money on 10,000 shares held by Raja. His shares were forfeited. Show the Share Capital head as it would appear in the balance sheet and also prepare Notes to Accounts for the same.	4												
22 A.	S, D and A are partners, sharing profits in the ratio of 5 : 2 : 3. Their fixed capitals are: S – ₹1,00,000 D – ₹50,000 A – ₹50,000	4												

	As per the partnership deed, S is entitled to a commission of 10% of net profit after charging such commission. However, while preparing the accounts for the year ended 31st March 2026, this commission was not provided. The net profit of the firm was ₹1,10,000. On the basis of above information: - Calculate the correct amount of commission payable to S. - Pass the necessary journal entry that the accountant would have passed for distribution of profits without providing commission to S. - Pass the necessary adjusting journal entry at the beginning of the next year to rectify the above-mentioned error. OR																																	
22 B.	Alpha, Beta and Delta were partners. On 31st August 2023, Delta died and after all the adjustments an amount of Rs.3,22,000 was payable to his executors. It was agreed to pay Rs.22,000 immediately and balance in 3 equal instalments together with interest @10%p.a. on 31st March 2024, 31st March 2025 and 31st March 2026, Prepare Delta’s Executors account till it is finally paid off.																																	
23.	I. Pass necessary journal entries for 'Issue of Debentures' in the following cases: a) Arman Ltd. issued 750, 12% Debentures of ₹100 each at a discount of 10% redeemable at a premium of 5% b) Sohan Ltd. issued 800, 9% Debentures of ₹100 each at a premium of 20 per debenture redeemable at a premium of ₹10 per Debenture. II. X Ltd. obtained a loan of ₹4,00,000 from “The Development Bank”. The company issued 5,000; 9%. Debentures of ₹100 each as a collateral security for the same. As per the policy the company effects these transactions through journal. Show journal entries and prepare the extract of balance sheet.	6																																
24.	A, B and C are partners sharing profits and losses in the ratio of 4:3:3. They decided to change their profit-sharing ratio to 3:2:5 with effect from 1st April 2026. Balance Sheet of A, B and C as at 31st March 2026 <table><tr><td>Liabilities</td><td>Amount (₹)</td><td>Assets</td><td>Amount (₹)</td></tr><tr><td>Creditors</td><td>1,20,000</td><td>Land & Building</td><td>4,00,000</td></tr><tr><td>General Reserve</td><td>90,000</td><td>Machinery</td><td>2,00,000</td></tr><tr><td>Profit & Loss A/c</td><td>60,000</td><td>Stock</td><td>1,50,000</td></tr><tr><td>A’s Capital</td><td>3,00,000</td><td>Debtors</td><td>1,00,000</td></tr><tr><td>B’s Capital</td><td>2,50,000</td><td>Cash</td><td>1,70,000</td></tr><tr><td>C’s Capital</td><td>2,00,000</td><td></td><td></td></tr><tr><td></td><td><u>10,20,000</u></td><td></td><td><u>10,20,000</u></td></tr></table>	Liabilities	Amount (₹)	Assets	Amount (₹)	Creditors	1,20,000	Land & Building	4,00,000	General Reserve	90,000	Machinery	2,00,000	Profit & Loss A/c	60,000	Stock	1,50,000	A’s Capital	3,00,000	Debtors	1,00,000	B’s Capital	2,50,000	Cash	1,70,000	C’s Capital	2,00,000				<u>10,20,000</u>		<u>10,20,000</u>	6x1 =6
Liabilities	Amount (₹)	Assets	Amount (₹)																															
Creditors	1,20,000	Land & Building	4,00,000																															
General Reserve	90,000	Machinery	2,00,000																															
Profit & Loss A/c	60,000	Stock	1,50,000																															
A’s Capital	3,00,000	Debtors	1,00,000																															
B’s Capital	2,50,000	Cash	1,70,000																															
C’s Capital	2,00,000																																	
	<u>10,20,000</u>		<u>10,20,000</u>																															

1. Goodwill of the firm is valued at ₹1,50,000.
2. Land & Building is revalued at ₹4,50,000.
3. A provision for doubtful debts @5% is to be created on debtors.
4. An unrecorded liability of ₹20,000 is discovered.

I. The net sacrifice made by partners (in terms of share of profit) is:

B) A gains $\frac{1}{10}$; B gains $\frac{1}{10}$; C sacrifices $\frac{1}{10}$

D) A gains $\frac{1}{10}$, B gains $\frac{1}{10}$; C sacrifices $\frac{1}{5}$

(A) A's Capital A/c Dr.

To C's Capital A/c

(B) A's Capital A/c Dr.

B's Capital A/c Dr.

To C's Capital A/c

(C)	C's Capital A/c	Dr.	(D)	C's Capital A/c	Dr.
	To A's Capital A/c			A's Capital A/c	Dr.
	To B's Capital A/c			To Goodwill A/c	

(A) ₹45,000
(B) ₹30,000
(C) ₹75,000
(D) ₹1,50,000

(A) ₹25,000 (B) ₹20,000
(C) ₹5,000 (D) ₹30,000

(A) New ratio
(B) Gaining ratio
(C) Old ratio
(D) Sacrificing ratio

(A) ₹2,22,500 (B) ₹2,35,000
(C) ₹3,00,000 (D) ₹3,50,000

6

Liabilities	₹	Assets	₹
Creditors	30,000	Cash	20,000
Outstanding Expenses	4,000		

Capitals:		Debtors	40,000
X 1,50,000		Less: Prov. for doubtful debts <u>500</u>	39,500
Y 3,00,000	4,50,000	Stock	1,20,000
General Reserve	6,000	Furniture	30,000
		Machinery	2,72,500
		Patents	5,000
		Profit and Loss A/c	3,000
	<u>4,90,000</u>		<u>4,90,000</u>

They agreed to admit Z for 1/4th share on 1st April 2026 on the following terms:

- Goodwill of the firm was valued at ₹60,000 and Z was to bring in a new and updated machinery costing ₹ 5,000 as a part payment against his share of premium for goodwill and the furniture for the balance of his share of goodwill premium.
- ₹ 10,000 were receivable from a debtor who was declared insolvent, only 50% of the amount could be recovered in cash by selling his assets.
- Provision for doubtful debts to be raised to 10% of the value of revised debtors.
- Patents were valueless.
- Stock was found to be overvalued by 20%.
- ₹ 3,500 be provided for an unforeseen liability.
- Z to bring in capital equal to 1/4th of the combined capital of X and Y after all adjustments.

Pass required journal entries on the admission of Z and also prepare Balance Sheet of the reconstituted firm.

OR

- 25 B. A, B and C were partners in a firm sharing profits in 2:2:1 ratio. On 31.3.2026, C retires from the firm. On the date of C's retirement, the Balance Sheet of the firm was as follows:

Balance Sheet of A, B and C
as at 31.3.2026

Liabilities	Amount (₹)	Assets	Amount (₹)
Creditors	54,000	Bank	45,000
General Reserve	10,000	Debtor 12,000	
Outstanding Rent	4,400	Less: Provision for doubtful debts <u>800</u>	11,200
Provision for Legal Claim	12,000	Stock	18,000
Capitals:		Furniture	8,200
A 92,000		Premises	1,80,000
B 60,000		Goodwill	10,000
C 40,000	1,92,000		
	<u>2,72,400</u>		<u>2,72,400</u>

On C's retirement the goodwill of the firm was valued at ₹ 45,000.

After retirement the accountants of the firm worked out the following balance sheet, but they misplaced the papers on which Revaluation A/c and Partners' Capital were worked out.

Balance Sheet of A and B (After C's retirement)

as at 31.3.2026

Liabilities	Amount (₹)	Assets	Amount (₹)
Creditors	54,000	Bank	34,600
General Reserve	5,000	Debtor	12,000
Outstanding Rent	4,400	Less: Provision for doubtful debts	<u>600</u>
Provision for Legal Claim	14,400	Stock	16,200
C's Loan	40,000	Furniture	10,200
Capitals:		Premises	1,89,000
A	87,800		
B	55,800		
	2,61,400		2,61,400

On the basis of above information, you are required to help the accountants of the firm in preparing Revaluation A/c, and Partners Capital Accounts of the reconstituted firm.

- 26 A. Lacchoo Ltd. invited applications for 1,20,000 equity shares of ₹10 each at a premium of ₹ 4 per share, payable as –
 ₹6 on Application (including ₹2 premium)
 ₹5 on Allotment (including ₹1 premium)
 Balance on First & Final Call.
 Applications were received for 2,70,000 shares, out of which applications for 10,000 shares were rejected and the allotment was made on a pro-rata basis to the remaining applicants.
 Mr. Parivesh, who was allotted 1,200 shares, failed to pay call money. His shares were forfeited after due notice. Later, these shares were reissued at ₹ 100 per share as fully paid-up.
 Pass necessary Journal Entries in the books of Lacchoo Ltd.
- OR**
- 26 B. Neha Tech Ltd. has authorised capital of ₹ 20,00,000 divided into shares of face value of ₹ 10 each. Company decided to issue 1,00,000 equity shares at a value of ₹ 100 each. The entire face value was payable on application and the entire premium money was payable on allotment.
 Applications were received for 1,50,000 shares.
 Allotment was made on the following basis:
 (i) Applicants of 10,000 shares were sent letters of regret.
 (ii) To applicants for another 10,000 shares – Shares were fully allotted
 (iii) Remaining applicants were allotted shares on a pro rata basis.
 A shareholder who was allotted 18,000 shares belongs to category (iii), failed to pay allotment money and his shares were duly forfeited. Later on, 5,000 shares were reissued as fully paid on a premium of 200%.
 You are required to give:
 I. Cash Book, Share Capital A/c and Securities Premium A/c.
 II. Journal entries for forfeiture and re-issue of shares.

**Part B :- Analysis of Financial Statements
(Option – I)**

27.	A company had the following balances in their books of accounts: <table border="1"> <thead> <tr> <th>Particulars</th><th>31st March, 2026 (₹)</th><th>31st March, 2025 (₹)</th></tr> </thead> <tbody> <tr> <td>Work in Progress</td><td>1,00,000</td><td>90,000</td></tr> <tr> <td>Finished Goods</td><td>80,000</td><td>1,10,000</td></tr> <tr> <td>Stock in Trade</td><td>90,000</td><td>80,000</td></tr> <tr> <td>Raw Material</td><td>20,000</td><td>10,000</td></tr> </tbody> </table> What will be the amount of Cost of Materials Consumed if purchases of raw materials amounted to ₹ 1,60,000 and purchase of stock-in-trade amounted to ₹ 2,00,000? (A) ₹ 1,90,000 (B) ₹ 3,40,000 (C) ₹ 1,50,000 (D) ₹ 3,50,000	Particulars	31 st March, 2026 (₹)	31 st March, 2025 (₹)	Work in Progress	1,00,000	90,000	Finished Goods	80,000	1,10,000	Stock in Trade	90,000	80,000	Raw Material	20,000	10,000	1			
Particulars	31 st March, 2026 (₹)	31 st March, 2025 (₹)																		
Work in Progress	1,00,000	90,000																		
Finished Goods	80,000	1,10,000																		
Stock in Trade	90,000	80,000																		
Raw Material	20,000	10,000																		
28.	Assertion (A): Current Ratio can never be less than Liquid ratio. Reason (R): Current Ratio includes all current assets, including inventory and prepaid expenses. (A) Both A and R are correct, and R is the correct explanation of A (B) Both A and R are correct, but R is not the correct explanation of A (C) A is correct but R is incorrect (D) A is incorrect but R is correct	1																		
29.	Vivek Consultancy Private Limited purchased furniture for ₹20,00,000 paying 60% by issue of equity shares of ₹10 each and the balance by a cheque. This transaction will result in: (A) Cash used in Investing activities ₹20,00,000 and Cash generated from financing activities ₹ 12,00,000. (B) Cash used in investing activities ₹ 8,00,000. (C) Cash used in investing activities ₹ 20,00,000. (D) Cash generated from financing activities ₹ 12,00,000.	1																		
30.	Which of the following is not a cash flow from investing activities? (A) Sale of 2,500 shares (held as investment) for ₹ 15 each (B) Purchase of equipment for ₹ 500 cash (C) Purchase of marketable securities for ₹ 25,000 cash (D) Sale of land for ₹ 28,000 cash	1																		
31 A.	Prepare a Comparative Statement of Profit and Loss of Uttu Machineries Ltd. for the year ended 31st March 2026 from the following information: <table border="1"> <thead> <tr> <th>PARTICULARS</th><th>31st March 2026 (₹)</th><th>31st March 2025 (₹)</th></tr> </thead> <tbody> <tr> <td>Revenue From Operations</td><td>40,00,000</td><td>20,00,000</td></tr> <tr> <td>Cost of Revenue from Operations</td><td>4,00,000</td><td>2,00,000</td></tr> <tr> <td>Wages</td><td>6,00,000</td><td>4,00,000</td></tr> <tr> <td>Interest paid</td><td>1,00,000</td><td>1,00,000</td></tr> <tr> <td>Tax Rate</td><td>50%</td><td>50%</td></tr> </tbody> </table> OR	PARTICULARS	31 st March 2026 (₹)	31 st March 2025 (₹)	Revenue From Operations	40,00,000	20,00,000	Cost of Revenue from Operations	4,00,000	2,00,000	Wages	6,00,000	4,00,000	Interest paid	1,00,000	1,00,000	Tax Rate	50%	50%	3
PARTICULARS	31 st March 2026 (₹)	31 st March 2025 (₹)																		
Revenue From Operations	40,00,000	20,00,000																		
Cost of Revenue from Operations	4,00,000	2,00,000																		
Wages	6,00,000	4,00,000																		
Interest paid	1,00,000	1,00,000																		
Tax Rate	50%	50%																		

Note: There is no change in the Question Paper Design and Assessment Pattern for Academic Session 2026-27.

31 B.	Prepare Common Size Statement of Profit and Loss for the year ended March 31, 2026 <table><tr><th>PARTICULARS</th><th>31st March 2026 (₹)</th></tr><tr><td>Revenue from Operations</td><td>6,00,000</td></tr><tr><td>Indirect Expense</td><td>25% of gross profit</td></tr><tr><td>Cost of Revenue from Operations</td><td>4,00,000</td></tr><tr><td>Other incomes</td><td>30,000</td></tr><tr><td>Income tax</td><td>30%</td></tr></table>	PARTICULARS	31 st March 2026 (₹)	Revenue from Operations	6,00,000	Indirect Expense	25% of gross profit	Cost of Revenue from Operations	4,00,000	Other incomes	30,000	Income tax	30%													
PARTICULARS	31 st March 2026 (₹)																									
Revenue from Operations	6,00,000																									
Indirect Expense	25% of gross profit																									
Cost of Revenue from Operations	4,00,000																									
Other incomes	30,000																									
Income tax	30%																									
32.	Under which main head and sub - head of the financial statements are the following items classified or shown: I. Warranty claims payable. II. Preliminary expenses written off. III. Interest Accrued and Due on Debentures.	3																								
33 A.	Quick Ratio of Alpha Traders is 1.2 : 1. Given that their operating cycle is of 8 months, state with reasons whether the following transactions will increase, decrease, or not affect the Quick Ratio: I. Bills Receivable ₹40,000 were dishonoured and treated as bad debts. II. Stock worth ₹25,000 was destroyed by fire; insurance company admitted claim of ₹18,000 receivable within 6 months. III. Furniture having book value ₹60,000 was sold for ₹52,000; sale proceeds to be received in 11th month from the date of sale. IV. 12% Debentures of ₹2,00,000 were issued at a premium of 10% to a supplier of machinery costing ₹ 3,00,000 and balance was settled through cheque. OR	4																								
33 B.	From the given information, calculate the following ratios: I. Current ratio II. Inventory Turnover ratio Information Revenue from operations (Net sales) ₹ 5,00,000, opening inventory ₹7,000, closing inventory ₹ 4,000 more than the opening inventory, net purchase is 70% of revenue from operations, operating expenses ₹ 30,000, liquid assets ₹ 75,000, wages ₹ 10,000, salaries ₹ 20,000, carriage inwards ₹ 40,000, prepaid expenses ₹2,000, current liabilities ₹ 60,000, 9% debentures ₹ 3,00,000, long - term loan from bank ₹ 1.00,000, equity share capital ₹ 10,00,000 and 8% preference share capital ₹2,00,000.																									
34.	From the following Balance Sheet of Krishang Ltd. as at 31st March 2026, calculate Cash Flow from Operating Activities and Investing Activities. Balance Sheet of Krishang Ltd. as at 31st March 2026 <table><tr><th>Particulars</th><th>Note No.</th><th>31-03-2026 (₹)</th><th>31-03-2025 (₹)</th></tr><tr><td>I. Equity and Liabilities</td><td></td><td></td><td></td></tr><tr><td>1. Shareholders' Funds</td><td></td><td></td><td></td></tr><tr><td>(a) Share Capital</td><td></td><td>6,00,000</td><td>5,50,000</td></tr><tr><td>(b) Reserves and Surplus</td><td>1</td><td>1,50,000</td><td>1,00,000</td></tr><tr><td>2. Non- Current Liabilities</td><td></td><td></td><td></td></tr></table>	Particulars	Note No.	31-03-2026 (₹)	31-03-2025 (₹)	I. Equity and Liabilities				1. Shareholders' Funds				(a) Share Capital		6,00,000	5,50,000	(b) Reserves and Surplus	1	1,50,000	1,00,000	2. Non- Current Liabilities				6
Particulars	Note No.	31-03-2026 (₹)	31-03-2025 (₹)																							
I. Equity and Liabilities																										
1. Shareholders' Funds																										
(a) Share Capital		6,00,000	5,50,000																							
(b) Reserves and Surplus	1	1,50,000	1,00,000																							
2. Non- Current Liabilities																										

Note: There is no change in the Question Paper Design and Assessment Pattern for Academic Session 2026-27.

(a) Long term Borrowings	2	1,20,000	85,000
3. Current Liabilities			
(a) Trade Payables		89,500	1,02,000
(b) Short - term Provisions	3	25,000	38,500
Total		<u>9,84,500</u>	<u>8,75,500</u>
II. Assets			
1. Non- Current Assets			
(a) Fixed Assets/Property Plant and Equipment and Intangible Assets			
(i) Tangible Assets/Property, Plant and Equipment	4	5,35,000	4,25,000
(ii) Intangible Assets	5	20,000	56,000
2. Current Assets			
(a) Current Investments		1,20,000	75,000
(b) Trade Receivables		1,52,500	1,32,000
(c) Cash and Cash Equivalent		1,57,000	1,87,500
Total		<u>9,84,500</u>	<u>8,75,500</u>

Notes to Accounts:

Note No.	Particulars	31-03-2026 (₹)	31-03-2025 (₹)
1	Reserves and Surplus Surplus i.e. Balance in Statement of Profit and Loss	1,50,000	1,00,000
		<u>1,50,000</u>	<u>1,00,000</u>
2	Long-term Borrowings 10% Debentures	1,20,000	85,000
		<u>1,20,000</u>	<u>85,000</u>
3	Short - term Provisions Provision for Tax	25,000	38,500
		<u>25,000</u>	<u>38,500</u>
4	Tangible Assets/Property, Plant and Equipment Machinery Less: Accumulated Depreciation	6,35,000 (1,00,000)	5,00,000 (75,000)
		<u>5,35,000</u>	<u>4,25,000</u>
5	Intangible Assets Goodwill	 20,000	 56,000
		<u>20,000</u>	<u>56,000</u>

Additional Information:

- A piece of machinery costing ₹ 12,000 on which accumulated depreciation was ₹8,000 was sold for ₹ 3,000.
- 10% Debentures were issued on 1st October 2025.
- On 1st May, 2025, Land was purchased of ₹ 2,00,000 for investment purpose but due to financial requirements the company had to sell it on 31st January 2026 for ₹ 2,20,000.

	Part B: Computerised Accounting (Option – II)	
27.	Identify the error which will be displayed on screen when the set of co-ordinates that a cell occupies on a worksheet is invalid. (A) Correct a # NAME ? Error (B) Correct # REF ! Error (C) Correct a # N/A Error (D) Correct a ##### Error	1
28.	How are 'absolute cell reference' and 'mixed cell reference' identified in Excel ? (A) Using # sign (B) Using ~ sign (C) Using \$ sign (D) Using £ sign	1
29.	What is used to build single formula with multiple results in Excel ? (A) Derived value (B) Vectors (C) Round() (D) Array	1
30.	A sequential code refers to code applied to some documents where: (A) Account heads are assigned to documents (B) Numbers and letters are assigned in consecutive order (C) Special names are given to accounts (D) Documents are arranged in special sequence	1
31 A.	Explain the following: (I) Contra voucher (II) Post-dated voucher (III) Receipt voucher	3
31B.	OR State the advantages of 'Pivot Table Report'.	3
32.	State any three limitations of Computerised Accounting System.	3
33 A.	What is meant by 'data validation'? What is facilitated by 'Error Alert tab'?	4
33 B.	OR What is meant by internal margin while using MS Excel? State the options available.	
34.	=SUM(B2B3) will give an error while using spreadsheet. Identify the error and state the steps to correct it.	6

SAMPLE QUESTION PAPER 2026-27

**SUBJECT: - ACCOUNTANCY 055
CLASS XII**

**TIME 3 HOURS
MAX. MARKS 80**

Marking Scheme

S.No.		Mark s																									
	Part A :- Accounting for Partnership Firms and Companies																										
1.	(A) A's Capital Dr. 1,000 To C's capital A/c 1,000	1																									
2.	(A) ₹ 4,000	1																									
3.	(B) Both (A) and (R) are true but (R) is not correct explanation to (A).	1																									
4.	(D) ₹17,000	1																									
5.	(D) Share of loss R ₹ 1,140, and S ₹ 760	1																									
6.	(B) ₹ 2,14,800 and ₹ 1,43,200	1																									
7.	(C) X ₹19,000 & Y ₹19,000	1																									
8.	(D) No effect on revaluation A/c	1																									
9.	(A) ₹4,32,000	1																									
10.	(B) ₹15,00,000	1																									
11.	(A) ₹4,000	1																									
12.	(A) Goodwill ₹50,000	1																									
13.	(B) (i), (iv), (iii), (ii)	1																									
14.	(A) ₹55,000	1																									
15.	(B) ₹44,000	1																									
16.	(C) D and E	1																									
17 A.	<table><tr><th colspan="5">JOURNAL</th></tr><tr><th>SN.</th><th>Particulars</th><th>LF</th><th>Debit (₹)</th><th>Credit (₹)</th></tr><tr><td>I.</td><td>Bank A/c Dr. To Realisation A/c (Being debtors realised)</td><td></td><td>56,000</td><td>56,000</td></tr><tr><td>II.</td><td>Realisation A/c Dr. To Amit's loan A/c (Being loan settled)</td><td></td><td>25,000</td><td>25,000</td></tr><tr><td>III.</td><td>Realisation A/c Dr. To Cash A/c (Being creditors paid off)</td><td></td><td>27,000</td><td>27,000</td></tr></table> OR Case I Expenses borne by firm, paid by partner L. Case II Expenses borne by partner L, paid by partner P. Case III Expenses borne by partner P, paid by firm.	JOURNAL					SN.	Particulars	LF	Debit (₹)	Credit (₹)	I.	Bank A/c Dr. To Realisation A/c (Being debtors realised)		56,000	56,000	II.	Realisation A/c Dr. To Amit's loan A/c (Being loan settled)		25,000	25,000	III.	Realisation A/c Dr. To Cash A/c (Being creditors paid off)		27,000	27,000	3
JOURNAL																											
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17 B.																											
18.	Annual Salary of Each Partner B (₹2,000 per month) = 2,000×12= ₹24,000 C = ₹16,000 per annum D (₹4,000 per quarter) = 4,000×4= ₹16,000 Total Salary = 24,000+16,000+16,000= ₹56,000 Profit-sharing ratio = 1:1:1	3																									

	Case 1: Net Profit = ₹72,000 - ₹10,000 (Salary to employee) Profit > Total Salary (₹56,000) Remaining Profit: 62,000-56,000 = 6,000 This ₹6,000 is divided equally: 6,000÷3 = ₹ 2,000 each Case 2: Net Profit 35,000 (45,000-10,000) < Total Salary (₹56,000) When profit is insufficient, available profit is divided in the ratio of actual appropriations which in the given case is 24,000:16,000:16,000, i.e. 3:2:2 So ₹35,000 will be divided in 3:2:2 B's share= 35,000*3/7= ₹ 15,000 C's share= 35,000*2/7= ₹ 10,000 D's share= 35,000*2/7= ₹ 10,000 Case 3: Net Loss = ₹20,000+10,000= ₹ 30,000 In case of loss, no salary is allowed. Loss is shared equally. 30,000÷3 = ₹ 10,000 each																																																			
19.	I. Number of debentures = Purchase Consideration/ Issue Price = 6,30,000/90 = 7,000 debenture II. JOURNAL <table><tr><th>Date</th><th>Particulars</th><th>LF</th><th>Dr. (₹)</th><th>Cr. (₹)</th></tr><tr><td></td><td>Assets A/c Dr.</td><td></td><td>6,00,000</td><td></td></tr><tr><td></td><td>Goodwill A/c Dr.</td><td></td><td>70,000</td><td></td></tr><tr><td></td><td>To liabilities A/c</td><td></td><td></td><td>40,000</td></tr><tr><td></td><td>To Crane Ltd.</td><td></td><td></td><td>6,30,000</td></tr><tr><td></td><td>(Being business purchased)</td><td></td><td></td><td></td></tr><tr><td></td><td>Crane Ltd. Dr.</td><td></td><td>6,30,000</td><td></td></tr><tr><td></td><td>Discount on issue of debentures A/c Dr.</td><td></td><td>70,000</td><td></td></tr><tr><td></td><td>To 10% Debentures A/c</td><td></td><td></td><td>7,00,000</td></tr><tr><td></td><td>(Being 7,000 debentures issued at 10% discount)</td><td></td><td></td><td></td></tr></table>	Date	Particulars	LF	Dr. (₹)	Cr. (₹)		Assets A/c Dr.		6,00,000			Goodwill A/c Dr.		70,000			To liabilities A/c			40,000		To Crane Ltd.			6,30,000		(Being business purchased)					Crane Ltd. Dr.		6,30,000			Discount on issue of debentures A/c Dr.		70,000			To 10% Debentures A/c			7,00,000		(Being 7,000 debentures issued at 10% discount)				3
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20.	<table><tr><th>Year ending 31st March</th><th>Profit</th><th>Adjusted Profit</th></tr><tr><td>2022</td><td>(1,00,000)</td><td>(1,00,000)</td></tr><tr><td>2023</td><td>30,00,000</td><td>30,00,000</td></tr><tr><td>2024</td><td>16,00,000</td><td>16,00,000</td></tr><tr><td>2025</td><td>17,50,000+3,00,000-70,000</td><td>19,80,000</td></tr><tr><td>2026</td><td>18,50,000-80,000+50,000</td><td>18,20,000</td></tr><tr><td></td><td></td><td>83,00,000</td></tr></table> Average Profit = 83,00,000 ÷ 5 = ₹ 16,60,000 Goodwill = Average Profit × 3 years = 16,60,000 × 3 = ₹ 49,80,000	Year ending 31 st March	Profit	Adjusted Profit	2022	(1,00,000)	(1,00,000)	2023	30,00,000	30,00,000	2024	16,00,000	16,00,000	2025	17,50,000+3,00,000-70,000	19,80,000	2026	18,50,000-80,000+50,000	18,20,000			83,00,000	3																													
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		83,00,000																																																		

21.

Balance sheet of XYZ Ltd. (Extract)

Particular	Note No	Amount current year	Amount previous year
Equity and liabilities			
Shareholder funds			
a. Share capital	1	9,26,000	-

Notes to accounts:

Particulars	Amount (₹)
1.Share Capital	
Authorized Share capital	
8,00,000 Equity share of ₹10 each	80,00,000

Issued Share Capital	
1,00,000 Equity Shares of ₹10 each	10,00,000

Subscribed and Called-up Capital:	
Subscribed and fully paid up capital	
90,000 Equity Shares of ₹10 each	9,00,000
Add: forfeited Shares	<u>26,000</u>
	<u>9,26,000</u>

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4

22 A.

I. S's Commission = $1,10,000 \times 10/110 = ₹10,000$

II. JOURNAL

Date	Particulars	LF	Dr. (₹)	Cr. (₹)
	Profit & loss Appropriation a/c Dr.		1,10,000	
	To S's Current a/c			55,000
	To D's Current a/c			22,000
	To A's Current a/c			33,000
	(Being profit distributed)			

III. TABLE SHOWING ADJUSTMENT

PARTICULARS	S (₹)	D (₹)	A (₹)	TOTAL (₹)
Commission to be credited	10,000	-	-	10,000
Correct profit	50,000	20,000	30,000	1,00,000
Amount wrongly credited	(55,000)	(22,000)	(33,000)	(1,10,000)
Net effect	5,000	2,000	3,000	Nil

4

	JOURNAL						
	Date	Particulars		LF	Dr. (₹)	Cr. (₹)	
		D's Current a/c	Dr.		2,000		
		A's Current a/c	Dr.		3,000		
		To S's Current a/c				5,000	
		(Being adjustment of omitted commission)					
22 B.	Dr. Delta's Executor's A/c Cr.						
	Date	Particulars	(₹)	Date	Particulars	(₹)	
	31-08-23	To Bank A/c	22,000	31-08-23	By Delta's Capital A/c	3,22,000	
	31-03-24	To Bank A/c	1,17,500	31-03-24	By Interest A/c	17,500	
	31-03-24	To Balance c/d	2,00,000				
			<u>3,39,500</u>			<u>3,39,500</u>	
	31-03-25	To Bank A/c	1,20,000	1-04-24	By Balance b/d	2,00,000	
	31-03-25	To Balance c/d	1,00,000	31-3-25	By Interest A/c	20,000	
			<u>2,20,000</u>			<u>2,20,000</u>	
	31-03-26	To Bank A/c	1,10,000	1-04-25	By Balance b/d	1,00,000	
				31-3-26	By Interest A/c	10,000	
			<u>1,10,000</u>			<u>1,10,000</u>	
23.	I. JOURNAL						6
	Date	Particulars		LF	Dr. (₹)	Cr. (₹)	
	a)	Bank A/c	Dr.		67,500		
		To Debenture application and allotment A/c (Being application money on 12% debentures received)				67,500	
		Debenture application and allotment A/c	Dr.		67,500		
		Discount on issue of debentures A/c	Dr.		7,500		
		Loss on issue of debentures A/c	Dr.		3,750		
		To 12% Debentures A/c				75,000	
		To Premium on redemption of debentures A/c				3,750	
		(Being application money transferred to 12% debentures a/c issued at discount 10%, redeemable at 5% premium.)					
	b)	Bank A/c	Dr.		96,000		
		To Debenture application and allotment A/c (Being application money on 9% debentures received)				96,000	
		Debenture application and allotment A/c	Dr.		96,000		
		Loss on issue of debentures A/c	Dr.		8,000		
		To 9% debentures A/c				80,000	
		To Securities premium A/c				16,000	
		To Premium on redemption of debentures A/c				8,000	
		(Being application money transferred to 9% debentures a/c issued at premium of ₹20, redeemable at a premium of ₹10)					
	II. JOURNAL						
	Date	Particulars		LF	Dr (₹)	Cr (₹)	
		Bank A/c	Dr.		4,00,000		
		To Bank Loan A/c				4,00,000	

	(Being loan raised from The Development Bank)					
	Debenture Suspense A/c To 9% Debentures A/c (Being Debentures issued as collateral Security)	Dr.		5,00,000	5,00,000	
Balance Sheet (Extract as per schedule 3) As at ...						
Particulars		Note No	Amount current year	Amount previous year		
Equity and liabilities Non-Current Liabilities Long-Term Borrowings		1	4,00,000			
Notes to accounts:						
Particulars				(₹)		
Long-term Borrowings						
9% Debentures				5,00,000		
Less: Debentures Suspense A/c				<u>5,00,000</u>		
Bank Loan				4,00,000		
24.	I. (A) A sacrifices 1/10 and B sacrifices 1/10; C gains 1/5 II. (C) C's Capital A/c Dr. To A's Capital A/c To B's Capital A/c III. (B) ₹ 30,000 IV. (A) ₹ 25,000 V. (C) Old ratio VI. (A) ₹ 2,22,500					6
25 A.	JOURNAL					6
Date		Particulars		LF	Dr. (₹)	Cr. (₹)
1		Machinery A/c Dr. Furniture A/c Dr. To Premium For Goodwill a/c (Machinery and furniture brought by the partner for premium for goodwill share)			5,000 10,000	15,000
2		Premium For Goodwill A/c Dr. To A's capital A/c To B's capital A/c (Premium for goodwill distributed between old partners)			15,000	5,000 10,000

3	Bank A/c Bad debts A/c To Debtors A/c (Debts amounting to 10,000 but only paid 50% of the amount)	Dr. Dr.	5,000 5,000	10,000
4	Revaluation A/c Provision for doubtful debts A/c To Bad debts A/c (Bad debts adjusted to provision for doubtful debts a/c and remaining transferred to revaluation account)	Dr. Dr.	4,500 500	4,500
5	Revaluation A/c To Provision for doubtful debts A/c To Patents A/c To Stock A/c To Unforeseen liability A/c (Assets and liabilities transferred to revaluation account)	Dr.	31,500	3,000 5,000 20,000 3,500
6	A's capital A/c B's capital A/c To Revaluation A/c (Loss on revaluation transferred to partners' capital account)	Dr. Dr.	12,000 24,000	36,000
7	General reserve A/c To A's capital a/c To B's capital a/c (General reserve transferred to partners capital account)	Dr.	6,000	2,000 4,000
8	A's capital A/c B's capital A/c To Profit and loss A/c (Balance of profit and loss account transferred to partners' capital account)	Dr. Dr.	1,000 2,000	3,000
9	Bank A/c To Z's capital A/c (Capital brought by the new partner as per the combined capital of old partners)	Dr.	1,08,000	1,08,000

Adjusted capital of X = 150,000+5,000+2000-12000-1000 = ₹1,44,000

Adjusted capital of Y=300,000+10,000+4,000-24000-2000 = ₹2,88,000

Z will bring as capital =1/4 (144,000+2,88,000) = ₹1,08,000

25 B.	Balance Sheet (After Reconstitution) <table> <tr> <th>Liabilities</th><th>(₹)</th><th>Assets</th><th>(₹)</th></tr> <tr> <td>Creditors</td><td>30,000</td><td>Cash</td><td>1,33,000</td></tr> <tr> <td>Outstanding expenses</td><td>4,000</td><td>Debtors. 30,000 Less: Prov. For doubtful debts <u>(3000)</u></td><td>27,000</td></tr> <tr> <td>Capital accounts</td><td></td><td>Stock</td><td>1,00,000</td></tr> <tr> <td>X</td><td>1,44,000</td><td></td><td></td></tr> <tr> <td>Y</td><td>2,88,000</td><td>Furniture</td><td>40,000</td></tr> <tr> <td>Z</td><td>1,08,000</td><td>Machinery</td><td>2,77,500</td></tr> <tr> <td>Unforeseen liabilities</td><td>3,500</td><td></td><td></td></tr> <tr> <td></td><td><u>5,77,500</u></td><td></td><td><u>5,77,500</u></td></tr> </table>	Liabilities	(₹)	Assets	(₹)	Creditors	30,000	Cash	1,33,000	Outstanding expenses	4,000	Debtors. 30,000 Less: Prov. For doubtful debts <u>(3000)</u>	27,000	Capital accounts		Stock	1,00,000	X	1,44,000			Y	2,88,000	Furniture	40,000	Z	1,08,000	Machinery	2,77,500	Unforeseen liabilities	3,500				<u>5,77,500</u>		<u>5,77,500</u>																																											
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26 A.	JOURNAL <table> <tr> <th>Date</th><th>Particulars</th><th>LF</th><th>Dr (₹)</th><th>Cr (₹)</th></tr> <tr> <td>1</td><td>Bank A/c Dr To Equity Share Application A/c (Application money received on 2,70,000 shares)</td><td></td><td>16,20,000</td><td>16,20,000</td></tr> <tr> <td>2</td><td>Equity Share application A/c Dr To Equity Share Capital A/c To Bank A/c To Equity Share Allotment A/c To Securities Premium A/c (Share application accepted on 1,20,000</td><td></td><td>16,20,000</td><td>4,80,000 3,00,000 6,00,000 2,40,000</td></tr> </table>	Date	Particulars	LF	Dr (₹)	Cr (₹)	1	Bank A/c Dr To Equity Share Application A/c (Application money received on 2,70,000 shares)		16,20,000	16,20,000	2	Equity Share application A/c Dr To Equity Share Capital A/c To Bank A/c To Equity Share Allotment A/c To Securities Premium A/c (Share application accepted on 1,20,000		16,20,000	4,80,000 3,00,000 6,00,000 2,40,000																																																																
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	shares and remaining money adjusted)			
3	Equity Share Allotment A/c Dr To Equity Share Capital A/c To Securities Premium A/c (Allotment money due on 1,20,000 shares)		6,00,000	4,80,000 1,20,000
4	Equity Share first call A/c Dr To Equity Share capital A/c To Securities Premium A/c (First call money due on 1,20,000 shares)		3,60,000	2,40,000 1,20,000
5	Bank A/c Dr Call in arrears A/c Dr To Equity Share First call A/c (First call received)		3,56,400 3,600	3,60,000
6	Equity Share capital A/c Dr Securities Premium A/c Dr To Share Forfeited A/c To Equity share first call A/c (1,200 shares forfeited for non-payment of call money)		12,000 1,200	9,600 3,600
7	Bank A/c Dr To Equity Share Capital A/c To Securities Premium A/c (All forfeited shares reissued)		1,20,000	12,000 1,08,000
8	Share forfeited A/c Dr To Capital Reserve A/c (Gain on reissue of shares transferred to capital reserve)		9,600	9,600

OR

26 B.

I.

Dr.	Cash Book		Cr.
Particulars	(₹)	Particulars	(₹)
To Share application A/c	15,00,000	By Share application A/c	1,00,000
To Share allotment A/c	70,60,000	By Balance c/d	86,10,000
To Share capital A/c	50,000		
To Securities premium A/c	1,00,000		
	<u>87,10,000</u>		<u>87,10,000</u>

Dr.	Share Capital A/c		Cr.
Particulars	(₹)	Particulars	(₹)
To Share Forfeited A/c	1,80,000	By Share Application A/c	10,00,000
To Balance c/d	8,70,000	By Bank A/c	50,000
	<u>10,50,000</u>		<u>10,50,000</u>

	Dr. Securities Premium A/c Cr.					
	Particulars	(₹)	Particulars	(₹)		
	To Share Allotment/Calls in Arrears A/c	15,40,000	By Share Allotment A/c	90,00,000		
	To Balance c/d	75,60,000	By Bank A/c	1,00,000		
		91,00,000		91,00,000		
II. Journal Entries						
	Date	Particulars	LF	Dr. (₹)	Cr. (₹)	
	1	Securities premium A/c Dr. Share capital A/c Dr. To Share Allotment A/c /calls in arrears A/c To Share forfeited A/c (Being 18,000 shares forfeited for non-payment of allotment)		15,40,000 1,80,000	15,40,000 1,80,000	
	2	Bank A/c Dr. To Share capital A/c To securities premium A/c (Being 5,000 forfeited shares reissued at premium)		1,50,000	50,000 1,00,000	
	3	Share forfeited A/c Dr. To Capital Reserve A/c (Being profit on reissue transferred to Capital Reserve)		50,000	50,000	
	Part B :- Analysis of Financial Statements (Option – I)					
27.	(C) ₹ 1,50,000					1
28.	(A) Both A and R are correct, and R is the correct explanation of A					1
29.	(B) Cash used in investing activities ₹ 8,00,000					1
30.	(C) Purchase of marketable securities for ₹ 25,000 cash					1
31 A.	Comparative Income statement for the year ended March 31, 2026					3
	Particulars	2025 (₹)	2026 (₹)	Absolute Change (₹)	% Change	
	Revenue from operations	20,00,000	40,00,000	20,00,000	100	
	Expenses					
	Cost of Revenue from operations	2,00,000	4,00,000	2,00,000	100	
	Interest paid	1,00,000	1,00,000	-----	----	
	Total expenses	3,00,000	5,00,000	2,00,000	66.67	
	IV.Net profit before tax (I-III)	17,00,000	35,00,000	18,00,000	105.88	
	V.Less: Income tax	8,50,000	17,50,000	9,00,000	105.88	
	Net profit after Tax (IV-V)	8,50,000	17,50,000	9,00,000	105.88	

31 B.	OR Common Size Statement of Profit and Loss for the year ended March 31, 2026			
	Particulars	2026 (₹)	% Change of Revenue from operation	
	Revenue from operations	6,00,000	100	
	Other incomes	30,000	5	
	Total Income	6,30,000	105	
	Expenses			
	Cost of Revenue from operations	4,00,000	66.67	
	Indirect Expenses (2,00,000 x 25%)	50,000	8.33	
	Total expenses	4,50,000	75	
	IV.Net profit before tax (I-III)	1,80,000	30	
	V.Less: Income tax	54,000	9	
	Net profit after Tax (1V-V)	1,26,000	21	
32.	Items	head	Sub - head	3
	I. Warranty claims payable	Current Liabilities	Other current liabilities	
	II. Preliminary expenses written off	Expenses in statement of Profit & loss account	Other Expenses	
	III. Interest Accrued but not Due on Debentures.	Current Liabilities	Other current liabilities	
33 A.	I. Decrease in Quick Ratio Reason: Quick Assets decrease while Quick Liabilities remain unchanged II. Increase in Quick Ratio Reason: A new Quick Asset (insurance receivable) is created, received with in operating cycle III. Increase in Quick Ratio Reason: Quick Assets will increase as cash will be received in 12 months. IV. Decrease in Quick Ratio Reason: Quick Assets decrease (Bank reduced by 80,000), while Quick Liabilities remain unchanged.			4
33 B.	OR Current ratio = Current Assets/Current Liabilities Current Assets = Liquid assets + Closing inventory+ Prepaid expenses =75,000+ 11,000+2,000 = 88,000 Current ratio = 88,000/60,000 = 1.47:1 Inventory Turnover ratio = Cost of revenue from operation/Average inventory Cost of revenue from operation = Opening Inventory + Purchases + Direct expenses – Closing inventory = 7,000+3,50,000+10,000+40,000-11,000 = ₹ 3,96,000 Average inventory = (7,000+11,000)/2 = ₹ 9,000 Inventory Turnover ratio = 3,96,000/9,000 = 44 times			

for the year ended 31st March 2026

Particulars	Amounts	(₹)
A. Cash Flow from Operating Activities		
Net Profit before Tax and Extraordinary Items		75,000
Adjustments for non-cash and non-operating items:		
Add: Depreciation	33,000	
Amortization of goodwill	36,000	
Loss on sale of Machinery	1,000	
Interest on debentures	10,250	
Less: Gain on sale of land	<u>(20,000)</u>	<u>60,250</u>
Operating profit before working capital changes		1,35,250
Less: Increase in Current Assets and Decrease in Current Liabilities		
Trade Receivables	(20,500)	
Trade Payables	(12,500)	<u>(33,000)</u>
Cash generated from operation		1,02,250
Less: Tax paid		<u>(38,500)</u>
Net Cash flow in Operating Activities		63,750
B. Cash Flow from Investing Activities		
Sale of Machinery	3,000	
Purchase of Machinery	(1,47,000)	
Purchase of land	(2,00,000)	
Sale of land	<u>2,20,000</u>	
Net Cash used in Investing Activities		(1,24,000)

Working Notes:

Dr. Machinery A/c		Cr.	
Particulars	(₹)	Particulars	(₹)
To Balance b/d	5,00,000	By Accumulated Depreciation A/c	8,000
To Bank A/c	1,47,000	By Bank A/c	3,000
		By Loss on sale of machinery A/c	1,000
		By balance c/d	6,35,000
	<u>6,47,000</u>		<u>6,47,000</u>

Dr. Accumulated Depreciation A/c		Cr.	
Particulars	(₹)	Particulars	(₹)
To Machinery A/c	8,000	By Balance b/d	75,000
To Balance c/d	1,00,000	By Statement of profit & loss	33,000
	<u>1,08,000</u>		<u>1,08,000</u>

	Net profit before tax and extraordinary item: (₹) Surplus i.e. change in closing balance and opening balance = 50,000 Add: Provision for tax = <u>25,000</u> <u>75,000</u>	
Part B :- Computerised Accounting (Option – II)		
27.	(B) Correct # REF ! Error	1
28.	(C) Using \$ sign	1
29.	(D) Array	1
30.	(B) Numbers and letters are assigned in consecutive order	1
31 A.	(i) Contra Voucher A Contra Voucher is used to record transactions involving cash and bank accounts only. It is prepared when: • Cash is deposited into bank • Cash is withdrawn from bank • Transfer from one bank account to another (ii) Post-dated Voucher A Post-dated Voucher is a voucher prepared on the current date but entered in the books on a future date. It is used when: • Payment or receipt is scheduled for a future date • Post-dated cheques are issued or received The entry is recorded only on the specified future date. (iii) Receipt Voucher A Receipt Voucher is used to record cash or bank receipts. It is prepared when: • Cash is received from customers • Cheque is received • Any other amount is received OR Advantages of Pivot Table Report 1. Summarizes large data quickly 2. Easy data analysis (totals, averages, counts etc.) 3. Flexible arrangement (rows and columns can be rearranged easily) 4. Quick comparison of data 5. Automatic calculations 6. Time-saving and user-friendly	3
32.	Three limitations of Computerised Accounting System: 1. High Initial Cost Installation of hardware, software, and training of staff requires significant investment. 2. Risk of Data Loss Data may be lost due to system failure, virus attack, hacking, or power breakdown if proper backup is not maintained. 3. Dependence on Skilled Personnel Trained staff is required to operate and maintain the system. Lack of technical knowledge may lead to errors.	3

	Business Studies (Subject Code 054) CLASS XII (2026-27) SAMPLE QUESTION PAPER TIME ALLOWED: 3 hours M.M: 80	
	<u>General instructions:</u> 1 This question paper contains 34 questions. 2. Marks are indicated against each question. 3. Answers should be brief and to the point. 4. Answers to the questions carrying 3 marks may be from 50 to 75 words. 5. Answers to the questions carrying 4 marks may be about 150 words. 6. Answers to the questions carrying 6 marks may be about 200 words. 7. Attempt all parts of the questions together	
Q.NO		MA RK S
1.	Ms Pratima Bhanot is working as Quality Control Supervisor in a company. Identify the function that she will not be performing at the level at which she is working: (A) Ensuring the quality of output of workers.	1

	(B) Confirming that safety standards are maintained in the organisation. (C) Analysing the business environment and its implications for the survival of the firm. (D) Minimising the wastage of materials.	
2.	Name the technique of Scientific Management that relates the compensation system to the efficiency of workers. A) Motion Study B) Differential Piece Wage System C) Standardisation and Simplification of work D) Fatigue Study	1
3.	Raja is the Managing Director of Shraddha Ltd., a firm manufacturing Environment Friendly products. As the firm grows in size he has decided to pay attention to the organisation structure. Which of the following organization structures should he choose in order to make managerial development easier, by providing autonomy and the chance to perform multiple functions? A) Functional Structure B) Span of management C) Divisional Structure D) Informal organisation	1
4.	Read the following statements very carefully: Statement I: Trade tests evaluate the potential of a candidate for acquiring new skills. Statement II: Training prepares employees to take charge of higher positions in case of an emergency. Choose the correct option from the following: (A) Statement I is true and Statement II is false.	1

	(B) Statement II is true and Statement I is false. (C) Both the statements are true. (D) Both the Statements are false.	
5.	Dash n Dip' was established in 2022 as one of the first fast-food chains in India introducing the concept of family-style restaurants. However, within two years, the business started losing customers to multinational food chains and eventually had to shut down its operations. The owner of the restaurant, Ms Kamya Kulkarni realized that she had been unable to identify, understand, evaluate and respond to the external environmental trends like changes in customer's preferences and increasing competition. This had resulted in hindering the firm's performance. Identify the importance of understanding the business environment highlighted in the above case. (A) It helps in tapping useful resources. (B) It helps the firm to identify threats and early warning signals. (C) It helps in assisting in planning and policy formulation (D) It enables the firm to identify opportunities and get the first mover advantage.	1
6.	Choose the correct statement about controlling function of management: (A) Controlling completes one cycle of management process and improves planning in the next cycle. (B) Controlling is the function of management that initiates action by people in the organisation. (C) Controlling involves only looking back and not looking ahead. (D) Standards in the Controlling process must be set in quantitative terms only.	1

7.	Match the terms given in column 1 with their meaning given in column2: <table><tr><th>Column1</th><th>Column2</th></tr><tr><td>1. Financial Intermediation</td><td>(i)Facilities and institutional arrangements through which long term funds both equity and debt are raised and invested</td></tr><tr><td>2. Primary market</td><td>(ii) the process by which allocation of funds is done</td></tr><tr><td>3. Capital market</td><td>(iii) market for creation and exchange of financial assets</td></tr><tr><td>4. Financial market</td><td>(iv) Securities are sold by the company to the investor directly (or through an intermediary).</td></tr></table> Choose the correct option from the following (A) 1 (i) ,2 (ii) ,3 (iii) , 4 (iv) (B) 1 (ii) ,2 (iv) ,3 (i) , 4 (iii) (C) 1 (ii) ,2 (iii) ,3 (i) , 4 (iv) (D) 1 (iv) ,2 (ii) ,3 (i) , 4 (iii)	Column1	Column2	1. Financial Intermediation	(i)Facilities and institutional arrangements through which long term funds both equity and debt are raised and invested	2. Primary market	(ii) the process by which allocation of funds is done	3. Capital market	(iii) market for creation and exchange of financial assets	4. Financial market	(iv) Securities are sold by the company to the investor directly (or through an intermediary).	1
Column1	Column2											
1. Financial Intermediation	(i)Facilities and institutional arrangements through which long term funds both equity and debt are raised and invested											
2. Primary market	(ii) the process by which allocation of funds is done											
3. Capital market	(iii) market for creation and exchange of financial assets											
4. Financial market	(iv) Securities are sold by the company to the investor directly (or through an intermediary).											
8.	Who is a consumer under the Consumer Protection Act, 2019? (A). It includes any user of such goods or beneficiary of services if such use is made with the disapproval of the buyer. (B). It applies to online transactions only which are made through electronic means or by teleshopping or direct selling or multilevel marketing. (C). Any person who obtains goods or avails services for resale or commercial purpose.	1										

	(D). A person who buys any goods or avails services for a consideration, which has been paid or promised, or partly paid and partly promised, or under any scheme of deferred payment.	
9.	 Choose the incorrect statement about the principle of management illustrated by the above picture: (A) Absence of this principle will result in loss of coordination. (B) The principle should be promoted in all organisations otherwise objectives would be difficult to realise. (C) The principle helps avoid dual subordination. (D) The principle promotes a spirit of unity and harmony among employees.	1
10.	Assertion (A): Capital budgeting decisions have a long-term impact on the profitability and growth of a business. Reason (R): Capital budgeting decisions deal only with short-term revenue expenditures. Choose the correct options: (A) Both A and R are true and R is the correct explanation of A.	1

	(B) Both A and R are true but R is not the correct explanation of A. (C) A is true but R is false. (D) A is false but R is true.	
11.	The Consumers Affairs Minister met with the representatives from various E-Commerce firms on the subject of “dark patterns”, warning them that app designs that are intended to deceive and nudge users to spend more or compromise their privacy are considered unfair trade practices. Which authority under the Consumer Protection Act, 2019 would regulate matters relating to violation of rights of consumers, unfair trade practices and take necessary action? A). Central Consumer Protection Authority B). Non-Governmental Organisations C). Supreme Court D). Consumer affairs Ministry	1
12.	Select the statement that does not correctly describe working capital. (A) It consists of funds invested in current assets of the business. (B) It helps in carrying out regular business activities smoothly. (C) It is calculated as the difference between current assets and current liabilities. (D) It is usually less liquid but contributes more to the profits than fixed assets.	1
13.	A ₹2 lakh fine has been imposed on an online pharmacy Medisimple for automatically renewing a three-month membership subscription of the customers for ₹99 without obtaining explicit user consent. The order passed by the Concerned Authority stated that the promotion design used by the pharmacy amounted to an unfair trade practice called “basket sneaking”, and directed the company to refund consumers who had not consented to the renewal. Where can the appeal be filed in case any of the parties is not satisfied with the order, on the grounds of facts or rules of Consumer Protection Act,2021?	1

	A). District Commission B). State Commission C). National Commission D). Supreme Court	
14.	Arijit and Ananya started a small business selling Eco-Friendly home decoration items made from recycled materials under the name ‘EcoComfort’. Ananya carefully analysed market conditions and predicted that there will be an increasing awareness about sustainability among urban consumers and the competition from conventional home decor brands will be moderate. They decided to achieve ₹2 lakh monthly sales by the end of first year. Arijit explored the following innovative courses of action to achieve the target: 1. Selling through online platforms like E-Commerce market places and social media stores. 2. Including local retail outlets to reach the local target market. 3. Partnering with cafes, gyms, wellness stores for product placements. Identify the steps which have not been performed by Arijit and Ananya in carrying out the planning function of management. (i) Setting objectives (ii) Follow up action (iii) Implementing the plan (iv) Developing premises (v) Identifying alternative courses of action (vi) Selecting an alternative (vii) Evaluating alternative courses Choose the correct option: (A) (i),(iv),(v) (B) (ii),(iii),(iv),(vi) (C) (i),(iv),(v),(vii) (D) (vii),(vi),(iii),(ii)	1

15.	Astrio Ltd. is a fast-growing company engaged in manufacturing consumer goods. The management noticed that despite good demand for its products, the company often faced delays in certain activities, while at other times money remained unused for long periods. To address this issue, the finance department decided to prepare a comprehensive plan before undertaking future activities. The company carefully assessed its upcoming business requirements and tried to determine how much money would be needed for different activities and at what stage these requirements would arise. At the same time, the management examined various ways through which funds could be arranged so that financial requirements could be met without disruption. Identify the concept discussed in the above lines. (A) Capital structure (B) Financial control (C) Investment (D) Financial planning	1
16.	Raahat has started a diagnostic centre in Gurgaon and decided to offer a salary of ₹10,000 plus a commission of ₹ 200 for each sample collected, to the employees appointed for the purpose. Name the cost being discussed above. A). Fixed cost B). Variable cost C). Semi Variable cost D). Total cost	1
17.	Delicious Beverages Ltd. is a company manufacturing packaged fruit juices. Initially, the company enjoyed a monopoly in the local market, and customers readily bought its products. However, in recent years, several new beverage companies have entered the market. To retain customers, Delicious Beverages Ltd.	1

	started offering attractive credit terms, discounts, and promotional schemes. The company also increased its inventory to ensure uninterrupted supply. Identify the factor affecting the working capital requirement of Delicious Beverages Ltd. being discussed above: A). Growth prospects B). Level of competition C). Production Cycle D) Scale of operations	
18.	Rama purchased a breakfast cereal “Healthme”, which her friend Sapna had recommended. Sapna told her that consuming the cereal for breakfast had helped her in losing 5 kgs in 6 months. Rama had also seen the advertisement for the cereal which suggested weight loss and fitness. Rama did not lose any weight even after one year. She approached the helpline of the company to file a complaint. The employee on the helpline asked her to read the general instructions on the package, which said that the “results may vary”. Rama realised that she had not read the information written on the tag attached to the product before buying it. Which consumer right did Rama exercise and which consumer responsibility had she ignored? A). Right to be heard, Read labels carefully so as to have information about prices, net weight, manufacturing and expiry dates, etc. B). Right to be assured, Be aware about various goods and services available in the market so that an intelligent and wise choice can be made. C). Right to be assured, Buy only standardised goods as they provide quality assurance D). Right to be heard, File a complaint in an appropriate consumer forum in case of a shortcoming in the quality of goods purchased or services availed.	1

19.	A company has an existing equity share capital of ₹20,00,000. It proposes to raise an additional ₹10,00,000 either by issuing equity shares or by issuing 10% debentures. If the Earnings Before Interest and Tax (EBIT) of the company is ₹4,50,000 and the corporate tax rate is 30%, which of the following financing options will result in a higher Earnings Per Share (EPS)? (A) Issue of equity shares (B) Issue of debentures (C) Both financing options will result in the same EPS (D) EPS cannot be determined with the given information	1
20.	The management of Pure Foods Pvt.Ltd. noticed that in spite of timely salaries and satisfactory working conditions, employees seemed disengaged and less committed to their work. The management conducted regular performance reviews and introduced a system where supervisors monitored work progress closely. Thus, the employees knew well in advance the standards of performance on the basis of which they will be appraised. Feedback was provided regularly, and employees who performed well were appreciated publicly during monthly meetings. Underperforming employees were given guidance and training instead of punishment. After a few months, employee confidence improved, and performance levels increased significantly. Identify the point of importance of controlling function discussed in the above case. A) Judging accuracy of standards B) Improving employee motivation C) Ensuring order and discipline D) Both A and B	1

21.	(A) State the first three steps involved in selecting the most suitable candidate for a job. OR (B) State any three benefits of training and development to the organisation.	3
22.	After completing a diploma in sales and marketing, Supreet joined as a tele sales representative in a French Insurance Company in Paris. Although he was fluent in English language and a friendly, knowledgeable person, he was unable to meet the sales target. Mr. Pierre, his supervisor, called a meeting to discuss the reason for his under performance. Mr. Pierre came to know that Supreet had only done a basic course in French language and therefore, due to lack of proficiency in the French language he made mistakes while communicating with French clients. a) Name the barrier of communication due to which Supreet was unable to meet the target. b) Apart from the barrier identified in part a) briefly explain any two barriers of communication from the same group.	3
23.	(A) Explain the following factors affecting financing decision of a company : (a) Control considerations (b) State of capital market OR (B) Explain the following factors affecting the fixed capital requirements of a company: (a) Choice of technique (b) Growth prospects	3
24.	Mr Bhavik Bhavnani was recently appointed as the Human Resource Manager of 'Sorbit informations'. Till now, the company had been advertising all its vacancies	3

	in a local newspaper publication called 'Climb Heights'. However, many times, it would bring a flood of responses from unsuitable candidates. The General Manager, Mr Raman Kalia, called Mr Bhavnani for a meeting to take his suggestions about alternative ways of searching for prospective employees. Mr. Bhavnani suggested that the company should maintain a close liaison with leading management institutes of the country. He also advised hiring private agencies and professional bodies who would recommend suitable candidates to the company. Also, as a database of unsolicited applicants was kept in the organisation, it was discussed that a list of such job-seekers could be prepared and screened to fill the vacancies. State the various sources suggested by Mr Bhavnani in the above case study, by which potential candidates may be located and stimulated to apply for jobs in the organisation.	
25.	(A) Explain the following points of nature of Principles of Management: a) Cause and effect relationship b) Universal applicability OR (B) Explain the following Principles of Management: a) Harmony not discord b) Science not rule of thumb	4
26.	"Important decision areas in this respect include selection of dealers or intermediaries to reach the customers, providing support to the intermediaries (by way of discounts, promotional campaigns, etc.)." Explain any two components of the element of marketing mix discussed above.	4
27.	HK Metals Limited has set clear standards for production output, defect rate and operating costs. During a monthly review, Mr Himank, the Chairman, received a report from the Accounts Manager, Mr Akhil. He reported that most expenses were	4

	within the approved budget. However, the maintenance expenses had exceeded the permissible limit set by management. Mr Himank did not interfere in routine matters but instructed Mr Akhil to investigate the cause of increase in maintenance expenses. A) Name and explain the principle of managerial control applied by Mr Himank in the above case. B) Identify and state the subsequent step in the controlling process that must be undertaken by Mr Akhil to ensure that standards are accomplished.	
28.	(A) 'Leaders play a key role in the success and excellence of any organisation'. a) Elucidate the term 'leadership'. b) Explain any two styles of leadership based on the use of authority. OR (B) 'Maslow's Need Hierarchy Theory of Motivation is based on human needs. He felt that within every human being, there exists a hierarchy of needs' a) Define the term motivation. b) Explain any two needs of human beings that according to Maslow formed part of the hierarchy.	4
29.	Lisha Fabric Private Limited is a company manufacturing cotton garments. The Marketing Manager of the company notices a shift in Generation Z' expectations as they are becoming aware of ethical fashion. The company decides to collaborate with Hridyansh, a Tech Enthusiast who has invented an innovative machine that recycles plastic bottles to manufacture sustainable fabrics. Identify and explain the dimensions of the business environment highlighted in the above case.	4
30.	Guruji Garments Ltd., a leading apparel manufacturing company in Ludhiana, produces winter wear for domestic and international markets. During the peak season, the Production Department increased output to meet rising	4

	demand. However, the Sales Department had not secured enough confirmed orders, leading to excess stock. At the same time, the Finance Department delayed releasing funds for raw materials, causing interruptions in production. As a result, confusion and conflict arose among different departments. The General Manager noticed that the departmental heads were not sharing the information regularly thus leading to lack of synchronisation of activities of different departments. 1.The problem faced by Guruji Garments Ltd. mainly indicates absence of an important concept of management. Name the concept. 2.State any three characteristics of the above identified concept.	
31.	(A) Describe Product cost, Utility and demand and Marketing Methods used as factors determining the price of a product. OR (B) Describe the concepts of branding, packaging and labelling as elements of product mix.	6
32.	Astrick Ltd., a fast-growing FMCG company, decided to expand its operations by setting up a new manufacturing unit. To raise funds, the company issued shares to the public. After the issue, the company participated in a market which provided a platform for buying and selling of existing securities. Soon, Astrick Ltd. noticed that the market price of its shares was constantly changing based on the company's performance reports, economic conditions, and demand and supply. Investors felt confident because its dealings were well defined according to the existing legal framework. It also ensured that they could easily convert their investment into cash whenever needed and the savings of the investors could get channelised into the most productive investment opportunities.	6

	(a) Name and give a suitable definition of the institution which as a market provides the platform referred to in the above case. (b) Explain the functions of the institution identified in part a) discussed in the case.	
33.	India's IT services companies saw a sharp decline in the share prices on February 12, 2026 over persistent fears that the artificial intelligence (AI)-led disruption will affect their profits in the coming years. Awino, one of India's top IT solutions providers, in order to face the challenge, has decided to separate itself into several subsidiaries by product line: telecommunications, engineering, financial services, etc. Each subsidiary brings in about \$300 million in annual earnings and is self-sufficient with their own accounting books, personnel and administrative functions. The decision making authority is shared with lower levels and is consequently placed nearest to the points of action. Explain briefly any four benefits Awino will get from this selective dispersal of authority.	6
34.	(A) Explain a) Procedure b) Strategy c) Rule as types of plans OR (B) Explain the following benefits of planning: a) Planning facilitates decision making b) Planning reduces the risk of uncertainty c) Planning establishes standards of controlling	6

	Business Studies (Subject Code 054) CLASS XII (2026-27) MARKING SCHEME TIME ALLOWED: 3 hours M.M:80	
Q.NO		MARKS
1.	(C). Analysing the business environment and its implications for the survival of the firm.	1
.2	(B). Differential Piece Wage System	1
3.	(C). Divisional Structure	1
4.	(B). Statement II is true and Statement I is false.	1
5.	(B). It helps the firm to identify threats and early warning signals.	1
6.	(A) Controlling completes one cycle of management process and improves planning in the next cycle.	1
7.	(B). 1 (ii) ,2 (iv) ,3 (i) , 4 (iii)	1
8.	(D). A person who buys any goods or avails services for a consideration, which has been paid or promised, or partly paid and partly promised, or under any scheme of deferred payment.	1

9.	(C) The principle helps avoid dual subordination.	1
10.	(C). A is true but R is false.	1
11.	(A). Central Consumer Protection Authority	1
12.	(D). It is usually less liquid but contributes more to the profits than fixed assets.	1
13.	(B). State Commission	1
14.	(D).(vii),(vi),(iii),(ii)	1
15.	(D). Financial planning	1
16.	C). Semi Variable cost	1
17.	(B). Level of competition	1
18.	(A). Right to be heard, Read labels carefully so as to have information about prices, net weight, manufacturing and expiry dates, etc.	1
19.	(B). Issue of debentures	1
20.	(B). Improving employee motivation	1
21.	(i) Preliminary Screening: Preliminary screening helps the manager eliminate unqualified or unfit job seekers based on the information supplied in the application forms. Preliminary interviews help reject misfits for	1x3=3 One mark for each

	reasons, which did not appear in the application forms. (ii) Selection Tests: An employment test is a mechanism (either a paper and pencil test or an exercise that attempts to measure certain characteristics of individuals. These characteristics range from aptitudes, such as manual dexterity, to intelligence to personality. (iii) Employment Interview: Interview is a formal, in-depth conversation conducted to evaluate the applicant's suitability for the job. The role of the interviewer is to seek information and that of the interviewee is to provide the same. Though, in present times, the interviewee also seeks information from the interviewer. OR Benefits of training and development to the organisation: (any 3) (i) Training is a systematic learning, always better than hit and trial methods which lead to wastage of efforts and money. (ii) It enhances employee productivity both in terms of quantity and quality, leading to higher profits. (iii) Training equips the future manager who can take over in case of emergency. (iv) Training increases employee morale and reduces absenteeism and employee turnover. (v) It helps in obtaining an effective response to a fast changing environment – technological and economic.	statement
22.	a) The barrier of communication due to which Supreet was unable to meet the target is Faulty Translation. b) The barriers under the group Semantic Barriers are: (any two) (i) Badly expressed message: Sometimes intended meaning may not be conveyed by a manager to his subordinates. These badly expressed messages may be an account of inadequate vocabulary, usage of wrong words,	a)1 + b)1x2=3 (½ mark for each heading+ ½ mark for

	omission of needed words, etc. (ii) Symbols with different meanings: A word may have several meanings. The receiver has to perceive one such meaning for the word used by the communicator. Wrong perception leads to communication problems (iii) Unclear assumptions: Some communications may have certain assumptions which are subject to different interpretations. (iv) Technical jargon: It is usually found that specialists use technical jargon while explaining to persons who are not specialists in the concerned field. Therefore, they may not understand the actual meaning of many such words. (v) Body language and gesture decoding: Every movement of the body communicates some meaning. The body movement and gestures of the communicator matters so much in conveying the message. If there is no match between what is said and what is expressed in body movements, communications may be wrongly perceived.	each explanation)
23.	(A) (a) Control considerations-Issue of more equity may lead to dilution of management's control over the business. Debt financing has no such implication. Companies afraid of a takeover bid would prefer debt to equity. (b) State of capital market- Health of the capital market may also affect the choice of source of fund. During the period when the stock market is rising, more people invest in equity. However, a depressed capital market may make the issue of equity shares difficult for any company. OR (B) (a) Choice of technique-Some organisations are capital intensive whereas others are labour intensive. A capital-intensive organisation requires higher investment in plant and machinery as it relies less on manual labour. The requirement of fixed capital for such organisations would be higher. Labour intensive organisations on the other hand require less investment in fixed assets. Hence, their fixed	$1\frac{1}{2} + 1\frac{1}{2} = 3$ (½ mark for each heading+1 mark for each explanation)

	capital requirement is lower. (b) Growth prospects-Higher growth of an organisation generally requires higher investment in fixed assets. Even when such growth is expected, a company may choose to create higher capacity in order to meet the anticipated higher demand quicker. This entails larger investment in fixed assets and consequently larger fixed capital.	
24.	1) Campus Recruitment: Colleges and institutes of management and technology have become a popular source of recruitment for technical, professional and managerial jobs. Many big organisations maintain a close liaison with the universities, vocational schools and management institutes to recruit qualified personnel for various jobs. 2) Placement Agencies and Management Consultants: In technical and professional areas, private agencies and professional bodies appear to be doing substantive work. Placement agencies provide a nationwide service in matching personnel demand and supply. These agencies compile bio-data of a large number of candidates and recommend suitable names to their clients. Such agencies charge a fee for their services. Management consultancy firms help the organisations to recruit technical, professional and managerial personnel. They specialise in middle level and top level executive placements. 3) Casual Callers: Many reputed business organisations keep a database of unsolicited applicants in their offices. Such job-seekers can be a valuable source of manpower. A list of such job-seekers can be prepared and can be screened to fill the vacancies as they arise.	1x3=3 (1 mark for each correct statement)
25.	(A) a) Cause and effect relationship-The principles of management are intended to establish a relationship between cause and effect so that they can be used in similar situations in a large number of cases. As	2+2=4 (½ mark for each heading and 1 ½

	such, they tell us if a particular principle was applied in a particular situation, what would be its likely effect. The principles of management are less than perfect since they mainly apply to human behaviour. In real life, situations are not identical. So, accurate cause and effect relationships may be difficult to establish b) Universal applicability-The principles of management are intended to apply to all types of organisations, business as well as non-business, small as well large, public sector as well as private sector, manufacturing as well as the services sectors. However, the extent of their applicability would vary with the nature of the organisation, business activity, scale of operations and the like. OR (B) a) Harmony not discord-Taylor called for complete mental revolution on the part of both management and workers. It means that management and workers should transform their thinking. In such a situation even trade unions will not think of going on strike etc. Management should share the gains of the company, if any, with the workers. At the same time workers should work hard and be willing to embrace change for the good of the company. Both should be part of the family. According to Taylor, ‘Scientific management has for its foundation the firm conviction that the true interests of the two are one and the same; b) Science not rule of thumb-Taylor pioneered the introduction of the method of scientific inquiry into the domain of management practice. Taylor believed that there was only one best method to maximise efficiency. This method can be developed through study and analysis. The method so developed should substitute ‘Rule of Thumb’ throughout the organisation. Scientific method involved investigation of traditional methods through work-study, unifying the	for each explanation)
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	best practices and developing a standard method, which would be followed throughout the organisation.	
26.	Components of physical distribution- the element of marketing mix discussed (Any two): 1. Transportation: Transportation is the means of carrying goods and raw materials from the point of production to the point of sale. It is one of the major elements in the physical distribution of goods. It is important because unless the goods are physically made available, the sale cannot be completed. 2. Warehousing: Warehousing refers to the act of storing and assorting products in order to create time utility in them. The basic purpose of warehousing activities is to arrange placement of goods and provide facilities to store them. The need for warehousing arises because there may be a difference between the time a product is produced and the time it is level of inventory, higher will be the level of service to customers but the cost of carrying the inventory will also be high because a lot of capital would be tied up in the stock. Thus, a balance is to be maintained in respect of the cost and customer satisfaction. required for consumption. 3. Inventory control: Linked to warehousing decisions are the inventory decisions which hold key to success for many manufacturers, especially those where the per unit cost is high. A very important decision in respect of inventory is deciding about the level of inventory. 4. Order processing: In a typical buyer-seller relationship, order placement is the first step. Products flow from manufacturers to customers via channel members while orders flow in the reverse direction, from customers to the manufacturers. A good physical distribution system should provide for an accurate and speedy processing of orders, in the absence of which, goods would reach the	2x2=4 (½ marks for the heading and 1½ marks for the explanation)

	customers late or in wrong quantity or specifications. This would result in customer dissatisfaction, with the danger of loss of business and goodwill.	
27.	A) The principle of managerial control applied by Mr Himank in the case is Management by Exception. Management by exception, which is often referred to as control by exception, is an important principle of management control based on the belief that an attempt to control everything results in controlling nothing. Thus, only significant deviations which go beyond the permissible limit should be brought to the notice of management. B) The subsequent step in the controlling process that must be undertaken by Mr Akhil to ensure that standards are accomplished is- Taking Corrective Action: No corrective action is required when the deviations are within acceptable limits. However, when the deviations go beyond the acceptable range, especially in the important areas, it demands immediate managerial attention so that deviations do not occur again and standards are accomplished. In case the deviation cannot be corrected through managerial action, the standards may have to be revised.	2+2=4 A)1 mark for naming and 1 mark for explanation B)1mark for identification and 1 mark for explanation
28.	(A) a) Leadership is the process of influencing the behaviour of people by making them strive voluntarily towards achievement of organisational goals. b) Any two styles of leadership depending on the use of authority- (i) Autocratic or Authoritarian leader An autocratic leader gives orders and expects his subordinates to obey those orders. If a manager is following this style, then communication is only one-way with the subordinate only acting according to the command given by the manager. This leader is dogmatic, i.e., does not change or wish to be contradicted. His following is based on the assumption that reward or punishment both can be given depending upon	(1+1 ½ X 2=4) (1 mark for elucidating + ½ mark for the heading + 1 mark for the explanation)

	the result. This leadership style is effective in getting productivity in many situations like in a factory where the supervisor is responsible for production on time and has to ensure labour productivity. Quick decision-making is also facilitated. (ii) Democratic or Participative leader A democratic leader will develop action plans and make decisions in consultation with his subordinates. He will encourage them to participate in decision-making. This kind of leadership style is more common now-a-days, since leaders also recognise that people perform best if they have set their own objectives. They also need to respect the other's opinion and support subordinates to perform their duties and accomplish organisational objectives. They exercise more control by using forces within the group. (iii) Laissez faire or Free-rein leader Such a leader does not believe in the use of power unless it is absolutely essential. The followers are given a high degree of independence to formulate their own objectives and ways to achieve them. The group members work on their own tasks resolving issues themselves. The manager is there only to support them and supply them the required information to complete the task assigned. OR (B) a) Motivation means incitement or inducement to act or move. In the context of an organisation, it means the process of making subordinates to act in a desired manner to achieve certain organisational goals. b) Maslow's theory was based on human needs. He felt that within every human being, there exists a hierarchy of five needs. These are: (Any two) (i) Basic Physiological Needs: These needs are most basic in the hierarchy and correspond to primary needs. Hunger, thirst, shelter, sleep and sex are some examples of these needs. In the organisational context, basic salary helps to satisfy these needs. (ii) Safety/Security Needs: These needs provide security and protection from	n)
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	physical and emotional harm. Examples: job security, stability of income, Pension plans etc., (iii) Affiliation/Belonging Needs: These needs refer to affection, sense of belongingness, acceptance and friendship. (iv) Esteem Needs: These include factors such as self-respect, autonomy status, recognition and attention. (v) Self Actualisation Needs: It is the highest level of need in the hierarchy. It refers to the drive to become what one is capable of becoming. These needs include growth, self-fulfillment and achievement of goals.	
29.	1) Social Environment-The social environment of business includes the social forces like customs and traditions, values, social trends, society's expectations from business, etc. Traditions define social practices that have lasted for decades or even centuries. For example, the celebration of Diwali, Eid, Christmas, and Guru Parv in India provides significant financial opportunities for greeting card companies, sweets or confectionery manufacturers, tailoring outlets and many other related businesses. Values refer to concepts that a society holds in high esteem. Social trends present various opportunities and threats to business enterprises. 2) Technological Environment-Technological environment includes forces relating to scientific improvements and innovations which provide new ways of producing goods and services and new methods and techniques of operating a business. For example, recent technological advances in computers and electronics have modified the ways in which companies advertise their products.	2+2=4 (1 mark each for identification and 1 each mark for explanation)
30.	A) Concept identified is Coordination B) Characteristics of coordination are-(any three) 1.Coordination is a continuous process: Coordination is not a one-time function but a continuous process. It begins at the planning stage and	1+3=4 A)1mark for naming the concept+

	continues till controlling. 2.Coordination is an all pervasive function: Coordination is required at all levels of management due to the interdependent nature of activities of various departments. It integrates the efforts of different departments and different levels. The purchase, production and sales departmental efforts have to be coordinated for achieving organisational objectives harmoniously. 3.Coordination integrates group efforts: Coordination unifies unrelated or diverse interests into purposeful work activity. It gives a common focus to group effort to ensure that performance is as it was planned and scheduled. 4. Coordination ensures unity of action: The purpose of coordination is to secure unity of action in the realisation of a common purpose. It acts as the binding force between departments and ensures that all action is aimed at achieving the goals of the organisation. Coordination is the responsibility of all managers: Coordination is the function of every manager in the organisation. Top level managers need to coordinate with their subordinates to ensure that the overall policies for the organisation are duly carried out. Middle level management coordinates with both the top level and first line managers. Operational level management coordinates the activities of its workers to ensure that work proceeds according to plans. 5. Coordination is a deliberate function: A manager has to coordinate the efforts of different people in a conscious and deliberate manner. Even where members of a department willingly cooperate and work, coordination gives a direction to that willing spirit.	B) 1X3=3 (one mark for each correct statement)
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31.	(A)Following are the factors determining the price of a product: 1. Product cost: One of the most important factors affecting the price of a product or service is its cost. This includes the cost of producing, distributing and selling the product. The cost sets the minimum level or the floor price at which the product may be sold. Generally, all marketing firms strive to cover all their costs, at least in the long run. In addition, they aim at earning a margin of profit over and above the costs. In certain circumstances, for example, at the time of introducing a new product or while entering a new market, the products may be sold at a price, which does not cover all the costs. But in the long run, a firm cannot survive unless at least all its costs are covered. Semi variable costs are those costs which vary with the level of activity but not in direct proportion with it. 2. Utility and Demand: While the product costs set the lower limits of the price, the utility provided by the product and the intensity of demand of the buyer sets the upper limit of price, which a buyer would be prepared to pay. In fact the price must reflect the interest of both the parties to the transaction—the buyer and the seller. The buyer may be ready to pay up to the point where the utility from the product is at least equal to the sacrifice made in terms of the price paid. The seller would, however, try to at least cover the costs. According to the law of demand, consumers usually purchase more units at a low price than at a high price. the maximum price for its products. 3. Marketing Methods Used: Price fixation process is also affected by other elements of marketing such as distribution system, quality of salesmen employed, quality and promoted, these must be made available to customers at the right amount of advertising, sales promotion efforts, the type of packaging, product differentiation, credit facility and customer services provided. Similarly, the uniqueness of any of the elements mentioned above gives the company a competitive freedom in fixing prices of its products. OR	2x3=6 (½ mark for the heading and 1 ½ marks for the explanation)
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	(B)The concepts of branding, packaging and labelling as elements of product mix: Branding: One of the most important decisions that a marketer has to take in the area of ‘product’ is in respect of branding. If products were sold by generic names, it would be very difficult for him to decide whether the firm’s products will be marketed under a brand name or a generic name. Thus, most marketers give a name to their product, which helps in identifying and distinguishing their products from the competitors’ products. This process of giving a name or a sign or a symbol etc., to a product is called branding. Packaging: Packaging refers to the act of designing and producing the container or wrapper of a product. Packaging plays a very important role in the marketing success or failure of many products, particularly the consumer non-durable products. In fact if one makes an analysis of the reasons for the success of some of the successful products in the recent past, it can be noted that packaging has played its due role. Labelling: A simple looking but important task in the marketing of goods relates to designing the label to be put on the package. The label may vary from a simple tag attached to the product (such as in case of local unbranded products like sugar, wheat, pulses, etc.) indicating some information about the quality or price, to complex graphics that are part of the package, like the ones on branded products. Labels are useful in providing detailed information about the product, its contents, method of use, etc.	
32.	(a) The institution that provides the platform is the Stock Exchange. According to the Securities Contracts (Regulation) Act, 1956, Stock Exchange means anybody of individuals, whether incorporated or not, constituted for the purpose of assisting, regulating or controlling the business	1+1+4=6 1 mark for naming + 1 mark for

	of buying and selling or dealing in securities. (b) Functions of the institution discussed are: 1. Providing Liquidity and Marketability to existing Securities: The basic function of a stock exchange is the creation of a continuous market where securities are bought and sold. It gives investors the chance to disinvest and reinvest. This provides both liquidity and easy marketability to already existing securities in the market. 2. Pricing of Securities: Share prices on a stock exchange are determined by the forces of demand and supply. A stock exchange is a mechanism of constant valuation through which the prices of securities are determined. Such a valuation provides important instant information to both buyers and Sellers in the market. 3. Safety of Transaction: The membership of a stock exchange is well-regulated and its dealings are well defined according to the existing legal framework. This ensures that the investing public gets a safe and fair deal on the market. 4. Contributes to Economic Growth: Through the process of disinvestment and reinvestment savings get channelised into their most productive investment avenues. This leads to capital formation and economic growth.	definition+ 1x 4 (½ mark each for heading +½ mark each explanatio n)
33.	Decentralisation is a fundamental step and its importance can be understood from the following points: (Any four) (i) Develops initiative among subordinates: Decentralisation helps to promote self-reliance and confidence amongst the subordinates. This is because when lower managerial levels are given freedom to make their own	1 ½ X 4=6 (½ mark for each heading and 1 mark for explanatio

	decisions they learn to depend on their own judgment. (ii) Develops managerial talent for the future: Formal training plays an important part in equipping subordinates with skills that help them rise in the organisation but equally important is the experience gained by handling assignments independently. Decentralisation gives them a chance to prove their abilities and creates a reservoir of qualified manpower who can be considered to fill up more challenging positions through promotions. (iii) Quick decision making: In a decentralised organisation, however, since decisions are taken at levels which are nearest to the points of action and there is no requirement for approval from many levels, the process is much faster. There are also less chances of information getting distorted because it doesn't have to go through long channels. (iv) Relief to top management: Decentralisation diminishes the amount of direct supervision exercised by a superior over the activities of a subordinate because they are given the freedom to act and decide albeit within the limits set by the superior. Also, personal supervision is generally replaced by other forms of control such as return on investment etc. (v) Facilitates growth: Decentralisation awards greater autonomy to the lower levels of management as well as divisional or departmental heads. This allows them to function in a manner best suited to their department and fosters a sense of competition amongst the departments. (vi) Better control: Decentralisation makes it possible to evaluate performance at each level and the departments can be individually held accountable for their results. The extent of achievement of organisational objectives as well as the contribution of each department in meeting the overall objectives can be ascertained. Decentralisation compels the management to innovative performance measurement systems.	n)
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34.	(A) a) Procedure-Procedures are routine steps on how to carry out activities. They detail the exact manner in which any work is to be performed. They are specified in a chronological order. Procedures are specified steps to be followed in particular circumstances. They are generally meant for insiders to follow. The sequence of steps or actions to be taken are generally to enforce a policy and to attain pre-determined objectives. Policies and procedures are interlinked with each other. b) Strategy-A strategy provides the broad contours of an organisation's business. It will also refer to future decisions defining the organisation's direction and scope in the long run. Thus, we can say a strategy is a comprehensive plan for accomplishing an organisation objectives. This comprehensive plan will include three dimensions, (i) determining long term objectives, (ii) adopting a particular course of action, and (iii) allocating resources necessary to achieve the objective. Whenever a strategy is formulated, the business environment needs to be taken into consideration c) Rule-Rules are specific statements that inform what is to be done. They do not allow for any flexibility or discretion. It reflects a managerial decision that a certain action must or must not be taken. They are usually the simplest type of plans because there is no compromise or change unless a policy decision is taken. OR (B) a) Planning facilitates decision making-Planning helps the manager to look into the future and make a choice from amongst various alternative courses of action. The manager has to evaluate each alternative and select the most viable proposition. Planning involves setting targets and predicting future conditions, thus helping in taking rational decisions. b) Planning reduces the risk of uncertainty- Planning is an activity which	2 X3=6 (½ mark for each heading and 1 ½ mark for explanation)
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	enables a manager to look ahead and anticipate changes. By deciding in advance the tasks to be performed, planning shows the way to deal with changes and uncertain events. Changes or events cannot be eliminated but they can be anticipated and managerial responses to them can be developed. c) Planning establishes standards of controlling-Planning involves setting of goals. Planning provides the goals or standards against which actual performance is measured. By comparing actual performance with some standard, managers can know whether they have actually been able to attain the goals. The nature of corrective action required depends upon the extent of deviations from the standard. Therefore, planning provides the basis of control.	
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SAMPLE QUESTION PAPER (2026-27)

ECONOMICS (030) CLASS 12

TIME: 3 HOURS

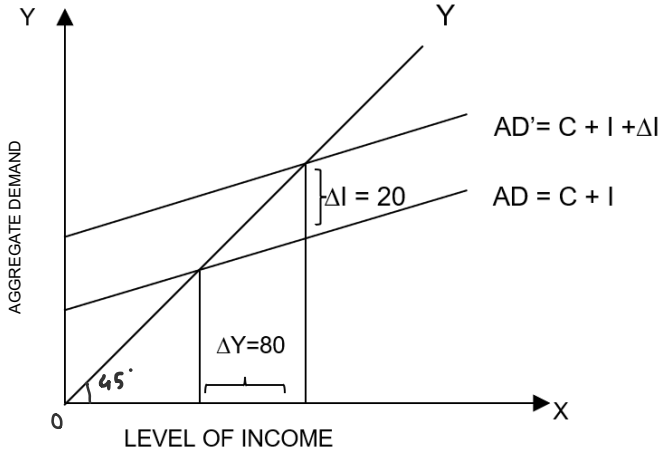
M.M. – 80

GENERAL INSTRUCTIONS:

- I. This question paper contains two sections:
Section A – Macroeconomics
Section B – Indian Economic Development
- II. This paper contains 20 Multiple Choice Type Questions of 1 mark each.
- III. This paper contains 4 Short Answer Type Questions of 3 marks each to be answered in 60 to 80 words.
- IV. This paper contains 6 Short Answer Type Questions of 4 marks each to be answered in 80 to 100 words.
- V. This paper contains 4 Long Answer Type Questions of 6 marks each to be answered in 100 to 150 words.

S.NO.	SECTION A – MACROECONOMICS	MARKS
1	Identify, which of the following expenditure falls under the category of capital expenditure. (Choose the correct option) (i) Payment of salaries to central government employees. (ii) Construction of new national highways under Bharatmala Pariyojana. (iii) Interest payment by the government on past loans from World Bank. (iv) Expenditure on installation of the Kavach automatic train protection system. Options: (A) (i) and (ii) (B) (ii) and (iv) (C) (ii) and (iii) (D) (i) and (iv)	1
2	Read the following statements carefully: Statement 1: M1 measure of money supply constitutes currency and demand deposits held by the public. Statement 2: Demand deposits are those deposits with commercial banks, that can be withdrawn on demand by the depositors. In light of the given statements, choose the correct option from the following: (A) Statement 1 is true and Statement 2 is false. (B) Statement 1 is false and Statement 2 is true. (C) Both Statements 1 and 2 are true. (D) Both Statements 1 and 2 are false.	1
3	Ceteris paribus, a rise in the price of foreign currency sets off a chain of effects in the foreign exchange market of an economy. Identify, which of the following sequence explains this process. (i) National Income will rise (ii) Demand for foreign currency will fall (iii) Imported goods become costlier (Choose the correct option) Options: (A) (i), (ii), (iii) (B) (ii), (i), (iii) (C) (iii), (i), (ii) (D) (iii), (ii), (i)	1
4	Suppose, for a given year, the fiscal deficit of an economy is estimated at ₹5,000 crore. The total government expenditure is ₹18,000 crore, while non-tax revenue and capital receipts (excluding borrowings) together amount to ₹3,000 crore. (Choose the correct option to fill up the blank) The tax revenue of the government is ₹ _____ crore. Options: (A) 10,000 (B) 12,000 (C) 13,000 (D) 15,000	1

Note: There is no change in the Question Paper Design and Assessment Pattern for Academic Session 2026-27.

5	The Government of India in its Union Budget 2026-27 has decided to exempt fish caught by Indian fishing vessels operating in the Exclusive Economic Zone (EEZ) and on the High Seas from duty. Identify the objective behind the initiative taken by the Government of India as stated above. (Choose the correct option) (A) Allocation Function (B) Distribution Function (C) Stabilisation Function (D) Disposition Function	1
6	Refer to the given diagram carefully:  The slope of Consumption Curve would be _____. (Choose the correct option to fill up the blank) Options: (A) 1 (B) 0.8 (C) 0.25 (D) 0.75 Note: The following question is for the candidates with visual impairment only, in lieu of Q.6. For a hypothetical economy, a rise by ₹ 20 crore in investment leads to a rise by ₹ 80 crore in income. The slope of Consumption Curve would be _____. (Choose the correct option to fill up the blank) Options: (A) 1 (B) 0.8 (C) 0.25 (D) 0.75	1
7	Read the following statements: Assertion (A) and Reason (R). Choose the correct option from those given below: Assertion (A): Goods such as cars, refrigerators etc. are non-durable in nature, regardless of whether they are used by households or firms. Reason (R): Consumer durable goods and capital goods have a common feature of durability, even though they may have different end users. Options: (A) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A). (B) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A). (C) Assertion (A) is true, but Reason (R) is false. (D) Assertion (A) is false, but Reason (R) is true.	1
8	An Indian art gallery sells an antique Madhubani painting to a buyer in France for 4,000 euros. This transaction will be recorded on _____ side and _____ account of the Balance of Payments Account. (Choose the correct option to fill up the blank) (A) debit, current (B) credit, current (C) debit, capital (D) credit, capital	1

Note: There is no change in the Question Paper Design and Assessment Pattern for Academic Session 2026-27.

9	Shraddha Kapur initially lived in a barter-based system where exchanging goods was difficult owing to practical problems. After the introduction of money, she could easily buy goods using currency and repay her loan in fixed instalments over time. This change made transactions easier and future payments reliable. The functions of money highlighted in the above text are _____ and _____. (Choose the correct option to fill up the blank) (A) Store of value and medium of exchange (B) Measure of value and standard of deferred payments (C) Medium of exchange and standard of deferred payments (D) Measure of value and store of value	1																											
10	The value of investment multiplier ranges between _____ and _____. (Choose the correct option to fill up the blank) (A) 0, 1 (B) -1, 1 (C) 1, infinity (D) 0, infinity	1																											
11 A	Using the given estimates for a hypothetical economy, show that Gross Domestic Product at Market Price by Value-Added Method and Expenditure Method yields the same result. <table border="1"> <thead> <tr> <th>S. No.</th><th>Items</th><th>Amount (in ₹ crore)</th></tr> </thead> <tbody> <tr> <td>(i)</td><td>Private Final Consumption Expenditure</td><td>500</td></tr> <tr> <td>(ii)</td><td>Value of Output</td><td>1900</td></tr> <tr> <td>(iii)</td><td>Government Final Consumption Expenditure</td><td>400</td></tr> <tr> <td>(iv)</td><td>Gross Domestic Capital Formation</td><td>600</td></tr> <tr> <td>(v)</td><td>Change in Stock</td><td>100</td></tr> <tr> <td>(vi)</td><td>Consumption of Fixed Capital</td><td>30</td></tr> <tr> <td>(vii)</td><td>Net Exports</td><td>70</td></tr> <tr> <td>(viii)</td><td>Intermediate Consumption</td><td>330</td></tr> </tbody> </table> OR 11 B “Each factor of production contributes a distinct service in the production process and receives a specific reward in return.” In the light of the given statement, answer the following questions: (I) List any two factors of production and their respective remuneration earned. (II) Define any one of the remuneration earned listed above.	S. No.	Items	Amount (in ₹ crore)	(i)	Private Final Consumption Expenditure	500	(ii)	Value of Output	1900	(iii)	Government Final Consumption Expenditure	400	(iv)	Gross Domestic Capital Formation	600	(v)	Change in Stock	100	(vi)	Consumption of Fixed Capital	30	(vii)	Net Exports	70	(viii)	Intermediate Consumption	330	3
S. No.	Items	Amount (in ₹ crore)																											
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(viii)	Intermediate Consumption	330																											
12	Refer to the given cartoon strip carefully:   Analyse the impact of introduction of Goods and Service Tax in improving the efficiency of the taxation system and benefitting the overall economy. Note: The following question is for the Visually Impaired Candidates only, in lieu of Q.12. Differentiate between direct taxes and indirect taxes with the help of a suitable example.	3																											

13 A	Like individual consumers, businesses and organisation of all kinds, banks need their own mechanism to transfer funds and settle inter-bank transactions, such as borrowing from and lending to other banks and customer transactions. Source: https://rbidocs.rbi.org.in/rdocs/Publications/PDFs/RWF15012018_FCD40172EE58946BAA647A765DC942BD5.PDF Identify and explain the function fulfilled by the Reserve Bank of India in the aforesaid statement.	4
13 B	OR (I) Define Cash Reserve Ratio. (II) In the process of credit creation, the Cash Reserve Ratio (CRR) fixed by the Reserve Bank of India (RBI) plays a crucial role. On 6th June 2025, the RBI reduced the CRR by 100 basis points. Assuming the entire banking system functions as a single bank and all transactions are routed through banks, analyse the impact of this change on the total money creation in the banking system.	1 3
14	In a hypothetical economy called BoPia, the equilibrium exchange rate is 72 Bopas per US dollar determined through market forces. Over time, BoPia has made substantial investments in human capital formation. As a result, the country now has an abundant supply of skilled labour, which has made it an attractive destination for Foreign Direct Investments (FDI). Hence, multinational companies across the world are investing huge amounts of capital in BoPia. (I) Assuming all other factors constant, explain the effect of increased FDI inflows on BoPia's Balance of Payments Account. (II) Suppose the competent authority does not intervene in the process of determination of exchange rate in BoPia. Identify the foreign exchange rate system prevailing in BoPia and mention one of its merits.	2 2
15	Assuming for a hypothetical simplified economy, Consumption function, $C = 150 + 0.8 Y$ Autonomous Investment (I_0) = 250 Full employment level of income (Y_f) = 1,600 (I) Determine the equilibrium level of income. (II) Outline whether the economy is facing the situation of excess demand or deficient demand and state its impact on the level of output, employment and general price level in the economy.	2 2
16	Refer to the given text carefully: India's economic ascent continues to capture global attention. Already the world's fourth largest economy, the nation is charting a confident course toward becoming the third largest economy by 2030, with Gross Domestic Product (GDP) projected at USD 7.3 trillion. The current growth phase reflects the strength of decisive policymaking, structural reforms, and India's deepening global integration. With growth accelerating, India has once again outpaced global peers, reinforcing its position as the fastest-growing major economy. This surge is supported by resilient domestic demand, moderating inflation and higher labour force participation. A revival in domestic investment and strong investor sentiment signals a stable and broad-based economy. As these reforms gather pace and consumption remains optimistic, India's economic outlook continues to upbeat, signalling sustained momentum and growth across sectors. Gross Domestic Product (GDP) is one of the primary indicators of overall economic performance which reflects the rate at which the country is expanding. As per the latest data, the GDP of India (adjusted for inflation) is estimated to grow by 8.2% in Q2 of FY 2025-26 against the growth rate of 5.6% during Q2 of FY 2024-25. Each sector of the economy is playing a pivotal role in the growth of the country.	

Note: There is no change in the Question Paper Design and Assessment Pattern for Academic Session 2026-27.

	Source: https://www.pib.gov.in/PressReleasePage.aspx?PRID=2195990&reg=3&lang=1 (adapted and modified) On the basis of the given text and common understanding, answer the following questions: (I) Define Gross Domestic Product. (II) “GDP of India, adjusted for inflation, is estimated to grow by 8.2% in Q2 of FY 2025.” Elucidate whether the given projection represents Nominal GDP or Real GDP. Also, explain any one benefit of using this particular measure. (III) Comment upon the strong global position of India’s economy stating the major reasons for its recent growth surge.	1 2 3																
17 A	(I) State and explain the two components of Consumption Function. (II) After assessing prevailing liquidity and financial conditions, the Reserve Bank of India (RBI) on December 23, 2025, announced that it would conduct Open Market Operations (OMO) purchase auctions of Government of India securities totalling ₹ 2,00,000 crore (USD 22.34 billion). Briefly state the rationale behind the step taken by the Reserve Bank of India. Explain its implications on Aggregate Demand.	3 3																
17 B	OR (I) State whether the following statements are true or false, giving valid reasons in support of your answer: (a) Average Propensity to Consume (APC) at break-even level of income is always equal to one. (b) When ex-ante savings is more than ex-ante investments, it may lead to decumulation of inventories. (II) The Aggregate Demand curve becomes distant from the Investment Curve with the increase in the level of income. Defend or refute the given statement, giving valid reasons in support of your answer.	2 2 2																
SECTION B – INDIAN ECONOMIC DEVELOPMENT																		
18	Read the following statements carefully: Statement 1: In the normal course of development, countries shift employment and output from agriculture to industry and then to services. Statement 2: The service sector is the key driver of development for both India and Pakistan, with a direct shift from agriculture to service sector. In light of the given statements, choose the correct option from the following: (A) Statement 1 is true and Statement 2 is false. (B) Statement 1 is false and Statement 2 is true. (C) Both Statements 1 and 2 are true. (D) Both Statements 1 and 2 are false.	1																
19	Match the set of type of employment given in Column I with corresponding example given in Column II and choose the correct option: <table><tr><td></td><td>Column I</td><td></td><td>Column II</td></tr><tr><td>(p)</td><td>Self-employed</td><td>i</td><td>An engineer working with ONGC</td></tr><tr><td>(q)</td><td>Regular salaried employees</td><td>ii</td><td>A construction worker</td></tr><tr><td>(r)</td><td>Casual wage labourers</td><td>iii</td><td>Photographer running own studio</td></tr></table> Options: (A) (p)-ii, (q)-i, (r)-iii (B) (p)-iii, (q)-ii, (r)-i (C) (p)-i, (q)-iii, (r)-ii (D) (p)-iii, (q)-i, (r)-ii		Column I		Column II	(p)	Self-employed	i	An engineer working with ONGC	(q)	Regular salaried employees	ii	A construction worker	(r)	Casual wage labourers	iii	Photographer running own studio	1
	Column I		Column II															
(p)	Self-employed	i	An engineer working with ONGC															
(q)	Regular salaried employees	ii	A construction worker															
(r)	Casual wage labourers	iii	Photographer running own studio															
20	Read the following statements: Assertion (A) and Reason (R). Choose the correct option from those given below: Assertion (A): The real motive behind the infrastructural development initiated by the British was to subserve the colonial interests.	1																

	Reason (R): Commercialisation of Indian agriculture during the British rule helped to strengthen the self-sufficiency of the village economies in India. Options: (A) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A). (B) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A). (C) Assertion (A) is true, but Reason (R) is false. (D) Assertion (A) is false, but Reason (R) is true.	
21	‘Empirical evidence regarding the impact of human capital on economic growth is often described as nebulous.’ Due to measurement problems, _____ may not reflect the actual quality/status of education/health of the people in a country. (i) years of schooling (ii) teacher-pupil ratio (iii) life-expectancy (Choose the correct option to fill up the blank) Options: (A) (i) and (ii) (B) (i) and (iii) (C) (ii) and (iii) (D) (i), (ii) and (iii)	1
22	Refer the following image:  Identify the distinguished thinker, who is considered as the Architect of Indian planning. (Choose the correct option) Options: (A) Jawaharlal Nehru (B) Prasanta Chandra Mahalanobis (C) Amartya Sen (D) Dadabhai Naoroji Note: The following question is for the candidates with visual impairment only, in lieu of Q.22. _____ established the Indian Statistical Institute (ISI) in Calcutta. (Choose the correct option to fill up the blank) Options: (A) Jawaharlal Nehru (B) Prasanta Chandra Mahalanobis (C) Amartya Sen (D) Dadabhai Naoroji	1
23	Arrange the following events in chronological order: (i) Introduction of economic reforms in Pakistan (ii) China’s Great Proletarian Cultural Revolution (iii) Nationalisation of capital goods industries in Pakistan (iv) India’s last Five-Year Plan Choose the correct option: (A) (ii) → (iii) → (i) → (iv) (B) (iii) → (ii) → (i) → (iv) (C) (ii) → (i) → (iii) → (iv) (D) (iii) → (i) → (ii) → (iv)	1
24	“In 1991, as an immediate measure to resolve the balance of payments crisis, the rupee was devalued against foreign currencies.” Identify the liberalisation reform indicated in the aforesaid statement. (Choose the correct option) Options: (A) Industrial Sector (B) Tax (C) Foreign Exchange (D) Trade and Investment Policy	1

Note: There is no change in the Question Paper Design and Assessment Pattern for Academic Session 2026-27.

25	Identify which of the following is not the function of National Bank for Agriculture and Rural development (NABARD). (Choose the correct option) (A) Serving as apex funding agency for institutions providing rural credit. (B) Monitoring, evaluating and coordinating rural financing activities. (C) Formulating and implementing monetary policy. (D) Coordinating rural credit policies with the government.	1
26	In India, land ceiling legislation faced hurdles primarily because _____. (Choose the correct option to fill up the blank) (i) the big landlords challenged the legislation in the courts (ii) of multiple loopholes in the legislation (iii) the landlords registered the land under relatives' names (iv) of the 'land to the tiller' policy of the government Option: (A) (i),(ii),(iii) and (iv) (B) (i),(ii) and (iii) (C) (i) and (iv) (D) (iv) only	1
27	Read the following statements carefully: Statement 1: French traveller Bernier observed that pre-British agriculture in Bengal was stagnant and unable to meet local needs. Statement 2: In the 17th century, Bengal was a prosperous exporter of cotton and silk textiles, as well as rice, sugar, and butter. In light of the given statements, choose the correct option from the following: (A) Statement 1 is true and Statement 2 is false. (B) Statement 1 is false and Statement 2 is true. (C) Both Statements 1 and 2 are true. (D) Both Statements 1 and 2 are false.	1
28	Refer to the following text: The Government of India, decided to reduce its role in Public Sector Undertakings (PSUs) to improve efficiency and reduce fiscal burden. As per the policy decision, government companies are converted into private companies in two ways. Answer the following questions in the light of given text and common understanding: (I) Identify the policy highlighted in the step initiated by the government. (II) Briefly explain the two ways in which government companies can be converted into private companies.	1 2
29 A	Though livestock population in India is quite impressive but its productivity is quite low. Briefly explain any two initiatives that can be taken to enhance the livestock productivity.	3
29 B	OR Mehak is employed in a private firm which has hired only five workers. She generally remains insecure that she can be terminated from her job, without any prior notice. In contrast, her elder sister Sehaj works as a nurse in a government hospital. On the basis of the given text and common understanding answer the following questions: (I) Identify the sectors in which Mehak and Sehaj are employed. (II) State any two differences between the identified sectors in which they are working.	1 2
30	(I) Explain briefly the role of Karve Committee, 1955 in promoting rural development. (II) "Britain maintained a monopoly control over India's exports and imports." Justify the statement, giving valid reasons in support of your answer.	2 2

Note: There is no change in the Question Paper Design and Assessment Pattern for Academic Session 2026-27.

31	“Government of India has played an important role in generating employment directly /indirectly.” Do you agree with the given statement? Give valid reasons in support of your answer.	4																								
32 A	Refer the following text carefully: Keha and Mandeep graduated recently. Keha in order to improve her physical fitness, reduce stress and increase overall well-being, enrolls in yoga classes, while Mandeep, invests in internet data, online job portals and counselling services to explore suitable career opportunities. Identify and explain the sources of human capital formation indicated in the above text.	4																								
32 B	OR Avyaan’s education enables him to take informed decisions related to his health, finances, and social responsibilities. On the other hand, Amyra has received technical training in machine operations to improve her skills and productivity with the aim of increasing output. In the context of the distinction between human development and human capital formation, identify which case represents human development. Give valid reasons to justify your answer.	4																								
33 A	(I) Refer to the following data carefully: <table><tr><th colspan="4">Some Selected Indicators of Human Development, 2017-2019</th></tr><tr><th>Item</th><th>India</th><th>China</th><th>Pakistan</th></tr><tr><td>Maternal Mortality Rate (per 1 lakh births)</td><td>103</td><td>23</td><td>154</td></tr><tr><td>Gross National Income per Capita (PPP US\$)</td><td>6,951</td><td>18,025</td><td>5,374</td></tr><tr><td>Mean years of Schooling (aged 15 and above) in %</td><td>6.6</td><td>8.1</td><td>4.4</td></tr><tr><td>People using at least basic drinking Water Source (% of population)</td><td>93</td><td>97</td><td>90</td></tr></table> Answer the following questions on the basis of the given data and common understanding: (a) List one key measure of both income and health indicators given in the above table. (b) On the basis of the given data, compare and critically examine any two human development indicators of India and China. (II) State the meaning of Special Economic Zones and its significance.	Some Selected Indicators of Human Development, 2017-2019				Item	India	China	Pakistan	Maternal Mortality Rate (per 1 lakh births)	103	23	154	Gross National Income per Capita (PPP US\$)	6,951	18,025	5,374	Mean years of Schooling (aged 15 and above) in %	6.6	8.1	4.4	People using at least basic drinking Water Source (% of population)	93	97	90	1 3 2
Some Selected Indicators of Human Development, 2017-2019																										
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People using at least basic drinking Water Source (% of population)	93	97	90																							
33 B	(I) Refer to the given image carefully: 	3																								

	Describe the indicated policy introduced by China in the late 1970s and its consequences. (II) State any two challenges faced in the effective implementation of Great Leap Forward Campaign.	3
34	Refer to the following text carefully: India is adopting a multifaceted approach to mitigate global warming by diversifying its energy sources and enhancing access while also increasing the share of non-fossil fuels, improving energy efficiency, and promoting stability across its energy systems. India's energy transition is being pursued through a combination of initiatives across various sectors, including nuclear, solar, and wind energy, green hydrogen, battery storage, and critical minerals, which help to address both energy security and transition imperatives simultaneously. India has already surpassed the goal of 50 per cent installed power capacity from non-fossil fuel sources, which stood at 51.93% at the end of December 2025, supported by record annual additions of renewable energy capacity. The progress in expanding non-fossil fuel-based power capacity has been supported by a wide variety of initiatives to boost renewable energy systems. Additionally, new measures are being taken to support other clean sources of energy such as the National Nuclear Mission, the Green Hydrogen Mission, and the Bio Energy Programme. Source: https://www.pib.gov.in/PressReleasePage.aspx?PRID=2219915&utm_source=chatgpt.com&reg=3&lang=2 (adapted and modified) On the basis of the given text and common understanding, answer the following questions: (I) State the meaning of Global Warming. (II) India has already achieved more than 50% of its installed power capacity from non-fossil fuel sources. Identify any two major government initiatives that support this transition. (III) Elaborate any two strategies adopted by India to ensure sustainable development.	1 1 4

ECONOMICS (030) CLASS 12
MARKING SCHEME (2026-27)

S.NO.	SECTION A – MACROECONOMICS	MARKS
1	(B) (ii) and (iv)	1
2	(C) Both Statements 1 and 2 are true.	1
3	(D) (iii), (ii), (i)	1
4	(A) 10,000	1
5	(A) Allocation Function	1
6	(D) 0.75 Note: The following answer is for the candidates with visual impairment only, in lieu of Ans.6. (D) 0.75	1 1
7	(D) Assertion (A) is false, but Reason (R) is true.	1
8	(B) credit, current	1
9	(C) Medium of exchange and standard of deferred payments	1
10	(C) 1, infinity	1
11 A	Value-Added Method: Gross Domestic Product at Market Price = (ii) - (viii) = 1,900 – 330 = ₹ 1,570 crore Expenditure Method: Gross Domestic Product at Market Price = (i) + (iii) + (iv) + (vii) = 500 + 400 + 600 + 70 = ₹ 1,570 crore	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$
	OR	
11 B	(I) Two factors of production and their respective remunerations earned are: • Land - Rent • Capital - Interest (II) The remuneration earned by the Land can be defined as: Rent: Income earned by the owner of the land (natural resources).	$\frac{1}{2} + \frac{1}{2}$ $\frac{1}{2} + \frac{1}{2}$ 1
12	The introduction of Goods and Service Tax (GST) has simplified the tax structure by subsuming a variety of indirect taxes like VAT, excise duty, service tax etc. across the country. It has reduced the cost of business operations and cascading effect of various taxes on consumers. Moreover, with the implementation of GST the overall cost of production has reduced, making Indian products/services more competitive in the domestic and international markets. It has ensured higher transparency in the taxation system thereby enhancing the ease of doing business. Note: The following question is for the candidates with visual impairment only, in lieu of Ans.12. Direct taxes are those taxes whose impact and incidence lies on the same entity. For example: Income Tax. Whereas; Indirect taxes are those taxes whose impact and incidence may lie on different entities. For example: GST.	3 1 $\frac{1}{2}$ 1 $\frac{1}{2}$
13 A	The highlighted function fulfilled by the Reserve Bank of India is Banker's Bank. Reserve Bank of India (RBI) accepts the deposits from commercial banks and also advances loans to them as and when required. It maintains reserves of all commercial banks and utilizes it to settle inter-bank claims. As the highest	1 3

	authority in the banking system, it also supports banks during financial distress by acting as the lender of last resort and provides short-term credit to the commercial banks against approved securities.	
	OR	
13 B	(I) Cash Reserve Ratio refers to certain minimum percentage of net demand and time liabilities which banks are required to keep with the Central Bank in the form of cash. (II) The total amount of credit creation in an economy depends upon the amount of initial deposits and Cash Reserve Ratio (CRR). Keeping primary deposits constant, a decrease in the CRR by the Reserve Bank of India may lead to greater availability of funds with commercial banks. This may increase the lending capacity of commercial banks. Thus, increasing the total credit creation in the economy.	1 3
14	(I) Assuming all other factors remain unchanged, a rise in Foreign Direct Investment (FDI) inflows will increase the supply of foreign exchange (US dollars) in Bopia. The increased inflow of foreign exchange strengthens the overall Balance of Payments (BoP) position, may lead to a surplus in the BoP. (II) In the absence of any intervention by the competent authority (Central Bank/government), the flexible exchange rate system is prevailing in Bopia. Under flexible exchange rate system there is no need for the Central Bank/government to maintain huge foreign exchange reserves.	2 1 1
15	Given, Consumption function, $C = 150 + 0.8 Y$ Autonomous Investment (I_o) = 250 Full employment level of income (Y_f) = 1,600 (I) At equilibrium level of income, $Y = C + I$ $Y = 150 + 0.8Y + 250$ $0.2Y = 400$ $Y = 2,000$ (II) The economy is facing the problem of excess demand as equilibrium level of income (2,000) is greater than the given full employment level of income (1,600). The situation of Excess Demand will lead to an increase in General Price Level in the economy with no change in the level of output and employment.	1 $\frac{1}{2}$ $\frac{1}{2}$ 1 1
16	(I) Gross Domestic Product (GDP) refers to the market value of final goods and services produced in the domestic territory of an economy during a given period of time. (II) Real Gross Domestic Product refers to the market value of final goods and services produced in the domestic territory of an economy during a given period of time, measured at constant prices, i.e., adjusted for inflation. Hence, the projection represents Real GDP. Real GDP is a better indicator of economic growth as it is affected by only physical output and it eliminates the effect of price change. (III) India holds a strong global position and is moving towards becoming the third largest economy by 2030. This strength is driven by decisive policymaking and structural reforms, resilient domestic demand, moderating inflation, higher labour force participation, revival of domestic investment, strong investor confidence and deeper global integration, leading to broad-based and sustained economic growth.	1 1 1 3
17 A	(I) Two components of Consumption Function are: • Autonomous Consumption: It refers to the minimum level of consumption that takes place even when income is zero.	$\frac{1}{2} + 1$ $\frac{1}{2} + 1$

17 B	Induced Consumption: It refers to that part of consumption which varies directly with the level of income.	1
	(II) The Reserve Bank of India (RBI) announced on December 23, 2025, that it would carry out Open Market Operations (OMO) purchase auctions of Government of India securities worth ₹2,00,000 crore to address the situation of deflation.	
	By purchasing government securities in the open market, the RBI aims to infuse more liquidity, which increases the availability of funds with the commercial banks for lending. As a result, this may lead to increase in Aggregate Demand.	2
	OR	
	(I) (a) True. At the break-even level of income, consumption is equal to income and savings are zero. Average Propensity to Consume (APC) is consumption per unit of income ($APC = C/Y$). Therefore, at the break-even level of income when $C = Y$, APC becomes 1.	2
	(b) False. When ex-ante savings exceeds ex-ante investments it means households are planning to consume less than what the firms expected them to consume. This will lead to unintended accumulation of inventories.	2
	(II) The given statement is defended. The vertical distance between the Aggregate Demand (AD) curve and the Investment curve is represented by consumption. With the increase in income as the investment remains constant, whereas, induced consumption increases. Thereby, Aggregate Demand curve becomes distant from the Investment Curve.	2
SECTION B – INDIAN ECONOMIC DEVELOPMENT		
18	(C) Both Statements 1 and 2 are true.	1
19	(D) (p)-iii, (q)-i, (r)-ii	1
20	(C) Assertion (A) is true, but Reason (R) is false.	1
21	(D) (i), (ii) and (iii)	1
22	(B) Prasanta Chandra Mahalanobis	1
	Answer to the question for the candidates with visual impairment only, in lieu of Ans.22.	
	(B) Prasanta Chandra Mahalanobis	1
23	(A) (ii) → (iii) → (i) → (iv)	1
24	(C) Foreign Exchange	1
25	(C) Formulating and implementing monetary policy.	1
26	(B) (i),(ii) and (iii)	1
27	(B) Statement 1 is false and Statement 2 is true	1
28	(I) The policy highlighted in the given text is Privatisation.	1
	(II) Government companies are converted into private companies in two ways:	
	By withdrawal of the government from the ownership and management of the public sector companies.	1
	By outright sale of public sector companies to the private sector.	1
29 A	Two initiatives that can enhance livestock productivity are quoted as follows: - Encouraging improved animals breeds and use of modern technology to increase efficiency. - Establishing veterinary clinics with improved facilities for better health of livestock.	1½ 1½
	OR	
29 B	(I) Mehak is employed in the informal sector whereas, Sehaj is working with the formal sector.	½ + ½
	(II) Two differences between formal and informal sector are:	1

	- Workers in the informal sector do not have any job-protection, whereas; the workers in the formal sector enjoy job-security. - Workers in informal sector generally do not have regular income, whereas; workers in the formal sector earn a regular income along with social security benefits.	1
30	(I) The Karve Committee (1955) played an important role in promoting rural development as it focussed on the development of village and small-scale industries. These industries are labour-intensive and therefore generate more employment. (II) Britain maintained a monopoly control over India's exports and imports as more than half of India's foreign trade was restricted to Britain only, while rest was allowed to only a few other nations. Furthermore, the opening of Suez Canal in 1869 further intensified British control over India's foreign trade.	2 2
31	Government of India has played an important role in generating employment directly /indirectly in two ways: - Direct Employment: The government directly provides jobs by recruiting people in administrative departments, public sector industries and government run organisations. - Indirect Employment: When government enterprises increase production, related private sector businesses also expand, creating additional job opportunities in the private sector.	2 2
32 A	Keha's enrolment in yoga classes highlights her emphasis on 'expenditure on health'. Maintaining good physical health improves efficiency, learning ability and long-term work performance. It not only improves potential well-being but also contribute to robust and efficient future labour force. In contrast, Mandeep's expenditure on internet data, online job portals and career counselling can be considered as an expenditure on information. By gaining knowledge and professional guidance, he improves his employability and overall productivity. This, in turn, enhances his earning potential and contributes to human capital formation.	$\frac{1}{2} + 1\frac{1}{2}$ $\frac{1}{2} + 1\frac{1}{2}$
32 B	OR Avyaan's initiative closely reflects the concept of human development, which focuses on expanding an individual's choices and improving overall well-being rather than merely increasing income. His education enables him to make informed decisions about health and finances, thereby enhancing his quality of life. On the other hand, Amyra's technical training is aimed at upgrading her skills and efficiency to boost output. This represents human capital formation, as it is mainly directed towards economic benefits and increased productivity.	4
33 A	(I) (a) One key indicator of income is Gross National Income per Capita (PPP US\$), while a significant health indicator is Maternal Mortality Rate (per 1 lakh births). (b) According to the given data: Maternal Mortality Rate is very high in India as compared to China. For every 1 lakh births 23 women lose their lives in China, whereas this figure stands at 103 for India. Access to basic drinking water is relatively fair in both the countries, China leads with 97% coverage, followed by India at 93% coverage. This shows that a significant progress has been made in providing basic amenities by these nations. (II) Special Economic Zone (SEZ) is a geographical region that has economic laws different from a country's typical economic laws. SEZs play crucial role in the economic strategies by promoting investment, fostering development and facilitating trade.	$\frac{1}{2} + \frac{1}{2}$ 1½ 1½ 1 1

33 B	OR (I) The given image depicts the consequence of one child norm that was introduced by China in late 1970s. This measure was adopted by the Chinese government to control population growth. This policy resulted in a decline in the sex ratio and created demographic imbalance. As a consequence, the elderly population of China is expected to surpass the younger population. (II) Two challenges faced in the effective implementation of Great Leap Forward Campaign were: • A severe drought caused havoc in China killing about 30 million people. • When Russia had conflicts with China, it withdrew its professionals who had earlier been sent to China to help in the industrialisation process.	3 1½ 1½
	34 (I) Global warming is a gradual increase in the average temperature of the earth's lower atmosphere as a result of the increase in greenhouse gases. (II) Two major government initiatives are: • National Nuclear Mission • Green Hydrogen Mission (III) Two strategies adopted by India to ensure sustainable development are: • Use of wind energy: In areas where speed of wind is usually high, windmills can be used to generate electricity without any adverse impact on the environment. Although the initial cost is high but the benefits are such that the high cost gets easily absorbed. • Use of solar energy: With the help of photovoltaic cells/solar panels, solar energy can be converted into electricity. This technology is extremely useful for remote areas and for places where supply of power through grid or power lines is either not possible or proves very costly. This technique is free from pollution.	1 ½ ½ 2 2

GEOGRAPHY CODE - 029
SAMPLE QUESTION PAPER*
CLASS: XII (2026- 27)

Time allowed: 3 Hours

Maximum marks: 70

General Instructions:

Read the following instructions carefully and follow them.

1. This question paper contains **30** questions. **All** questions are **compulsory**.
2. This question paper is divided into **five** sections: sections **A, B, C, D, and E**.
3. **Section A** - Question number **1 to 17** are multiple-choice type questions carrying 1 mark each.
4. **Section B**- Question number **18 and 19** are source-based questions carrying 3 marks each.
5. **Section C**- Question number **20 to 23** are Short Answer (SA) type questions carrying 3 marks each. The answer to these questions shall be written in 80 to 100 words.
6. **Section D** Question number **24 to 28** are Long Answer (LA) type questions carrying 5 marks each. Answer to these questions shall be written in 120 to 150 words.
7. **Section E** Question number **29 and 30** are map-based questions. Each question carries 5 marks.
8. In addition to this, NOTE that a separate question has been provided for Visually Impaired Candidates in lieu of questions having visual inputs, maps, etc. Such questions are to be attempted by Visually Impaired Candidates only.
9. There is no overall choice given in the question paper. However, an internal choice has been provided in a few questions in all sections, except Section A.

Q. No.	Section A Question No. 1 to 17 are Multiple Choice Type Questions				Marks 17X1=17																				
1	Match the following:				1																				
<table><tr><td></td><td>Column A – Places</td><td></td><td>Column B – Factors Affecting Population Distribution</td></tr><tr><td>I</td><td>Thar desert</td><td>1</td><td>Pleasant and comfortable climate</td></tr><tr><td>II</td><td>Mediterranean regions</td><td>2</td><td>Industrialisation and job opportunities</td></tr><tr><td>III</td><td>Katanga–Zambia copper belt</td><td>3</td><td>Harsh climatic condition and difficult landform</td></tr><tr><td>IV</td><td>Kobe–Osaka region</td><td>4</td><td>Mineral deposits and mining activities</td></tr></table>							Column A – Places		Column B – Factors Affecting Population Distribution	I	Thar desert	1	Pleasant and comfortable climate	II	Mediterranean regions	2	Industrialisation and job opportunities	III	Katanga–Zambia copper belt	3	Harsh climatic condition and difficult landform	IV	Kobe–Osaka region	4	Mineral deposits and mining activities
	Column A – Places		Column B – Factors Affecting Population Distribution																						
I	Thar desert	1	Pleasant and comfortable climate																						
II	Mediterranean regions	2	Industrialisation and job opportunities																						
III	Katanga–Zambia copper belt	3	Harsh climatic condition and difficult landform																						
IV	Kobe–Osaka region	4	Mineral deposits and mining activities																						

*There is no change in the Question Paper Design and Assessment Pattern for Academic Session 2026-27.

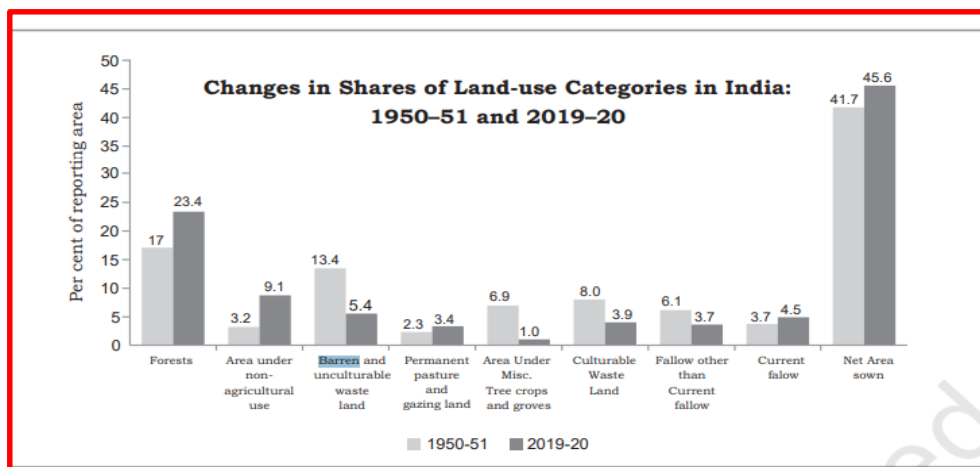
	Codes- A. I-2, II-1, III-4, IV-3 B. I-1, II-2, III-3, IV-4 C. I-3, II-1, III-4, IV-2 D. I-2, II-3, III-1, IV-4																						
2	The Government of India has introduced the Beti Bachao Beti Padhao programme to address the issue of decline in child sex ratio. Which one of the following options will lead to a more meaningful life for girls? A. Providing financial incentives only at the time of marriage. B. Encouraging families to support girls' education. C. Restricting girls from pursuing higher studies. D. Making girls responsible for household work.	1																					
3	A disaster management team wants to set up temporary shelters in Region Y, which has a population of 80,000 and an area of 200 sq km. To plan resources, they must know how densely populated the region is. What is the population density of Region Y? A. 200 persons per sq km B. 300 persons per sq km C. 400 persons per sq km D. 800 persons per sq km	1																					
4	In which of the following countries you can expect a higher investment in people providing education and healthcare as priority and good governance. <table border="1"> <thead> <tr> <th>Sl No.</th><th>Country</th><th>HDI 2022</th></tr> </thead> <tbody> <tr> <td>1.</td><td>Iceland</td><td>0.959</td></tr> <tr> <td>2.</td><td>Denmark</td><td>0.952</td></tr> <tr> <td>3.</td><td>Tajikistan</td><td>0.679</td></tr> <tr> <td>4.</td><td>El Salvador</td><td>0.674</td></tr> <tr> <td>5.</td><td>Burkina Faso</td><td>0.438</td></tr> <tr> <td>6.</td><td>Niger</td><td>0.394</td></tr> </tbody> </table> A. Niger and El Salvador B. Burkina Faso and Tajikistan C. Tajikistan and Niger D. Iceland and Denmark	Sl No.	Country	HDI 2022	1.	Iceland	0.959	2.	Denmark	0.952	3.	Tajikistan	0.679	4.	El Salvador	0.674	5.	Burkina Faso	0.438	6.	Niger	0.394	1
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5	Which of the following statements are correct related to rural marketing centres? Choose the correct option. i. Rural marketing centres cater to nearby settlements. ii. Rural Marketing centres are quasi-urban trading centres of the most rudimentary type. iii. They offer manufactured goods as well as many specialized markets develop, e.g. markets for labour, housing, semi or finished products. iv. Personal and professional services are not well-developed. These form local collecting and distributing centres. Options: A. i, ii, iv B. i, iii, iv C. ii, iii, iv D. i, ii, iii	1
6	How does industrial nations help to step up the volume of trade in developing nations? i. By developing industries like mining, oil drilling, heavy engineering etc in developing countries. ii. By not importing food stuffs and minerals from the developing countries. iii. By creating markets for their finished products in developing countries iv. By not opening the market for developing countries and increasing the import tariff by 50%. A. I, III B. III, IV C. II, III D. I, IV	1
7	Which of the following is a major concern associated with rapid growth of international trade in recent times? A. It reduces dependence on natural resources and promotes sustainable development. B. It can lead to exploitation of natural resources, causing environmental degradation. C. It decreases commercial rivalry and prevents conflicts between nations. D. It ensures equal development among all participating countries.	1

8	Thomas Malthus in his theory (1798) stated that the number of people would increase faster than the food supply. Which of the following statements is NOT supported by Malthus' theory? A. Food shortage would result in a decline in population. B. The rate of food supply would be faster than the population growth. C. Preventive checks are preferable to control population growth. D. To ensure sustainability of resources, population growth needs to be controlled.	1															
9	The table given below shows the crude birth rate and the crude death rate in India. Identify the year that registered the highest natural growth rate? <table border="1"> <thead> <tr> <th>Decades</th><th>Crude Birth rate per 1000</th><th>Crude Death rate per 1000</th></tr> </thead> <tbody> <tr> <td>2001-2011</td><td>21.8</td><td>7.1</td></tr> <tr> <td>1991-2001</td><td>25.4</td><td>8.4</td></tr> <tr> <td>1981-1991</td><td>29.5</td><td>9.8</td></tr> <tr> <td>1971-1981</td><td>37.2</td><td>15</td></tr> </tbody> </table> A. 1991-2001 B. 2001-2011 C. 1971-1981 D. 1981-1991	Decades	Crude Birth rate per 1000	Crude Death rate per 1000	2001-2011	21.8	7.1	1991-2001	25.4	8.4	1981-1991	29.5	9.8	1971-1981	37.2	15	1
Decades	Crude Birth rate per 1000	Crude Death rate per 1000															
2001-2011	21.8	7.1															
1991-2001	25.4	8.4															
1981-1991	29.5	9.8															
1971-1981	37.2	15															
10	Which of the following schemes is promoted by the Government for organic farming? A. PM-KISAN B. Soil Health Card Scheme C. Paramparagat Krishi Vikas Yojana (PKVY) D. Krishi Vikas Yojana	1															

11



In 2019-20, which category of land use has undergone the highest rate of increase in comparison to 1950-51?

- A. Forest
- B. Barren land & unculturable waste land
- C. Culturable wasteland
- D. Area under non-agricultural use

**The following question is for Visually Impaired Candidates only
In lieu of Question No. 11**

The land which is left without cultivation for one or less than one agricultural year is known as:

- A. Fallow other than Current Fallow
- B. Culturable Wasteland
- C. Current Fallow
- D. Land put to Non-agricultural Uses

1

12

The map given below shows the major river basins of India. Identify the river basin that covers the states of UP, Bihar and West Bengal.

- A. Krishna Basin
- B. Pennar Basin
- C. Ganga Basin
- D. Indus Basin

1



**The following question is for Visually Impaired Candidates only
In lieu of Question No. 12**

Name the largest river basin of India.

- A. Krishna Basin
- B. Pennar Basin
- C. Ganga Basin
- D. Indus Basin

13

Assertion(A): The Iron and steel industry in India is majorly concentrated in the north eastern part of the Peninsular Plateau.
Reason(R): Most of the metallic minerals in India occur in the peninsular plateau region in the old crystalline rocks.

- A. Both A and R are correct and R is the correct explanation of A.
- B. Both A and R are correct and R is not the correct explanation of A.
- C. A is correct but R is incorrect.
- D. R is incorrect but A is correct.

1

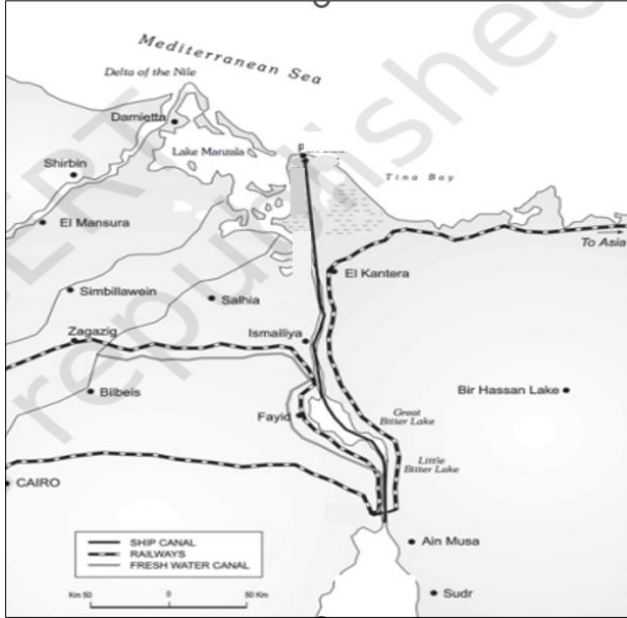
14

There is a declining availability of freshwater and increasing demand from different sectors of the economy in our country. Now the need has arisen to conserve and effectively manage this precious life giving resource for sustainable development. Suggest measures that can be adopted to solve this problem.

1

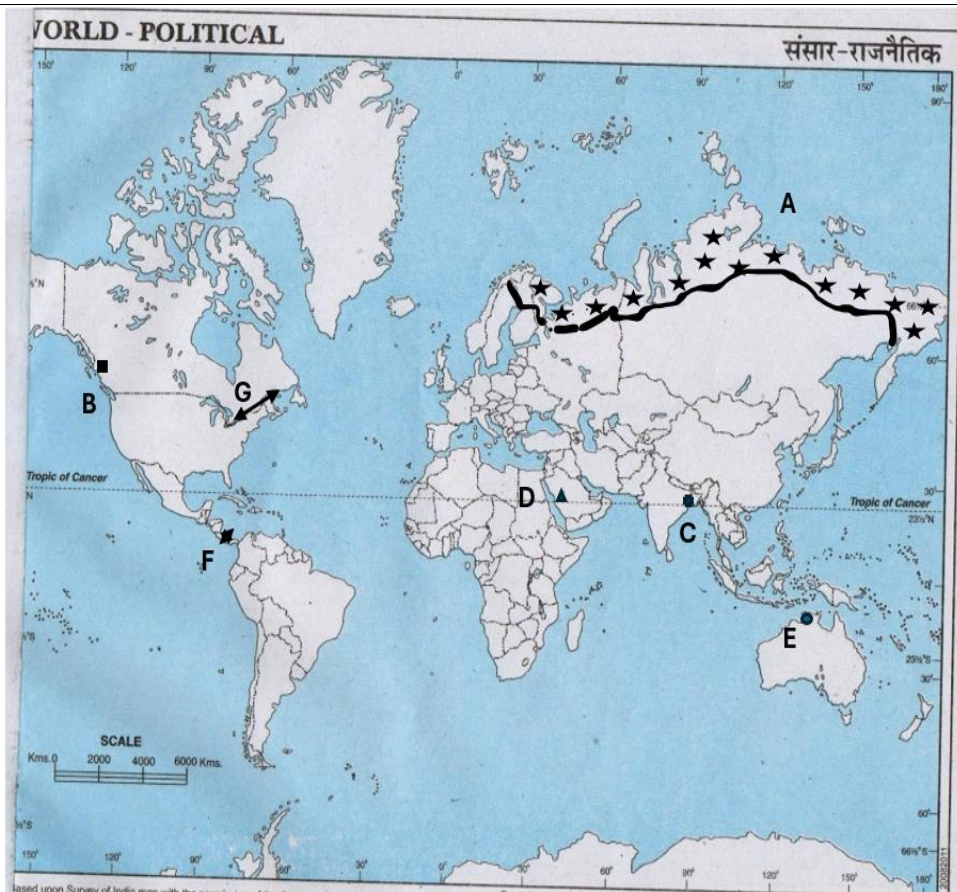
	A. Free and easy access of water to industries. B. Constructing new, large-scale dams for irrigation purposes. C. Implementing rainwater harvesting, recycling and reusing wastewater. D. Extracting more groundwater to increase supply.											
15	Given below is a list of National Waterways. Which one of the following is incorrectly matched? <table><thead><tr><th>Stretch</th><th>Waterways</th></tr></thead><tbody><tr><td>1. Allahabad-Haldia</td><td>NW-1</td></tr><tr><td>2. Kottapuram-Kollam</td><td>NW-5</td></tr><tr><td>3. Sadiya-Dhubri</td><td>NW-2</td></tr><tr><td>4. Kakinada-Puducherry</td><td>NW-4</td></tr></tbody></table> A. 1 B. 2 C. 3 D. 4	Stretch	Waterways	1. Allahabad-Haldia	NW-1	2. Kottapuram-Kollam	NW-5	3. Sadiya-Dhubri	NW-2	4. Kakinada-Puducherry	NW-4	1
Stretch	Waterways											
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3. Sadiya-Dhubri	NW-2											
4. Kakinada-Puducherry	NW-4											
16	A coastal district is preparing for an approaching cyclone. The disaster management team needs real-time information on cloud movement and storm intensity. Which satellite system will provide the most reliable support for this purpose? A. IRS – Indian Remote Sensing Satellite B. INSAT – Indian National Satellite System C. GSAT – Communication satellite for TV channels D. PSLV – Launch vehicle for satellites	1										
17	Mr. Netra, a 35-year-old unemployed person from a small village in Nepal, has decided to emigrate to a nearby city in the NCR region of India. He has three brothers who work on their family-owned small field, which gives very low returns for the family to survive. Formulate the likely reasons for his emigration. I. High paid farming jobs are available in the rural area. II. Better employment opportunities in the city. III. Sufficient income from agriculture in his village IV. Better standard of living in rural areas. V. More opportunities for training and personal development in the city. A. I, III, IV B. II, V, C. III, IV D. I,V	1										

*There is no change in the Question Paper Design and Assessment Pattern for Academic Session 2026-27.

	Section- B Question Nos. 18 and 19 are Source Based Questions.	2x3=6
18	Study the map given below carefully and answer the following questions.  18.1 Identify the canal shown in the map. 18.2 Which two water bodies are connected by this Canal? 18.3 State one major significance of this Canal in international trade. The following question is for Visually Impaired Candidates only in lieu of Question No. 18. 18.1 Which two water bodies are connected by the Panama Canal? 18.2 Between which two cities was the Panama Canal constructed? 18.3 Mention one point explaining how this canal benefits Latin America.	3 1 1/2+ 1/2 1 1 1/2+ 1/2 1
19	Read the passage given below carefully and answer the following questions. The uneven spatial distribution of population in India suggests a close relationship between population and physical, socioeconomic and historical factors. As far as the physical factors are concerned, it is clear that climate along with terrain and availability of water largely determines the pattern of the population distribution. Consequently, we observe that the North Indian Plains, deltas and Coastal Plains have higher proportion of population than the interior districts of southern and central Indian States, Himalayas, some of the north eastern and the western states. However, development of irrigation (Rajasthan), availability of mineral and energy resources (Jharkhand) and	

	development of transport network (Peninsular States) have resulted in moderate to high concentration of population in areas which were previously very thinly populated.	
	I. Define the term population distribution. II. Name one physical factor and one economic factor that influence population distribution. III. Name one densely populated and one sparsely populated area of India.	1 $\frac{1}{2} + \frac{1}{2}$ $\frac{1}{2} + \frac{1}{2}$
	Section C Questions number 20 to 23 are Short Answer Type Questions	(4x3=12)
20	Explain the concept of human development as introduced by Dr Mahbub-ul-Haq.	3
21	“The evolution of Indian towns is a reflection of the changing socio-political and economic priorities of different historical eras.” Analyse the evolution of modern towns in India.	3
22	What is Neo-Determinism as introduced by Griffith Taylor? Explain how it provides a middle path between Environmental Determinism and Possibilism?	1+2=3
23(A)	A multinational company wants to outsource work to a country for tasks that require highly skilled knowledge and research, such as R&D, legal services, and analysis. Which type of outsourcing—BPO or KPO—should the company choose, and why?	1+2=3
	OR	
23(B)	What do you understand by the term “Digital Divide?” Explain with one example of how it exists between countries or within a country.	1+2=3
	Section D Questions number 24 to 28 are Long Answer Type Questions	(5X5=25)
24(A)	Classify industries based on raw materials and illustrate each category with appropriate examples.	5
	OR	
24(B)	Explain any five factors influencing the location of industries with suitable examples.	5
25(A)	Why are seaports known as ‘the gateway of international trade’? Write a brief note on the importance of Kandla port.	2+3=5
	OR	
25(B)	Describe the nature of the changes in the composition of export and import trade of India.	5

26(A)	The urban waste should be properly treated as a resource for various needs of mankind. Explain the measures that can help in changing urban waste into resources.	5
26(B)	OR How has noise pollution become hazardous in many big cities of India? Explain with examples.	5
27	Distinguish between intensive subsistence farming and extensive commercial grain farming, mentioning any five points.	$2\frac{1}{2}+2\frac{1}{2}=5$
28(A)	Examine the role of the Indira Gandhi Canal in bringing about changes in the ecology, economy, and society of the Thar Desert region.	5
28(B)	OR Suggest suitable measures to promote sustainable development and improve the quality of life in the Bharmour Tribal Region of Chamba, with reference to its physiographic divisions and river systems.	5
Section E Question numbers 29 & 30 are Map based questions.		(2X5=10)
29	On the given political map of the World, seven geographical features have been marked as A, B, C, D, E, F and G. Identify any five with the help of the following information and write their correct names. A -An Area of nomadic herding B-A major seaport of Canada C- A major seaport of Asia D- An airport in Asia E- An airport in Australia F- A man made Canal G- A waterway of North America	5



The following questions are for Visually Impaired Candidates only in lieu of Question No.29. Answer five questions out of the following:

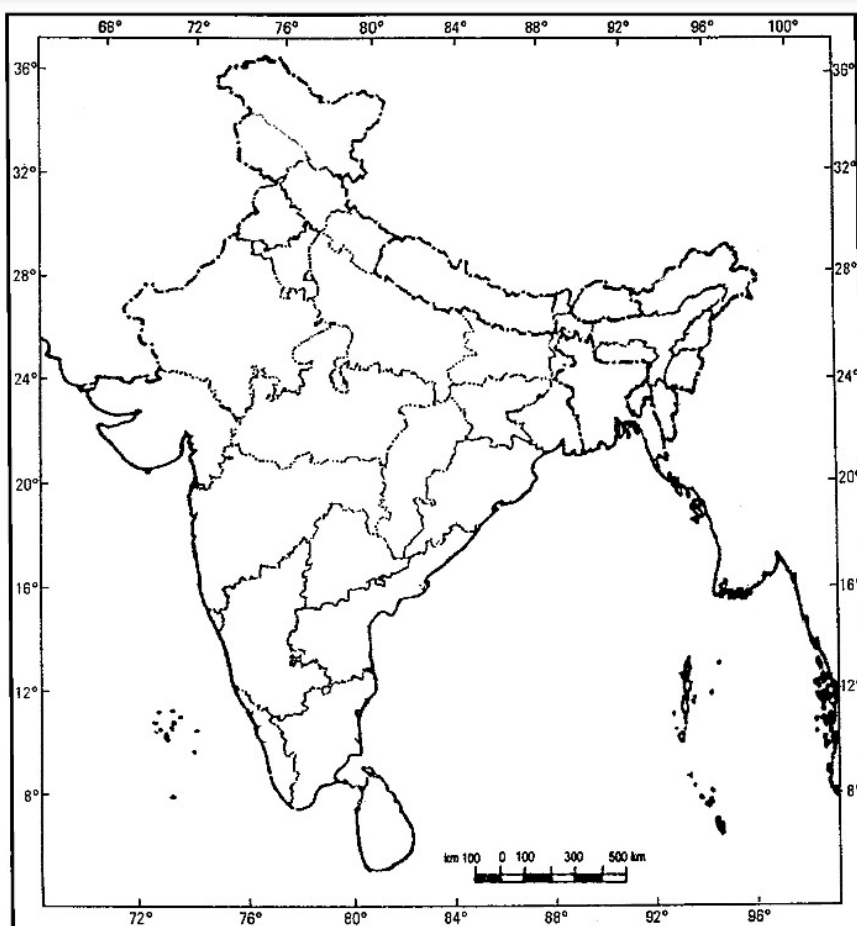
- 29 A. Name one area of nomadic herding of Asia.
- 29 B. Name a major seaport of Canada.
- 29 C. Name a major seaport of India.
- 29 D. Name a major airport in South Africa.
- 29 E. Name an airport in Australia.
- 29 F. Name the manmade Canal joining the Mediterranean Sea and the Red Sea.
- 29G. Name one major waterway of North America.

30	Locate and label any five of the following geographical features on the Political Outline map of India with appropriate symbols: A. The State with the lowest population density B. An important seaport in Odisha C. An important coal mine in Tamil Nadu D. Bailadila -iron ore mines E. An oil refinery in Gujarat	5
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- F. The State leading in the production of Sugarcane
G. An international airport in Kerala

The following questions are for Visually Impaired Candidates only in lieu of Question No.30. Answer five questions out of the following:

- 30A. Which Indian state has the lowest population density?
30B. Name one major seaport located in Odisha.
30C. Name an important coal mine located in Tamil Nadu.
30D. In which state is the famous iron ore mine - Bailadila located?
30E. Name an oil refinery situated in Gujarat.
30F. Which Indian state is the leading producer of sugarcane?
30G. Name one international airport located in Kerala.



GEOGRAPHY CODE - 029
MARKING SCHEME
CLASS: XII (2026- 27)

Time allowed: 3 Hours

Maximum marks: 70

General Instructions:

1. This question paper contains **30** questions. **All** questions are **compulsory**.
2. This question paper is divided into **five** sections: sections **A, B, C, D, and E**.
3. **Section A** - Question number **1 to 17** are multiple-choice type questions carrying 1 mark each.
4. **Section B**- Question number **18 and 19** are source-based questions carrying 3 marks each.
5. **Section C**- Question number **20 to 23** are Short Answer (SA) type questions carrying 3 marks each. The answer to these questions shall be written in 80 to 100 words.
6. **Section D** Question number **24 to 28** are Long Answer (LA) type questions carrying 5 marks each. Answer to these questions shall be written in 120 to 150 words.
7. **Section E** Question number **29 and 30** are map-based questions. Each question carries 5 marks.
8. In addition to this, NOTE that a separate question has been provided for Visually Impaired Candidates in lieu of questions having visual inputs, maps, etc. Such questions are to be attempted by Visually Impaired Candidates only.
9. There is no overall choice given in the question paper. However, an internal choice has been provided in a few questions in all sections, except Section A.

S No.	Section A	Marks
1	C. I-3, II-1, III-4, IV-2	1
2	B. Encouraging families to support girls' education.	1
3	C. 400 persons per sq km	1
4	D. Iceland and Denmark	1
5	A. i, ii, iv	1
6	A. I, III	1
7	B. It can lead to exploitation of natural resources, causing environmental degradation.	1
8	B The rate of food supply would be faster than the population growth.	1
9	C 1971-1981	1
10	C. Paramparagat Krishi Vikas Yojana (PKVY)	1
11	A. Forest For Visually Impaired Candidates Only C. Current Fallow	1

12	C. Ganga Basin For Visually Impaired Candidates Only C. Ganga Basin	1
13	A. Both (A) and (R) are correct and (R) is the correct explanation of A.	1
14	C. Implementing rainwater harvesting, recycling and reusing wastewater.	1
15	B. 2	1
16	B. INSAT – Indian National Satellite System	1
17	B II,V	1
	Section- B Source Based Question	
18	18.1 Suez Canal 18.2 This canal connects the Mediterranean Sea and the Red Sea. 18.3 It gives Europe a new gateway to the Indian Ocean and reduces direct sea-route distance between Liverpool and Colombo compared to the Cape of Good Hope route. About 100 ships travel daily through this canal. For Visually Impaired Candidates Only 18.1 Answer: This canal connects the Atlantic Ocean in the east to the Pacific Ocean in the west. 18.2 Answer: It has been constructed across the Panama Isthmus between Panama City and Colon. 18.3 Answer: One major benefit of this canal: The Panama Canal greatly reduces the distance and time of sea travel between the Atlantic and Pacific oceans (Western Europe and the West-coast of U.S.A; and North-eastern and Central U.S.A. and East and South-east Asia), thereby facilitating faster and cheaper international trade.	1 $\frac{1}{2} + \frac{1}{2}$ =1 1 $\frac{1}{2} + \frac{1}{2}$ =1 $\frac{1}{2} + \frac{1}{2}$ =1 1
19	I. The term population distribution refers to the way people are spaced over the earth's surface. II. Physical Factor Climate/ Terrain/ Availability of water (Any one) Economic factor: Development of irrigation/Availability of mineral and energy resources/ Development of transport network (Any one)	1 $\frac{1}{2} + \frac{1}{2}$

	III. Densely populated North Indian Plains/deltas / Coastal Plains (Any one) Sparsely Populated Southern and central Indian States/Himalayas/some of the north eastern states. (Any one)	$\frac{1}{2} + \frac{1}{2}$ =1
	Section C	
20	The concept of human development was introduced by Dr Mahbub-ul-Haq. Dr Haq has described human development as development that enlarges people's choices and improves their lives. People are central to all development under this concept. The basic goal of development is to create conditions where people can live meaningful lives. Leading a long and healthy life, being able to gain knowledge and having enough means to be able to live a decent life are the most important aspects of human development. Therefore, access to resources, health and education are the key areas in human development.	3
21	I. The British and other Europeans have developed a number of towns in India. Starting their foothold on coastal locations. They first developed some trading ports such as Surat, Daman, Goa, Pondicherry, etc. II. The British later consolidated their hold around three principal nodes – Mumbai (Bombay), Chennai (Madras), and Kolkata (Calcutta) and built them in the British style. Rapidly extending their domination either directly or through control over the princely states, they established their administrative centres, hill towns as summer resorts, and added new civil, administrative and military areas to them. III. Towns based on modern industries also evolved after 1850. Jamshedpur can be cited as an example. IV. After independence, a large number of towns have been developed as administrative headquarters, e.g., Chandigarh, Bhubaneswar, Gandhinagar, Dispur, etc., and industrial centres, such as Durgapur, Bhilai, Sindri, Barauni. V. Some old towns also developed as satellite towns around metropolitan cities, such as Ghaziabad, Rohtak, Gurugram around Delhi. With increasing investment in rural areas, a large number of medium and small towns have developed all over the country. Any Three points.	3
22	Neodeterminism , also known as “stop-and-go determinism,” was introduced by Griffith Taylor. It states that nature sets certain limits for human activities, but within these limits, humans have the freedom to choose and develop according to their needs and capabilities.	1+2

	It provides a middle path between Environmental Determinism and Possibilism as: i. This concept shows that neither is there a situation of absolute necessity (environmental determinism) nor is there a condition of absolute freedom (possibilism). It means that human beings can conquer nature by obeying it. ii. They have to respond to the red signals and can proceed in their pursuits of development when nature permits modifications. It means that possibilities can be created within the limits which do not damage the environment and there is no free run without accidents. iii. The free run which the developed economies attempted to take has already resulted in the greenhouse effect, ozone layer depletion, global warming, receding glaciers and degrading lands. Any two points iv. Neo determinism promotes sustainable development, where human progress takes place in harmony with nature, avoiding overexploitation. Any two points	
23(A)	The company should choose KPO (Knowledge Process Outsourcing). KPO involves outsourcing highly skilled, knowledge-intensive work such as research and development (R&D), legal services, business analysis, consultancy, and data analytics. These tasks require specialized expertise, advanced analytical skills, and professional knowledge. In contrast, BPO (Business Process Outsourcing) deals mainly with routine, repetitive, and process-based tasks like customer support, data entry, and payroll processing. Therefore, for work that demands expert knowledge and research, KPO is the appropriate choice.	1 2
23(B)	OR Digital Divide refers to the gap between individuals, regions, or countries in terms of access to digital technologies, such as the internet, computers, and digital skills. Example: i. Between countries, developed nations like the USA and Japan have widespread access to high-speed internet and advanced digital infrastructure, while many developing countries still lack reliable internet connectivity.	1 2

	ii. Within a country like India, urban areas have better access to the internet and digital services, whereas many rural areas have limited connectivity and digital literacy. This divide affects education, employment opportunities, and access to information, increasing social and economic inequalities.	
	Section D	
24(A)	i. Agro based-Sugar, Tea, Coffee, ii. Mineral based a. Metallic: Iron and steel, Copper b. Non Metallic: Cement iii. Forest based-Timber, Paper iv. Chemical Based: Petrochemical, Fertilizer v. Animal Based: Leather, Wood (Explain each point.)	1X5=5
24(B)	OR i. Access to Market ii. Access to Raw Material iii. Access to Labour Supply iv. Access to Sources of Energy v. Access to Transportation and Communication Facilities vi. Government Policy vii. Access to Agglomeration Economies/ Links between Industries (Explain any five points)	1X5=5
25(A)	The seaports are known as ‘the gateway of international trade’. I. The ports as suction points of the resources from their hinterlands. The extension of railways towards the interior facilitated the linking of the local markets to regional markets, regional markets to national markets and national markets to the international. II. The ports are handling large volumes of domestic, as well as, overseas trade. Most of the ports are equipped with modern infrastructure. III. Ocean transport is the cheapest mode of transport for bulky and heavy goods over long distances and approximately 95% of international trade by volume is carried out through ocean routes. IV. Ports are not just docking points; they are complex service centers that facilitate trade through providing facilities for docking, loading, unloading, and storage (warehousing) of	2+3=5

	cargo. Port authorities arrange for navigable channels, tugs, barges, and labor to ensure ships can enter and exit safely. Any two Points Importance of Kandla Port I. Deendayal Port (Kandla port) situated at the head of Gulf of Kutch. It has been developed as a major port to cater to the needs of western and north western parts of the country II. This is to reduce the pressure at Mumbai port. III. The port is specially designed to receive large quantities of petroleum and petroleum products and fertiliser. IV. The offshore terminal at Vadinar has been developed to reduce the pressure at the port. Any three points	
25(B)	OR The composition of commodities in India's international trade has been undergoing a change over the years. I. In export the share of agriculture and allied products and manufactured goods have decreased. II. Share from crude petroleum and products and other commodities have increased. III. The decline in traditional items is largely due to the tough international competition. IV. Amongst the agriculture products, there is a decline in the export of traditional item, such as cashew, etc., though an increase has been registered in floricultural products, fresh fruits, marine products and sugar, etc. V. Engineering goods have shown a significant growth in exports. VI. During 1950s and 1960s the major item of import at that time was foodgrain, capital goods, machinery and equipment. After 1970s, foodgrain import was discontinued due to the success of Green Revolution. VII. Foodgrain import was replaced by fertilisers and petroleum. Machines and equipment, special steel, edible oil and chemicals largely make the import basket. Any five points (Include at least two of import and two of export)	1x5=5

26(A)	The urban wastes should be treated as resources and utilized for generating renewable energy and compost. I. Untreated wastes ferment slowly and release toxic biogas to the atmosphere, including methane which can be harnessed to produce biogas. Rapid urbanisation has increased the volume of waste, but scientific management can convert it into useful products. II. Segregation of waste at source into biodegradable, non-biodegradable and hazardous waste is the first essential step. Biodegradable waste from households and markets can be converted into high-quality organic manure. III. Recycling of paper, plastic, glass and metals conserves raw materials, saves energy and reduces environmental pollution. Organic waste from households and markets can be converted into compost or vermicompost, which can be used in urban forestry and agriculture to improve soil fertility and reduces dependence on chemical fertilisers. IV. Waste-to-energy technologies, such as biogas plants and incineration, help generate electricity and reduce landfill pressure. Treated wastewater can be reused for irrigation, gardening and industrial purposes, conserving freshwater resources. V. Scientific landfills and methane recovery prevent soil and groundwater contamination. Public awareness, community participation and effective municipal governance are essential for sustainable waste management. Thus, proper treatment of urban waste supports a circular economy and sustainable development.	5
	OR	
26(B)	I. Noise pollution refers to the state of unbearable and uncomfortable noise to human beings, which is caused from different sources. This matter has become a serious concern only in recent years due to a variety of technological innovations. II. The main sources of noise pollution are various factories, mechanised construction and demolition works, automobiles, and aircraft, etc. III. There may be added polluting noise from sirens, loudspeakers used in various festivals, programmes associated with community activities. IV. The biggest nuisance is the noise produced by traffic. Its intensity and nature depend upon factors, such as the type	5

	of aircraft, vehicle, train, and the condition of the road, as well as that of the vehicle (in case of automobiles). V. In sea traffic, the noise pollution is confined to the harbour due to loading and unloading activities being carried. Industries cause noise pollution, but with varying intensity depending upon the type of industry. Noise pollution is location specific and its intensity declines with increase in distance.																			
27	Any five differences. <table border="1"> <thead> <tr> <th></th><th>Intensive Subsistence Farming</th><th>Extensive Commercial Grain Farming</th></tr> </thead> <tbody> <tr> <td>I</td><td>Intensive Subsistence Agriculture is largely found in densely populated regions of monsoon Asia.</td><td>Commercial grain cultivation is practised in the interior parts of semi-arid lands of the mid latitudes.</td></tr> <tr> <td>II</td><td>Basically, there are two types of intensive subsistence agriculture. (i) Intensive subsistence agriculture dominated by wet paddy cultivation which is characterised by dominance of the rice crop. (ii) Intensive subsistence agriculture dominated by crops other than paddy.</td><td>Wheat is the principal crop, though other crops like corn, barley, oats and rye are also grown.</td></tr> <tr> <td>III</td><td>Land holdings are very small due to the high density of population.</td><td>The size of the farm is very large.</td></tr> <tr> <td>IV</td><td>Farmers work with the help of family labour leading to intensive use of land. Use of machinery is limited and most of the agricultural operations are done by manual labour.</td><td>The entire process of cultivation, ranging from ploughing to harvesting, is mechanized.</td></tr> <tr> <td>V</td><td>Farm yard manure is used to maintain the fertility of the soil.</td><td>Fertility of the soil is maintained by applying fertilizers.</td></tr> </tbody> </table>		Intensive Subsistence Farming	Extensive Commercial Grain Farming	I	Intensive Subsistence Agriculture is largely found in densely populated regions of monsoon Asia.	Commercial grain cultivation is practised in the interior parts of semi-arid lands of the mid latitudes.	II	Basically, there are two types of intensive subsistence agriculture. (i) Intensive subsistence agriculture dominated by wet paddy cultivation which is characterised by dominance of the rice crop. (ii) Intensive subsistence agriculture dominated by crops other than paddy.	Wheat is the principal crop, though other crops like corn, barley, oats and rye are also grown.	III	Land holdings are very small due to the high density of population.	The size of the farm is very large.	IV	Farmers work with the help of family labour leading to intensive use of land. Use of machinery is limited and most of the agricultural operations are done by manual labour.	The entire process of cultivation, ranging from ploughing to harvesting, is mechanized.	V	Farm yard manure is used to maintain the fertility of the soil.	Fertility of the soil is maintained by applying fertilizers.	$2\frac{1}{2}+2$ $\frac{1}{2}=5$
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	VI	In this type of agriculture, the yield per unit area is high but per labour productivity is low.	In this type of agriculture, there is a low yield per acre but a high yield per person.	
	VII	Due to variations in relief, climate and soil, paddy is not grown everywhere in monsoon Asia. Wheat, soybean, barley and sorghum are cultivated in northern China, Manchuria, North Korea and northern Japan. In India, wheat is grown in the western Indo-Gangetic Plains, while millets are grown in the dry regions of western and southern India.	This type of agriculture is best developed in Eurasian steppes, the Canadian and American Prairies, the Pampas of Argentina, the Velds of South Africa, the Australian Downs, and the Canterbury Plains of New Zealand.	
28(A)	The role of the Indira Gandhi Canal in bringing about changes in the ecology, economy, and society of the Thar Desert region is as follows 1. Ecological Impact: The Indira Gandhi Canal has increased soil moisture and vegetation cover in the arid Thar Desert, reducing desert conditions, though it has also led to problems of waterlogging and salinity in some areas. 2. Agricultural Development: The canal has provided assured irrigation, expanding the cultivated area and enabling the cultivation of crops such as wheat, cotton and mustard instead of traditional dry farming. 3. Change in Cropping Pattern: There has been a shift from subsistence crops like bajra to water-intensive and commercial crops due to the availability of canal water. 4. Economic Transformation: Increased agricultural productivity has improved farm incomes, generated employment, and encouraged the growth of agro-based industries in the region. 5. Social Change: The canal has promoted settlement, reduced out-migration, and improved living standards by supporting better infrastructure and socio-economic development. OR The Bharmour tribal region of Chamba district lies in the trans-Himalayan physiographic zone and is drained mainly by the Ravi River			5

28(B)	and its tributaries. Due to its rugged relief, harsh climate, limited accessibility, and fragile ecosystem, special measures are required to ensure sustainable development and improve the quality of life of tribal communities. 1. Development of Infrastructure and Connectivity: Improve road connectivity between valleys and settlements while ensuring minimal ecological damage. 2. Sustainable Use of Natural Resources: Promote controlled grazing to prevent degradation of alpine pastures. Encourage afforestation and social forestry on slopes to prevent soil erosion and landslides. 3. Agriculture and Livelihood Support: Promote terrace farming and cultivation of high-altitude crops suitable to local conditions. Encourage horticulture, medicinal herbs, and traditional crafts to diversify income sources. 4. Water Resource Management: Ensure sustainable use of river water through small irrigation channels. Develop hydel projects on tributaries of the Ravi River to meet local energy needs without harming the environment. 5. Education, Health, and Social Development: Improve access to education and healthcare facilities in remote areas. Promote tribal welfare programmes, skill development, and preservation of tribal culture. (Any five points)	5
	Section E	
29	A- Northern part of Eurasia B- Vancouver C- Kolkata D- Jeddah E- Darwin F- Panama Canal G- St. Lawrence waterway For Visually Impaired Candidates only 29 A- Arabian peninsula /Mongolia/Central China 29 B- Vancouver 29 C- Kolkata 29 D- Johannesburg 29 E- Darwin 29 F- Suez Canal 29 G- St. Lawrence waterway	1X5

30

Locate and label any five of the following geographical features on the Political Outline map of India with appropriate symbols:

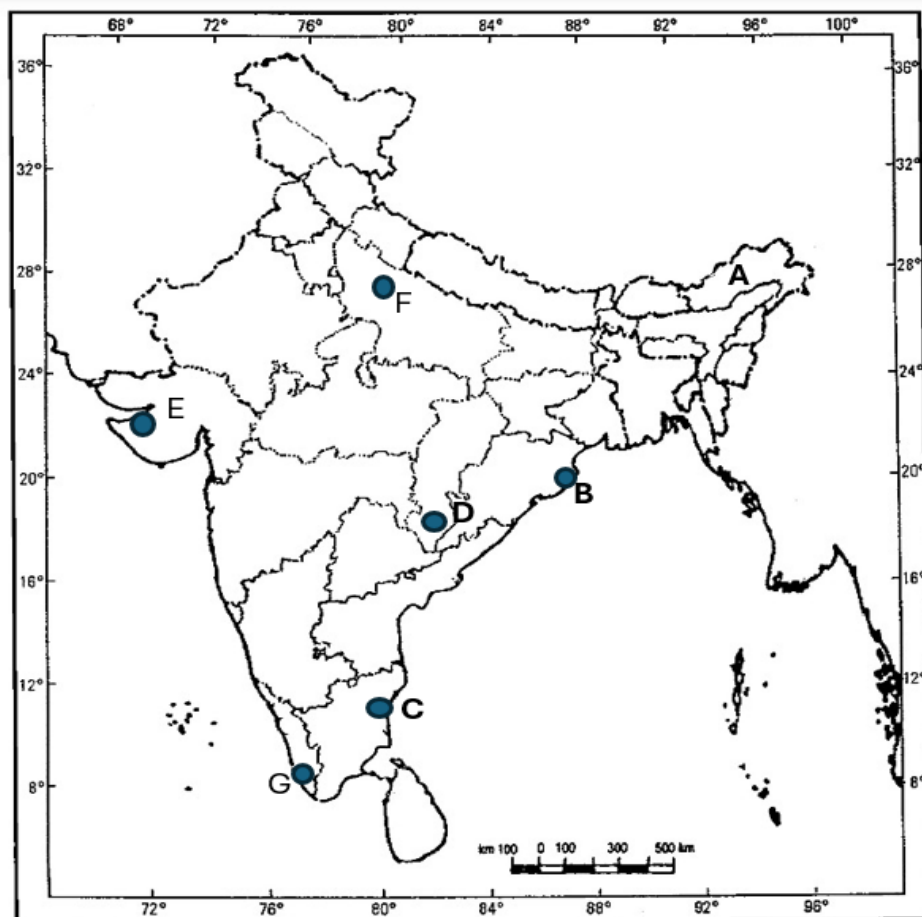
1x5

- A. Arunachal Pradesh
- B. Paradwip
- C. Neyveli
- D. Bailadila iron-ore mines, Chattisgarh
- E. Jamnagar
- F. Uttar Pradesh
- G. Thiruvananthapuram

For visually impaired students

Attempt any five.

- A. Arunachal Pradesh
- B. Paradwip
- C. Neyveli
- D. Chhatisgarh
- E. Jamnagar
- F. Uttar Pradesh
- G. Thiruvananthapuram



POLITICAL SCIENCE (028)
SAMPLE QUESTION PAPER
CLASS XII (2026-27)

Time allotted: 3 hours

Maximum Marks: 80

INSTRUCTIONS:

1. The question paper consists of five sections (A, B, C, D and E) with 30 questions in total.
2. All questions are compulsory.
3. Question numbers 1-12 are multiple choice questions of one mark each.
4. Question numbers 13-18 are of 2 marks each. Answers to these questions should not exceed 50-60 words each.
5. Question numbers 19-23 are of 4 marks each. Answers to these questions should not exceed 100-120 words each. There is an internal choice in two of the 4-mark questions.
6. Question numbers 24-26 are picture, passage and map based questions. Answer accordingly.
7. Question numbers 27-30 are of 6 marks each. Answers to these questions should not exceed 170-180 words.
8. There are internal choices in all the 6 marks questions

Q NO	SECTION–A (12x1=12MARKS)	Marks
1	In the light of the statements given below, choose the correct answer from the options given below: Statement-I: The Maldives was a Sultanate till 1968. In 1968, it transformed into a republic with a presidential form of government. Statement-II: The Maldivian Democratic Party dominates the political affairs of the island and it won the 2010 elections. Options: (A) Both Statement-I and Statement-II are true. (B) Both Statement-I and Statement-II are false. (C) Statement-I is true, but Statement-II is false. (D) Statement-I is false, but Statement-II is true.	1
2	The fifth general election to Lok Sabha were held in _____. (A) 1969 (B) 1970 (C) 1971 (D) 1972	1
3	Consider the political developments in South Asia. Which one of the following pairs is incorrectly matched? (A) Pakistan - General Pervez Musharraf (B) Sri Lanka- LTTE (C) Maldives -Democracy since 2008 (D) Bangladesh –continuous democracy since its independence in 1971.	1

- 4 Which international organisation was formed in 1995 following the GATT treaty? 1
- (A) International Monetary Fund
(B) World Trade Organization
(C) World Bank
(D) World Health Organization
- 5 In the following question, a statement of Assertion (A) is followed by a statement of Reason (R). Choose the correct answer from the options given below. 1
- Assertion (A):** Globalisation has strengthened the cultural influence of Western countries.
Reason (R): The spread of multinational companies promotes local cultures over global cultures.
- Options:**
(A) Both the Assertion (A) and the Reason (R) are correct and the Reason (R) is the correct explanation of the Assertion (A).
(B) Both the Assertion (A) and the Reason (R) are correct, but the Reason (R) is not the correct explanation of the Assertion (A).
(C) The Assertion (A) is incorrect, but the Reason (R) is correct.
(D) The Assertion (A) is correct, but the Reason (R) is incorrect.
- 6 Which one of the following ideas was not a part of the early phase of India's development policy? 1
- (A) Co-operative Farming
(B) Planning
(C) Liberalization
(D) Self sufficiency
- 7 Which one of the following organizations is not related to the United Nations? 1
- (A) UNESCO
(B) WHO
(C) WTO
(D) UNICEF
- 8 With reference to Indian Politics after the 1967 General Elections, which one of the following statements is Incorrect? 1
- (A) The idea of Non-Congressism advocated unity of all non-congress parties against Congress.
(B) The 1967 elections led to the rise of coalition governments and strong regional parties in many states.
(C) After the split, Congress(R) was referred to as the 'Old Congress'.
(D) DMK came to power in Tamil Nadu in 1967.

- 9 Match the items given in the Column-'A' correctly with the items given in the Column-'B' and choose the correct answer from the codes given below: 1

	Column-'A'		Column-'B'
I	Politics of Consensus	i	Structural Adjustment Programme
II	New Economic Policy	ii	H.D. Deve Gowda
III	Rise of Coalition Politics	iii	A broad agreement among most parties on economic policies despite competition
IV	The United Front Government	iv	Growing strength and importance of regional parties in national government formation

Choose the correct option:

- (A) I-iii, II-i, III-iv, IV-ii
 (B) I-iv, II-i, I-iii, IV-ii
 (C) I-iv, II-iii, III-ii, IV-i
 (D) I-ii, II-iv, III-iii, IV-i
- 10 Arrange the following planning initiatives in chronological order: 1
- (i) Formation of NITI Aayog.
 (ii) Bombay Plan.
 (iii) Plan Holidays period.
 (iv) Beginning of the First Five-Year Plan.
- Choose the correct option:**
- (A) (i), (ii), (iii), (iv)
 (B) (iii), (i), (iv), (ii)
 (C) (iv), (iii), (i), (ii)
 (D) (ii), (iv), (iii), (i)
- 11 The primary mission of the World Bank is: 1
- (A) To control the world economy
 (B) To promote and aid the human development programs
 (C) To promote the world tourism
 (D) To promote the interests of developed countries
- 12 Which one of the following statements about the 1991 New Economic Policy in India is false? 1
- (A) The policy initiated a process of liberalisation and privatisation to address severe economic crisis.
 (B) The reforms were necessitated by a severe balance of payments crisis where India's foreign exchange reserves had dropped significantly.
 (C) The policy aimed for a state-controlled economy with reduced foreign investment.
 (D) The reforms marked a significant departure from the earlier mixed-economy model with a strong emphasis on self-reliance.

SECTION – B (6x2=12 MARKS)

- | | | |
|----|---|---|
| 13 | State any two arguments put forward by the advocates of economic globalisation. | 2 |
| 14 | Analyse the impact of the military coup of 1991 which was encouraged by the Communist Party hardliners on the USSR. | 2 |
| 15 | State any four factors that have caused common property resources to decline in size and quality. | 2 |
| 16 | Highlight any two reasons for the redrawing of state boundaries on linguistic basis after India's independence. | 2 |
| 17 | Explain any two objectives of the Dravidian Movement led by the DMK in its early stages. | 2 |
| 18 | Highlight any two major economic challenges faced by India on the eve of the fourth general election of 1967. | 2 |

SECTION – C (5x4=20 MARKS)

- | | | |
|-----|---|---|
| 19 | Analyse any four reasons that forced Mikhail Gorbachev to initiate reforms in the Soviet Union. | 4 |
| 20 | ‘Democracy in South Asia has expanded the global imagination of democracy.’ Justify the statement with any four suitable arguments. | 4 |
| 21A | “Oil is an important resource that affects the geopolitics and global economy”. Analyse. | 4 |

OR

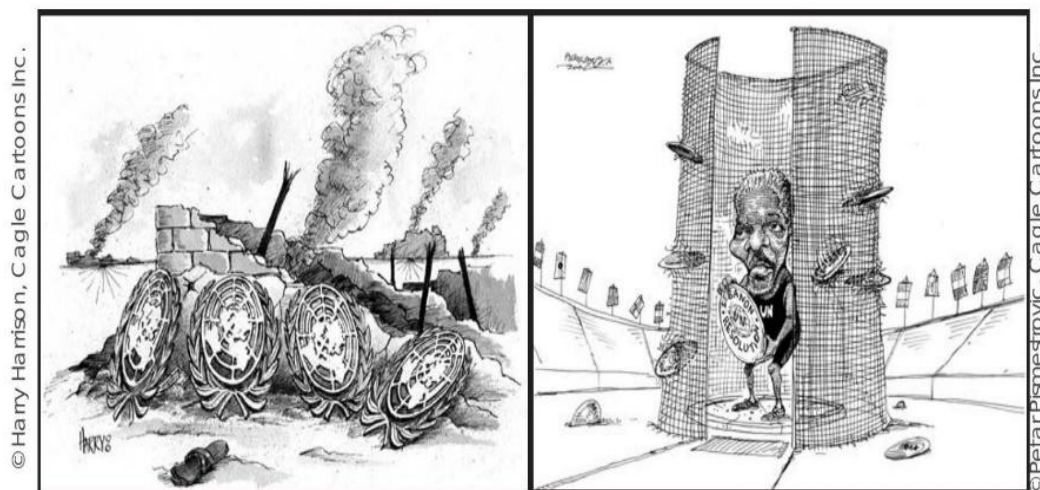
- | | | |
|------|--|---|
| 21B | How does the UN define indigenous peoples? Mention any three demands of indigenous people. | 4 |
| 22 A | ‘India’s general elections of 1952 became a landmark in the history of democracy all over the world’. Justify the statement. | 4 |

OR

- | | | |
|------|---|---|
| 22 B | Explain any four difficulties faced by the Election Commission of India while holding the first general election of 1952. | 4 |
| 23 | Explain the conflict between the judiciary and the executive that emerged during the early 1970 s in India and became a reason for the constitutional crisis. | |

SECTION – D (3x4=12 MARKS)

- 24 Study the picture given below and answer the questions based on it: 1+1+1
+1=4



Source-Page no46 Contemporary World Politics, NCERT

Choose the correct option:

I) What does the cartoon in the left depict?

- (A) Terrorist attack on UN headquarters.
- (B) Lebanon attacked Israel.
- (C) Israel attacked Lebanon.
- (D) Consequences of UN resolution

II) Given below are two statements:

Statement I: Lebanon crisis caused huge displacement- about 1 million Lebanese were displaced.

Statement II: It had no humanitarian cost.

In the light of above statements, choose the correct answer.

- (A) Both Statement I and Statement II are true.
- (B) Both Statement I and Statement II are false.
- (C) Statement I is true, but Statement II is false.
- (D) Statement I is false, but Statement II is true

III) Identify the personality shown in the image holding a 'Lebanon Resolution' shield.

- (A) Ban Ki-moon
- (B) U Thant
- (C) Dag Hammarskjold
- (D) Kofi A Annan.

IV) The cartoon shows the UN as a passive observer. What does this imply about the UN Charter?

- (A) The UN must intervene militarily in every conflict.
- (B) The UN cannot act without approval of Security Council members.
- (C) The UN is allowed to punish any country directly.

(D) The UN can override sovereignty of all states.

NOTE: Following questions are for the Candidates with Visual impairment, in lieu of Question No. 24.

- I) Who is the current Secretary-General of the United Nations?
- II) Name the international NGO that campaigns for the protection of human rights all over the world.
- III) What does Lebanon crisis show about security?
- IV) What does "Veto Power" mean in the UN Security Council?

25 **Read the passage and choose the most appropriate answer for the questions given below:**

Sikkim's Merger

At the time of independence, Sikkim was a 'protectorate' of India, it meant that while it was not a part of India, it was also not a fully sovereign country, while the power of internal administration was with the Chogyal, Sikkim's monarch. This arrangement ran into difficulty as the Chogyal was unable to deal with the democratic aspirations of the people. An overwhelming majority of Sikkim's population was Nepali. But the Chogyal was seen as perpetuating the rule of a small elite from the minority Lepcha- Bhutia community. The anti-Chogyal leaders of both the communities sought and got support from the government of India. The first democratic elections to Sikkim assembly in 1974 were swept by Sikkim Congress which stood for greater integration with India. The assembly first sought the status of 'associate state'. This was followed by a hurriedly organised referendum that put a stamp of popular approval on the assembly's request. The Indian Parliament accepted this request immediately and Sikkim became the 22nd State of the Indian union.

Source- NCERT Political Science textbook, Class XII — *Politics in India Since Independence*.

I) How did the Chogyal and his supporters respond to the integration of Sikkim into the Indian Union in 1975?

1+1+1
+1=4

- (A) They peacefully abdicated their power and immediately joined the Indian political structure as elected members.
- (B) They sought external intervention from European powers to reverse the popular referendum.
- (C) The Chogyal did not accept the merger, and his supporters accused the Government of India of foul play and force.
- (D) They successfully launched a massive local separatist movement that completely turned the integration into a highly divisive issue today.

II) Before its full integration into India, what was the political status of Sikkim immediately after 1947?

- (A) A full state of India
- (B) A Union Territory

- (C) A protectorate of India
(D) A sovereign province of China

III) Through which method did the people of Sikkim approve the assembly's request for full integration with India?

- (A) General Election
(B) Referendum
(C) Public Protest
(D) Presidential Decree

IV) From 1947–1974, which specific responsibilities of Sikkim were handled by the Government of India?

- (A) Defence, External Affairs, and Communications
(B) Internal Revenue and Policing
(C) Education and Health
(D) Agriculture and Trade

- 26 In the given outline political map of India on page number 9, four States have been marked as (A), (B), (C) and (D). Identify these states on the basis of the information given below and write their correct names in your answer book along with the respective serial number of the information used and the concerned alphabets given in the map as per the format that follows: 1+1+1
+1=4

- (i) The State that was carved out of Bombay.
(ii) After a popular agitation, this state was created in 1960.
(iii) The State which was created in 2000.
(iv) Potti Sriramulu played an important role in the formation of this State.

Serial Number of the information used	Concerned alphabet given in the map	Name of the State
(i)		
(ii)		
(iii)		
(iv)		

NOTE: Following questions are for Candidates with Visual impairment, in lieu of Question No. 26.

- I) Name the princely state whose issue was resolved after a plebiscite confirmed people's desire to join India.
II) Name the State whose formation was announced in 1952.
III) Name India's first Deputy Prime Minister and the Home Minister after Independence?
IV) Name the para- military forces appointed by the Nizam of Hyderabad.

SECTION E (4X6=24 MARKS)

- 27A 'The conduct of foreign affairs is an outcome of a two-way interaction between domestic compulsions and prevailing international climate'. Support your answer with one example from India's external relations in the 1960s. 6

OR

- 27B Analyse the major objectives of India's foreign policy.

- 28A How do regional organisations like the EU and ASEAN play an influential role? Explain. 6

OR

- 28B Explain the various economic policies adopted by China for the rise of its economy.

- 29A "The secure states do not imply the secure people in itself". With reference to this statement explain the non-traditional concept of human security. 6

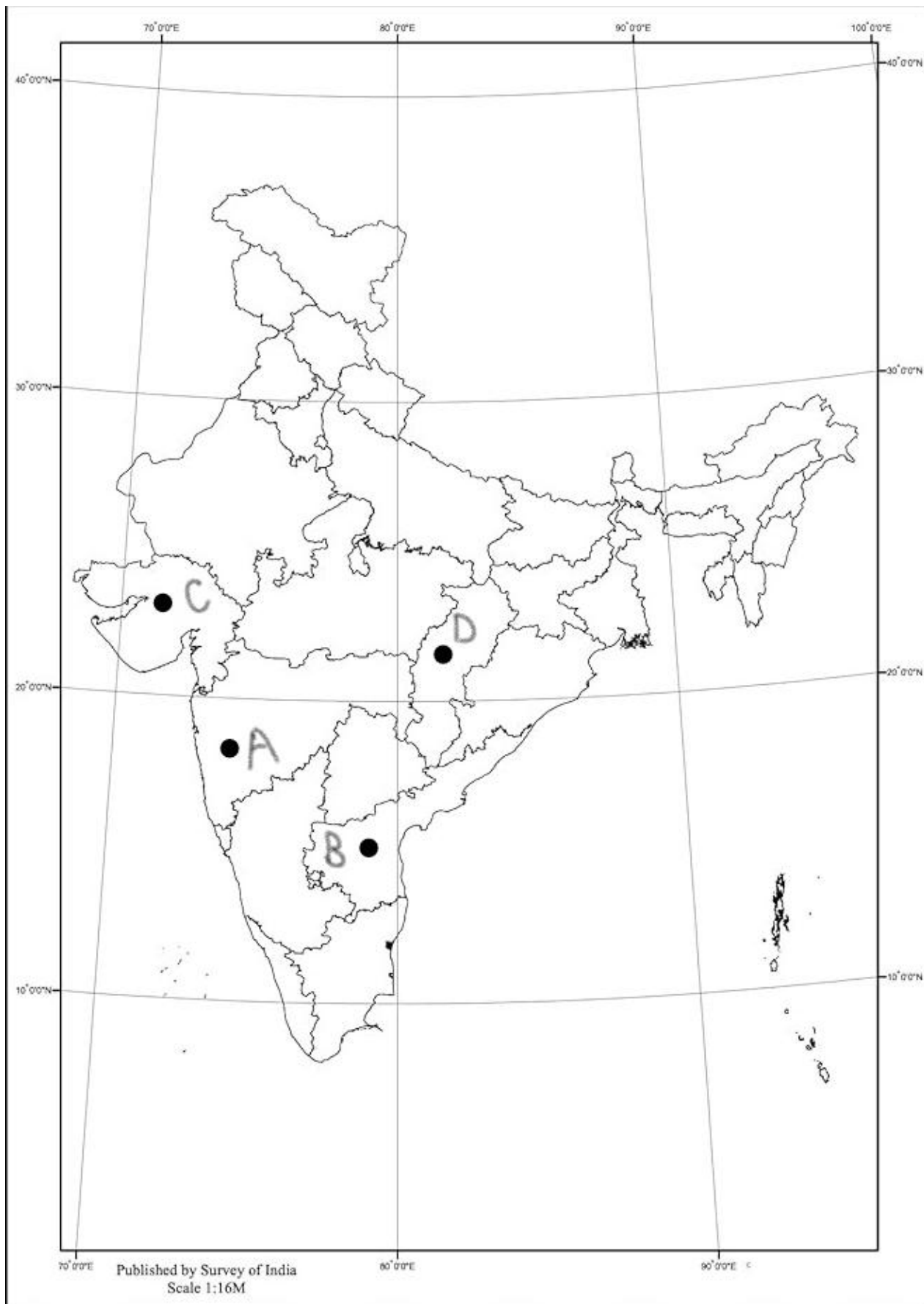
OR

- 29B Explain balance of power and alliance building as components of traditional notion of security.

- 30A How has coalition politics transformed the nature of Indian democracy since 1989? Explain with examples. 6

OR

- 30B 'Political equations in coalition governments are unstable'. How was this concept reflected in the formation of National Front Government in 1989 and United Front Government in 1996?



POLITICAL SCIENCE (028)
MARKING SCHEME
CLASS-XII (2026-27)

Time:3 hrs

Maximum Marks:80

Q.NO	SECTION-A (12x1=12 Marks)	MM
1	(C) Statement-I is true, but Statement-II is false.	1
2	(C) 1971.	1
3	(D) Bangladesh –continuous democracy since its independence in 1971.	1
4	(B) World Trade Organization (WTO)	1
5	(D)The Assertion (A) is correct, but the Reason (R) is incorrect.	1
6	(C) Liberalisation	1
7	(C)WTO	1
8	(C) After the split, Congress(R) was referred to as the 'Old Congress'.	1
9	(A) I-iii, II-i, III-iv, IV-ii	1
10	(D) (ii), (iv), (iii), (i)	1
11	(B) To promote and aid the human development programs	1
12	(C) The policy aimed for a state-controlled economy with reduced foreign investment.	1
SECTION – B (6x2=12 MARKS)		
13	i) Globalisation is a positive and inevitable force that leads to greater economic growth and well-being for a larger section of the population, primarily through deregulation and increased trade. ii) Greater trade among countries allows each economy to specialise in producing what it does best. It would benefit the whole world. iii) It has led to increased momentum towards interdependence and integration between governments, business and ordinary people in different parts of the world. (Any two or any other relevant point/s)	2
14	i) Boris Yeltsin emerged as a national hero in opposing this coup. Power began to shift from the Soviet centre to the republics, especially in the more Europeanised parts of the Soviet Union, which saw themselves as sovereign states. ii) The Central Asian republics did not ask for independence and wanted to remain with the Soviet Federation. In December 1991, under the leadership of Yeltsin, Russia, Ukraine and Belarus, three major republics of the USSR, declared that the Soviet Union was disbanded. The Communist Party of the Soviet Union was	2

	banned. Capitalism and democracy were adopted as the bases for the post-Soviet republics. (To be assessed as a whole)	
15	i) Privatisation ii) Agricultural intensification iii) Population growth iv) Ecosystem degradation (All four or other relevant point/s)	1/2x4 =2
16	i) To reflect linguistic divisions: The national movement had promised that states would be formed on the basis of language, as the old colonial boundaries were seen as artificial divisions made for administrative convenience or British annexation. The States Reorganisation Commission (SRC) accepted that the boundaries of states should largely reflect the boundaries of different languages to accommodate linguistic diversity. ii) To enhance democratic practice and administration: The accommodation of regional demands through linguistic states was seen as a more democratic approach. It was hoped that accepting regional and linguistic claims would strengthen national unity, rather than leading to disintegration as some leaders initially feared, and would provide a more uniform and manageable basis for administration. (To be assessed as a whole)	2
17	The Dravida Munnetra Kazhagam (DMK) movement had several objectives: i) Restoring the original name of the Kallakudi railway station which had been renamed Dalmiapuram. ii) Emphasizing Tamil language and culture in school curricula. iii) Agitation against making Hindi the country's official language. (Any two points)	2
18	i) Severe Food Crisis: Widespread drought and failure of monsoons in 1965–1966 led to a drastic decline in agricultural production, resulting in acute food shortages and depletion of food reserves across several states (particularly Bihar). ii) Devaluation of the Rupee: Under economic pressure from external forces like the United States, the Indian government devalued the Indian rupee in 1966 (the value of the US dollar shifted from rupees 5 to over rupees 7), which triggered public discontent. iii) Inflation and Price Rise: There was a steep increase in the prices of essential commodities, food grains, and everyday consumer items, creating huge economic hardships for the general public. iv) Diversion of resources to defence spending: Due to military conflicts with China (1962) and Pakistan (1965), a huge portion of India's development budget had to be diverted toward national security and military expenditures, stagnating five-year planning goals. (Any two or other relevant point point/s)	2
	SECTION – C (5x4=20 MARKS)	
19	Mikhail Gorbachev was forced to initiate reforms in the USSR for the following reasons: i) To keep the USSR abreast of the information and technological revolutions taking place in the West.	4

	ii) To make the Soviet system less bureaucratic and more efficient to improve the daily life of citizens. iii) To address the internal dissatisfaction, lack of democracy, and absence of freedom of speech that stifled the people. iv) To normalize relations with the West, democratisation within the country. v) To counter the economic stagnation caused by diverting vast resources to a large military and supporting allies. (Any four or other relevant point/s)	
20	i) The various countries in South Asia have experienced mixed record of democracies and the people also share an aspiration for democracy to be flourished not only in rich or developed countries but in developing and underdeveloped countries also which can be drawn from the examples of Nepal, Pakistan, Bangladesh, Bhutan and Maldives, because: ii) Every ordinary citizen, rich or poor belonging to different religions view the idea of democracy positively and support the institutions of representative democracy. iii) They prefer democracy over any other form of democracy and think that democracy is suitable for their country. iv) There has been a hint of spread and demand for democracy as we have witnessed in the case of Nepal. Nepal has transformed politically from Monarchy to Democracy. It confirms the expansion of Democracy in South Asia. (To be assessed as a whole or other relevant point/s)	4
21	(A) Ans: Oil is the resource which generates immense wealth, hence it creates political struggles involving industrialised countries to adopt various methods to ensure steady flows of oil: i) These include deployment of military forces near exploitation sites and along sea lanes of communications. ii) The stockpiling of strategic resources. iii) They support multinational companies by making favourable international agreements. iv) The global economy relied on oil as a portable and indispensable fuel; hence, the history of petroleum is the history of war and struggle. v) It created conflict between Iraq and Saudi Arabia as Iraq's known reserves are second only to Saudi Arabia and since substantial portions of Iraqi territory are yet to be fully explored, there is a fair chance that actual reserves might be far larger. OR (B) The UN defines indigenous population as the descendants of people who inhabited the present territory of a country at the time when persons of a different culture or ethnic origin arrived there from other parts of world and overcame them. The demands of indigenous people can be summarised as follows: i) Indigenous people speak of their struggles, agenda and fights like social movements. ii) Their voices in world politics call for the admission of indigenous people to the world community as equals. iii) Many of the present day island states in the Oceania region (including Australia, New Zealand) appeal to their governments to come to terms with the continuing existence of indigenous nations with an identity of their own.	4

	(To be assessed as a whole or other relevant point/s)	
22	(A) India's first general election was the biggest test of democracy in a poor and illiterate country. i) Democracy is possible in a poor and illiterate Nation Before 1952; many critics believed that democratic elections were only possible in prosperous, educated countries like North America. India proved this wrong by successfully conducting the world's largest democratic exercise under conditions of poverty and widespread illiteracy. ii) Universal Adult Franchise: The election was based on universal adult franchise, granting voting rights to all citizens over 21, including women, at a time when many European countries still hadn't given voting rights to women. India's experiment with universal adult franchise appeared very bold and risky. iii) Participation: The level of participation was encouraging more than half the eligible voters turned out to vote on the day of election. iv) Peaceful and Fair Conduct: The elections were competitive, peaceful, and the results were accepted as fair even by the losing parties. Its success inspired many other nations that democracy could be practiced successfully in diverse conditions. OR (B) Four major challenges faced by the Election Commission of India were: i) Massive Scale of Illiteracy: Out of 17 crore (170 million) eligible voters, only 15 per cent were literate. This low literacy rate meant the Election Commission had to think of a special method of voting, such as using visual symbols for candidates and separate ballot boxes for each party. ii) Massive Electoral Size and Delimitation: The sheer size of the electorate was unprecedented. The country had to be divided into electoral constituencies, and a comprehensive voters' list (electoral roll) had to be prepared from scratch for millions of people, many of whom lived in remote, inaccessible areas. iii) Problem of Missing Names of Women Voters: When the first draft of the electoral roll was prepared, the names of nearly 40 lakh (4 million) women were missing. They were simply listed as "wife of..." or "daughter of...". The Election Commission refused to accept these entries and ordered a revision, which led to a massive effort to get their proper names registered. iv) Lack of Trained Personnel: Holding a free and fair election on such a vast scale required a massive administrative machinery. Over 3 lakh (300,000) polling staff and officers had to be specially trained to conduct the polling process, manage booths, and handle ballot boxes. (To be assessed as a whole or other relevant point/s)	4
23	The major conflicts between the Judiciary and the executive in 1973: i) On the issue of Fundamental Right and right to property, the Supreme Court denied the amendment to Constitution. While on the issue of Fundamental Right giving effect to Directive principles, Parliament amended the Constitution, but later Supreme Court rejected it.	4

	ii) Court gave a decision that there are some basic features of the Constitution and the Parliament cannot amend these basic features. This created tension between parliament and judiciary. iii) Tension between judiciary and executive further expanded, when a vacancy arose of the post of Chief Justice of India. As per the constitutional practice, senior-most judge of the Supreme Court should be appointed as Chief Justice of India in case of vacancy. But in 1973 government ignored the seniority of three judges and appointed A.N. Ray as Chief Justice of India. iv) The appointment became politically controversial because all the three judges who were superseded had given rulings against the stand of the government. Thus, constitutional interpretations and political ideologies were getting mixed up rapidly. Highest point in controversy came when Allahabad High Court declared Indira Gandhi's election invalid. (To be assessed as a whole or other relevant poin/st)																		
	SECTION – D (3x4=12)																		
24	I (C) Israel attacked Lebanon II (C) Statement I is true, but Statement II is false. .III (D) Kofi A Annan IV(D) The UN cannot act without approval of Security Council members The following questions are for the Candidates with Visual Impairment only, in lieu of Question No. 24. I) António Guterres is the current Secretary-General. II) Amnesty International is the NGO that works for human rights protection all over the World. III) It shows that security threats come not only from states but also from non- state actors (Hezbollah). IV) Veto power means that any one of the five permanent members can stop a decision or resolution from being passed, even if all other members agree.			1+1+ 1+1= 4															
25	I (C) The Chogyal did not accept the merger, and his supporters accused the Government of India of foul play and force. II (C) A protectorate of India. III (B) Referendum. IV (A) Defence, External Affairs, and Communications.			1+1+ 1+1= 4															
26	<table><tr><th>Serial Number of the information used</th><th>Concerned alphabet given in the map</th><th>Name of the State</th></tr><tr><td>(i)</td><td>C</td><td>Gujarat</td></tr><tr><td>(ii)</td><td>A</td><td>Maharashtra</td></tr><tr><td>(iii)</td><td>D</td><td>Chhattisgarh</td></tr><tr><td>(iv)</td><td>B</td><td>Andhra Pradesh</td></tr></table>	Serial Number of the information used	Concerned alphabet given in the map	Name of the State	(i)	C	Gujarat	(ii)	A	Maharashtra	(iii)	D	Chhattisgarh	(iv)	B	Andhra Pradesh	The following questions are for the Candidates with Visual Impairment only, in lieu of Question No. 26.		1+1+ 1+1= 4
Serial Number of the information used	Concerned alphabet given in the map	Name of the State																	
(i)	C	Gujarat																	
(ii)	A	Maharashtra																	
(iii)	D	Chhattisgarh																	
(iv)	B	Andhra Pradesh																	

	I) Junagarh II) Andhra Pradesh III) Sardar Vallabhbhai Patel IV) Razakars	
	SECTION E (4X6=24 MARKS)	
27	(A) Ans: 'Sino-Indian Conflict of 1962' dented India's image at home and international level, India had to approach the Americans and the British for military assistance to tide over the issues. The Soviet Union remained neutral during the conflict: Ayaan (Assess the answer as a whole or other relevant point) OR (B) Objectives of India's foreign policy: i) Preservation of Sovereignty and Territorial Integrity: The foremost goal was to protect India's hard earned sovereignty and territorial boundaries. This was reflected in India's refusal to join any military alliance during the Cold War, thereby ensuring the nation's capacity for independent decision-making in world affairs. ii) Promotion of International Peace and Security: India's Constitution, in Article 51, outlines the Directive Principles of State Policy for the promotion of international peace and security. India actively participated in UN peacekeeping missions and advocated for global disarmament efforts. iii) Panchsheel (Five Principles of Peaceful Coexistence): Nehru formulated these five principles with China in 1954. These included mutual respect for territorial integrity and sovereignty, mutual non-aggression, mutual non-interference in internal affairs, equality and mutual benefit, and peaceful coexistence. iv) Advocacy for Afro-Asian Unity: India played a significant role in fostering solidarity among newly independent nations in Asia and Africa. The Afro Asian conference held in the Indonesian city of Bandung in 1955, commonly known as the Bandung Conference, marked the zenith of India's engagement with the newly independent Asian and African nations. The Bandung Conference later led to the establishment of the NAM. v) Rapid Economic Development: The foreign policy also aimed to secure economic and technological assistance from both superpower blocs (the US and USSR), which was crucial for its early industrial development vi) Independent Nuclear Policy: India opposed the discriminatory nature of treaties like the Nuclear Non-Proliferation Treaty (NPT) and the Comprehensive Test Ban Treaty (CTBT). This independent stance culminated in India conducting its first nuclear test in 1974, framed as a "peaceful nuclear explosion." (Assess the answer as a whole or other relevant point)	6
28	(A) Ans: Regional organisations like the European Union (EU) and the Association of Southeast Asian Nations (ASEAN) play an effective role by providing platforms for member states to economic growth, foster stability, and enhance their collective influence on the global stage. i) Economic Integration and Growth Both the EU and ASEAN are highly effective in removing trade barriers and creating larger markets that boost economic prosperity for their members.	6

European Union (EU): The EU created a single market where goods, services, capital, and people move freely. The introduction of the **Euro currency** further simplified trade and investment and making the EU a dominant global economic power.

ASEAN: ASEAN is working towards an **ASEAN Economic Community (AEC)**, which aims to create a single market and production base. This integration has increased intra-regional trade and attracted foreign direct investment to Southeast Asia.

ii) Maintaining Regional Peace and Stability

Regional organisations provide crucial mechanisms for dialogue, cooperation, and conflict resolution.

European Union (EU): The EU coordinates common foreign and security policies to address external threats collectively.

ASEAN: The organisation is known for the "**ASEAN Way**," a form of interaction that is informal, non- confrontationalist and cooperative allowing members to focus on economic development rather than security threats from neighbours. The **ASEAN Regional Forum (ARF)** also provides a unique platform for major global powers to discuss security issues related to Asia.

iii) Collective Influence

European Union (EU): The EU often speaks on critical global issues, such as climate change agreements, trade negotiations with powers like China or the US, and upholding specific international norms

ASEAN: ASEAN has effectively managed relations with major powers—including the US, China, and India—through diplomatic platforms. ASEAN countries can negotiate trade deals or address geopolitical tensions with major powers on a more level playing field.

Both EU and ASEAN coordinates many contemporary problems such as climate change, pandemics, and disaster management.

(Assess the answer as a whole or other relevant point)

OR

(B)

After the inception of the People's Republic of China in 1949, following the communist revolution under the leadership of Mao, its economy was based on Soviet Model.

- i) The Chinese leadership took major policy decisions in the 1970s because its industrial production was not growing fast enough, international trade was minimal and per capita income was very low.
- ii) China ended its political and economic isolation with the establishment of relations with the United States in 1972.
- iii) Premier Zhou Enlai proposed the four modernisations (agricultural, industry, science and technology and military) in 1973.
- iv) In 1978, the then leader Deng Xiaoping announced the 'Open Door' policy and economic reforms in China.
- v) The government carried out the privatization of agriculture in 1982 and industry in 1998, which drastically boosted productivity.

	vi) Trade barriers were eliminated to establish Special Economic Zones (SEZs) where foreign investors could set up their own enterprises, providing a major impetus to export-led growth. In China, the state played and continues to play a central role in setting up a market economy and become a leading global power. (Assess the answer as a whole or other relevant point)	
29	(A) Ans: Non-traditional notions of security go beyond military threats to include a wide range of threats and dangers affecting the conditions of human existence. i) Human security is about the protection of people more than the protection of states. The traditional focus on protecting a state's borders and sovereignty does not always guarantee the well-being of the people within those borders. ii) History shows that more people have been killed by their own governments (through genocide, famine, or internal conflict) than by foreign armies. iii) All proponents of human security agree that its primary goal is the protection of individuals. Proponents of the 'narrow' concept of human security focus on violent threats to individuals or, according to former UN Secretary-General Kofi Annan, "the protection of communities and individuals from internal violence". iv) Proponents of the 'broad' concept of human security argue that the threat agenda should include hunger, disease and natural disasters because these kill far more people than war, genocide and terrorism combined. Human security policy, should protect people from these threats as well as from violence. v) Human security shifts the focus from the protection of the state to the protection of the individual. vi) It emphasizes two main goals: Freedom from Fear: This involves protecting people from violent threats, including war, ethnic cleansing, terrorism, and human rights abuses. Freedom from Want: This addresses fundamental human needs, such as ensuring economic security, access to food and healthcare, and protection from environmental disasters. (Assess the answer as a whole or other relevant point) OR (B) The traditional notion of security focuses primarily on the use or threat of military force to protect a state's sovereignty, territorial integrity, and political independence from external aggression. Balance of Power: The balance of power as a component of traditional security policy means that not every country is equal in terms of power. When other countries are looked around, it can be judged easily that who is threat for our nation in coming future. Some countries are bigger and stronger. For instance, a neighbouring country may not be preparing to attack. In fact, there is no strong reason for a war or attack to happen. But the fact that the country is very strong is a sign that it may be aggressive in future Therefore Governments are very sensitive to the balance of power between their country and other countries. It is important to maintain a favourable balance of power with the countries with whom they have differences and with those they have had issues in the past. In the following way state/nation can achieve balance of power: i) Building up one's military power is essential to have a balance of power. ii) Developing economic and technological power are also important since they are the basis for military power. Alliance building:	6

	i) An alliance is a coalition of states that coordinate their actions to deter or defend against military attack. ii) Most alliances are formalised in written treaties and are based on a clear identification of who constitutes the threat. Countries form alliances to increase their effective power relative to another country or alliance. iii) Alliances are based on national interests and can change when national interests change. For example, the US backed the Islamic militants in Afghanistan against the Soviet Union in the 1980s, but later attacked them when Al Qaeda—a group of Islamic militants led by Osama bin Laden—launched terrorist strikes against America on 11 September 2001. (Assess the answer as a whole or other relevant point)	
30	(A) Ans: Coalition politics since 1989 has transformed the nature of Indian democracy by: decentralizing power, empowering regional parties and fostering a system based on negotiation and consensus rather than single-party command. i) End of Single-Party Dominance and Rise of Multi-Party System: The most significant transformation was the end of the Congress dominance. Thus, began an era of multi-party system. For example In the 1989 general election, for the first time, no single party secured an absolute majority, leading to the formation of the National Front government an alliance of Janata Dal and some other regional parties. ii) Empowerment of Regional Parties and Federalism: The nineties also saw the emergence of powerful parties and movements that represented the Dalit and backward castes (Other Backward Classes or OBCs). Many of these parties represented powerful regional assertion as well. These parties played an important role in the United Front government that came to power in 1996. iii) The influence of the DMK and AIADMK in national coalitions in successive governments (e.g., UPA I and II, NDA) strengthened India's federal system, forcing the central government to be more responsive to diverse regional aspirations and demands. iv) Shift towards Inclusive and Consensus-Based Governance: Stable coalitions have successfully implemented significant, accepted welfare policies. The economic liberalization reforms of 1991, initiated by a minority Congress government under P.V. Narasimha Rao, required negotiation and external support to pass, demonstrating how crucial reforms could proceed even without majority. (Any three to be explained or other relevant point) (B) OR i) Elections in 1989 led to the defeat of the Congress party but did not result in a majority for any other party. Though the Congress was the largest party in the Lok Sabha, it did not have a clear majority and therefore, it decided to sit in the opposition. ii) The National Front (which itself was an alliance of Janata Dal and some other regional parties) lead by V.P.Singh received support from two opposite political groups: the BJP and the Left Front. iii) On this basis, the National Front formed a coalition government, but the BJP represented by L.K Advani and the Left Front represented by Jyoti Basu did not join in this government but gave support from outside. iv) These parties played an important role in the United Front government that came to power in 1996. The United Front was similar to the National Front of	6

	1989 for it included Janata Dal and several regional parties. This time the BJP did not support the government. v) The United Front government was supported by the Congress. This shows how unstable the political equations were. vi) In 1989, both the Left and the BJP supported the National Front Government because they wanted to keep the Congress out of power. In 1996, the Left continued to support the non-Congress government but this time the Congress, supported it, as both the Congress and the Left wanted to keep the BJP out of power. They did not succeed for long, as the BJP continued to consolidate its position in the elections of 1991 and 1996. (Or other relevant point/s)	
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प्रतिदर्श प्रश्नपत्र (2026-27)
हिंदी (आधार) विषय कोड (302)
कक्षा-बारहवीं

निर्धारित समय- 3 घंटे

अधिकतम अंक – 80

- प्रश्न पत्र में कुल 12 प्रश्न हैं। सभी प्रश्न अनिवार्य हैं।
- यह प्रश्न पत्र तीन खंडों में विभाजित है – क, ख और ग।
- खंड- क में अपठित बोध पर आधारित 2 प्रश्न पूछे गए हैं। सभी प्रश्नों के उत्तर देना अनिवार्य है।
- खंड- ख में पाठ्य पुस्तक 'अभिव्यक्ति और माध्यम' से 3 प्रश्न पूछे गए हैं। प्रश्नों में विकल्प दिए गए हैं।
- खंड- ग में पाठ्य पुस्तक 'आरोह' तथा 'वितान' से 6 प्रश्न पूछे गए हैं। प्रश्नों में विकल्प दिए गए हैं।
- प्रश्नों के उत्तर दिए गए निर्देशों का पालन करते हुए लिखिए।
- यथासंभव तीनों खंडों के प्रश्नों के उत्तर क्रमशः लिखिए।

	खंड – क (अपठित बोध)	18
1	निम्नलिखित गद्यांश को ध्यान पूर्वक पढ़कर उस पर आधारित प्रश्नों के उत्तर लिखिए : पोषण सभी जीवधारियों सहित हम मनुष्यों की मूलभूत जैविक आवश्यकता होती है। जीवन की आरंभिक अवस्थाओं से शरीर और मस्तिष्क की वृद्धि, विकास तथा सक्रियता के लिए उचित आहार आवश्यक है। आहार का मुख्य स्रोत खाद्य पदार्थ होते हैं और इन खाद्य पदार्थों का उपयोग बड़े पैमाने पर इसके उत्पादन और वितरण पर निर्भर रहता है जो कि मानव आबादी के स्वास्थ्य और पोषण स्तर को निर्धारित करता है। सेहतमंद आहार मनुष्य के समग्र स्वास्थ्य को बनाए रखने और जीवन की गुणवत्ता को बढ़ाने में महत्वपूर्ण भूमिका निभाता है। उचित पोषण शरीर को आवश्यक पोषक	10

शैक्षणिक सत्र 2026-27 के लिए प्रश्न-पत्र के डिज़ाइन और मूल्यांकन के तरीके में कोई बदलाव नहीं है।

	तत्व, विटामिन और खनिज प्रदान करता है जो शारीरिक कार्यों का समर्थन करते हैं, प्रतिरक्षा को बढ़ावा देते हैं और पुरानी बीमारियों के जोखिम को कम करते हैं। शिशु जन्म से लेकर वृद्धावस्था तक पोषण की दृष्टि से पर्याप्त आहारों तथा स्वस्थ जीवन शैली की संकल्पना की जाती है। इसी अहम उद्देश्य से भारतीय आयुर्विज्ञान अनुसंधान परिषद (आईसीएमआर) भारतीयों के लिए आहार संबंधी संदर्शिका (गाइडलाइन) की अनुशंसा करती है। स्वास्थ्य से जुड़े लाभ पाने के लिए आई.सी.एम.आर. की आहार संबंधी संदर्शिका का उपयोग सामान्य आबादी या विशिष्ट शरीर क्रिया या उच्च जोखिम वर्गों के लिए सीधे तौर पर किया जा सकता है। यह संदर्शिका कृषि, स्वास्थ्य और पोषण पर केंद्रित भारत की राष्ट्रीय नीतियों में नियत लक्ष्यों को सामने रखती है। सामाजिक आर्थिक स्थितियों की दृष्टि से वर्तमान समय में लोगों के जीने के तरीकों में बदलाव आया है। ग्रामीण और शहरी क्षेत्र में रहने वाले लोगों की जीवन शैली में तेजी से परिवर्तन देखने को मिल रहा है। पारंपरिक से आधुनिक खाद्य पदार्थों की ओर झुकाव, खाना पकाने की विधियों में बदलाव, प्रोसेस्ड और रेडी टू ईट खाद्य पदार्थों के बढ़ते चलन, पेय पदार्थों और फास्ट फूड की मार्केटिंग ने आम जन के खाद्य पदार्थों के चयन तथा आहार संबंधी व्यवहार को प्रभावित किया है। अत्यधिक शर्करा और नमक की मात्रा वाले खाद्य पदार्थों की तरफ लोगों के झुकाव से हर उम्र खास तौर पर युवाओं और बच्चों में स्वास्थ्य से जुड़े गंभीर जोखिम बढ़ते जा रहे हैं। मोटापा और जीवन शैली से जुड़ी स्वास्थ्य समस्याएँ बढ़ रही हैं। ऐसी परिस्थिति में आहार संबंधी संदर्शिका का महत्व बढ़ जाता है। साभार - 'आविष्कार' मासिक पत्रिका	
I.	उपर्युक्त गद्यांश किस विषय पर आधारित है? (A) पोषण पर (B) स्वास्थ्य पर (C) आहार पर (D) संदर्शिका पर	1
II	निम्नलिखित कथन तथा कारण को पढ़कर दिए गए विकल्प से उचित उत्तर चुनकर लिखिए : कथन - बच्चों में स्वास्थ्य से जुड़े गंभीर जोखिम बढ़ते जा रहे हैं।	1

	कारण - लोगों की जीवन शैली में परिवर्तन देखा जा रहा है। (A) कथन सही है और कारण गलत है। (B) कथन गलत है और कारण सही है। (C) कथन और कारण दोनों सही है किन्तु कारण कथन की व्याख्या नहीं करता है। (D) कथन और कारण दोनों सही है और कारण कथन की सही व्याख्या करता है।	
III	सभी जीवों की मूलभूत आवश्यकता है ? (A) आहार (B) विहार (C) पोषण (D) स्वास्थ्य	1
IV	आई.सी.एम.आर. ने संदर्शिका बनाने के बारे में क्यों सोचा होगा?	1
V	भारतीयों के लिए आहार संबंधी संदर्शिका की आवश्यकता क्यों है?	2
VI	ग्रामीण और शहरी क्षेत्रों में रहने वाले लोगों की जीवन शैली में किस प्रकार के बदलाव देखे जा रहे हैं और उसका क्या प्रभाव पड़ रहा है?	2
VII	उचित पोषण किसे कहा गया है?	2
2.	निम्नलिखित पद्यांश को ध्यान पूर्वक पढ़कर उस पर आधारित पूछे गए प्रश्नों के उत्तर लिखिए : क्या चाहती है दुनिया — समानता? एक ऐसी धरती, जहाँ न कोई ऊँच-नीच का डर हो, न कोई तिरस्कार की दीवार। पर सोचो तो सही, प्रकृति ही समान नहीं, तो फिर मनुष्य कैसे पूरी तरह समान हो पाएगा? पहाड़ ऊँचे हैं,	8

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नदियाँ गहरी हैं, पेड़ अलग-अलग ऊँचाइयों में पनपते हैं, फूल भी किसी में कम सुगंध, किसी में अधिक। फिर भी प्रकृति में कोई द्वेष नहीं, कोई संघर्ष नहीं, क्योंकि वह विविधता को ही अपनी शक्ति मानती है। तो फिर मनुष्य क्यों भिन्नता को विभाजन समझ लेता है? क्यों किसी की हैसियत, किसी का रंग, किसी की भाषा या जन्म-स्थान देखकर अपना दृष्टिकोण बदल लेता है? समानता का अर्थ कभी यह नहीं था कि सब एक जैसे बन जाएँ। समानता का अर्थ है— हर व्यक्ति को एक-सा सम्मान मिले, एक-सा अवसर मिले, और एक-सी सुरक्षा का एहसास। हमें बदलनी होगी वह सोच जो पीढ़ियों से चलती आई है— कि श्रेष्ठ वही जो ऊँचे घर जन्मा, कि शक्तिशाली वही जो धनवान। हमें स्वीकारना होगा— कि सच्ची श्रेष्ठता विनम्रता और करुणा में बसती है।

	समानता की राह कठिन है, पर असंभव नहीं। इसके लिए चाहिए— न्यायपूर्ण व्यवस्था, शिक्षा में समभाव, और हृदय में दया का विस्तार। जब समाज यह समझ लेगा कि विविधता कोई बाधा नहीं, बल्कि प्रगति की नींव है— तब समानता कोई विचार नहीं, एक सत्य बन जाएगी। स्रोत : कविता 'समानता', कवि - अजय कुमार	
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I	निम्नलिखित कथनों पर विचार कीजिए तथा सही विकल्प चुनकर लिखिए : समाज को समझने की जरूरत है कि – कथन-i : विविधता कोई बाधा नहीं है। कथन-ii : सच्ची श्रेष्ठता विनम्रता में होती है। कथन-iii : विविधता से ही प्रगति संभव है। कथन-iv : समानता की राह असंभव है। विकल्प (A) केवल कथन i सही है। (B) केवल कथन iv सही है। (C) केवल कथन i,ii,iii सही है। (D) केवल कथन i, ii, iv सही है।	1
II	प्रकृति अपनी शक्ति किसे मानती है? (A) समानता को (B) विविधता को (C) सुंदरता को (D) प्रगति को	1

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III	दुनिया को समानता पाने के लिए - (A) प्रकृति से सीखना होगा। (B) कर्मों में बदलाव लाना होगा। (C) स्वभाव के अनुसार जीना होगा। (D) भेद -भाव मिटाना होगा।	1
IV	कविता के आधार पर लिखिए कि दुनिया क्या चाहती है?	1
V	समानता की राह को आसान कैसे बनाया जा सकता है?	2
VI	कविता हमें क्या संदेश देती है?	2
	खंड – ख ('अभिव्यक्ति और माध्यम' पाठ्यपुस्तक पर आधारित)	22
3.	निम्नलिखित अप्रत्याशित विषयों में से किसी एक विषय पर लगभग 120 शब्दों में रचनात्मक लेख लिखिए : (i) एक दिन खेल के मैदान में (ii) परीक्षा परिणाम का दिन (iii) साथियों के साथ एक सुखद यात्रा	6
4.	निम्नलिखित प्रश्नों में से किन्हीं चार प्रश्नों के उत्तर 40 शब्दों में लिखिए- I रेडियो माध्यम की दो खूबियों और दो खामियों का उल्लेख कीजिए। II पत्रकारीय लेखन से क्या अभिप्राय है? III अखबार में संपादकीय लेख के बारे में आप क्या जानते हैं? IV विशेष लेखन की भाषा शैली पर प्रकाश डालिए। V बोलने से अधिक कठिन लिखना क्यों होता है?	4×2=8
5.	निम्नलिखित प्रश्नों में से किन्हीं दो प्रश्नों के उत्तर लगभग 80 शब्दों में लिखिए : I	2×4=8

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II	‘भाषा ऐसी होनी चाहिए कि वह सभी को आसानी से समझ आ सके’ - रेडियो और टेलीविजन के आलोक में कथन को स्पष्ट कीजिए?	
III	‘फीचर लेखन का कोई निश्चित प्रारूप नहीं होता’ कथन का विश्लेषण कीजिए। स्तंभ लेखन भी विचारपरक लेखन का एक प्रमुख रूप है, कैसे?	
	खंड – ग (‘आरोह तथा वितान’ पाठ्यपुस्तक पर आधारित)	40
6.	निम्नलिखित काव्यांश पर आधारित पूछे गए प्रश्नों के सर्वाधिक उपयुक्त उत्तर वाले विकल्प चुनकर लिखिए : कविता एक उड़ान है चिड़िया के बहाने कविता की उड़ान भला चिड़िया क्या जाने बाहर भीतर इस घर, उस घर कविता के पंख लगा उड़ने के माने चिड़िया क्या जाने? कविता एक खिलना है फूलों के बहाने कविता का खिलना भला फूल क्या जाने! बाहर भीतर इस घर, उस घर बिना मुरझाए महकने के माने फूल क्या जाने?	5×1= 5
I	कविता किसकी उड़ान है? (A) कवि की (B) पाठक की (C) शब्दों की (D) चिड़ियों की	1
II	कविता की उड़ान को चिड़िया क्यों नहीं जान सकती है?	1

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	(A) चिड़िया कविता नहीं जानती (B) चिड़िया कल्पना नहीं कर सकती (C) चिड़िया की उड़ान की सीमा निश्चित (D) चिड़िया अनुभवहीन होती है	
III	कविता के लिए फूल क्या है? (A) एक वस्तु (B) एक विषय (C) एक प्रेरणा (D) एक आधार	1
IV	निम्नलिखित कथन तथा कारण को पढ़िए और सही विकल्प चुनकर लिखिए : कथन - कविता की उड़ान कवि की असीमित कल्पना है। कारण - किसी भी सांसारिक वस्तु पर कवि कविता लिख सकता है। विकल्प : (A) कथन सही है, कारण गलत है। (B) कथन गलत है, कारण सही है। (C) कथन तथा कारण दोनों सही है और कारण, कथन की सही व्याख्या करता है। (D) कथन तथा कारण दोनों सही है किन्तु कारण, कथन की सही व्याख्या नहीं करता है।	1
V	बिना मुरझाए महकने का गुण किसमें है? (A) चिड़ियों में (B) फूल में (C) कवि में (D) कविता में	1
7.	निम्नलिखित प्रश्नों को पढ़कर किन्हीं दो प्रश्नों के उत्तर लगभग 60 शब्दों में लिखिए : I वर्तमान समाज संवेदनहीन होता जा रहा है- 'कैमरे में बंद अपाहिज' कविता के आधार पर कथन की समीक्षा कीजिए।	2×3=6

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II	उषा का जादू टूटने की प्रक्रिया को समझाकर लिखिए।	
III	'बादल राग' कविता में बादल को क्रांति का प्रतीक कहने के पीछे के कारणों पर विचार व्यक्त कीजिए।	
8.	निम्नलिखित प्रश्नों को पढ़कर किन्हीं दो प्रश्नों के उत्तर लगभग 40 शब्दों में लिखिए :	2×2=4
I	उन्मादों में अवसाद लिए फिरता हूँ - 'आत्मपरिचय' कविता के आधार पर कथन का भाव स्पष्ट कीजिए?	
II	'जन्म से ही वे अपने साथ लाते हैं कपास' - पतंग कविता के आधार पर पंक्ति का आशय स्पष्ट कीजिए?	
III	फिराक़ गोरखपुरी की रूबाइयों में बच्चे को 'चांद के टुकड़े' कहकर क्यों संबोधित किया गया है?	
9.	निम्नलिखित गद्यांश पर आधारित पूछे गए प्रश्नों के सर्वाधिक उपयुक्त उत्तर वाले विकल्प चुनकर लिखिए :	5×1=5
	बाज़ार में एक जादू है। वह जादू आँख की राह काम करता है। वह रूप का जादू है पर जैसे चुंबक का जादू लोहे पर चलता है, वैसे ही इस जादू की मर्यादा है। जेब भरी हो, और मन खाली हो, ऐसी हालत में जादू का असर खूब होता है। जेब खाली पर मन भरा न हो, तो भी जादू चल जाएगा। मन खाली है तो बाजार के अनेकानेक चीजों का निमंत्रण उस तक पहुंच जाएगा। कहीं हुई उस वक्त जेब भरी तब तो फिर वह मन किसकी मानने वाला है। मालूम होता है यह भी लूँ, वह भी लूँ। सभी सामान आराम को बढ़ाने वाला मालूम होता है। पर यह सब जादू का असर है। जादू की सवारी उतरी कि पता चलता है कि फैंसी चीजों की बहुतायत आराम में मदद नहीं देती, बल्कि खलल ही डालती है।	
I	बाज़ार हमें अपनी ओर आकर्षित क्यों करता है? (A) आकर्षण के कारण (B) समर्पण के कारण (C) लालच के कारण	1

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	(D) सुविधा के कारण	
II	बाज़ार के जादू का असर सबसे अधिक किस पर होता है? (A) पैसे वालों पर (B) खाली मन वालों पर (C) जादू का असर होने वालों पर (D) आराम की वस्तुएं खोजने वालों पर	1
III	निम्नलिखित कथनों पर विचार करते हुए गद्यांश के अनुसार गलत कथन को चयनित कर लिखिए : (A) बाजार में एक जादू होता है। (B) खाली मन वालों पर असर अधिक होता है। (C) फैंसी चीजें आराम में खलल डालती हैं। (D) भरे मन वालों पर भी बाजार का जादू चलता है।	1
IV	बाजार के जादू से मुक्ति तभी संभव है जब आप - (A) मन से भरे हों। (B) जेब से खाली हों। (C) मन से खाली हों। (D) जेब से भरे हों ।	1
V	निम्नलिखित कथनों पर विचार कीजिए तथा सही विकल्प चुनकर लिखिए- कथन - i : सभी सामान जरूरी और आराम को बढ़ाने वाला लगता है। कथन - ii : जेब भरी होने पर मन नहीं मानता है। कथन - iii : बाजार से कोई बच नहीं सकता है। विकल्प : (A) कथन (i) सही है। (B) कथन (i) और (ii) सही है। (C) कथन (i), (ii) और (iii) सही है। (D) कथन (ii) और (iii) सही है।	1

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10.	निम्नलिखित प्रश्नों को पढ़कर किन्हीं दो प्रश्नों के उत्तर लगभग 60 शब्दों में लिखिए:	2×3=6
I	बाजार का जादू चढ़ने और उतरने से क्या अभिप्राय है?	
II	जीजी ने इंदर सेना पर फेंके गए पानी को सही क्यों ठहराया ?	
III	लेखक ने शिरीष को कालजयी संन्यासी की तरह क्यों माना है?	
11.	निम्नलिखित प्रश्नों को पढ़कर किन्हीं दो प्रश्नों के उत्तर लगभग 40 शब्दों में लिखिए :	2×2=4
I	भक्तिन के चरित्र की किन्हीं दो विशेषताओं का उल्लेख कीजिए?	
II	पहलवान की ढोलक किस प्रकार से रात्रि की विभीषिका को चुनौती देती थी?	
III	शिरीष के फूल के माध्यम से लेखक ने क्या संदेश दिया है?	
12.	निम्नलिखित प्रश्नों को पढ़कर किन्हीं दो प्रश्नों के उत्तर लगभग 100 शब्दों में लिखिए :	2×5=10
I	पिता अपने बच्चे की तरक्की के साथ स्नेह और सहयोग भी चाहता है। 'सिल्वर वेडिंग' कहानी के आधार पर कथन की समीक्षा कीजिए?	
II	'जूझा' कहानी का नायक जूझ कर सफलता प्राप्त करता है। आपको नायक के संघर्ष से किस प्रकार की प्रेरणा मिलती है? विस्तार से लिखिए ।	
III	आज के भीड़ भरे शहरों को मुआनजो - दड़ों की नगर योजना से सीखने की आवश्यकता है। उन तीन बातों का उल्लेख करते हुए स्पष्ट कीजिए जिसे नगर नियोजन करने वाले पदाधिकारियों को सीखना चाहिए।	

अंक योजना
प्रतिदर्श प्रश्न पत्र 2026-27
हिन्दी 'आधार' (कोड-302)
कक्षा-बारहवीं

निर्धारित समय : 03 घंटे

अधिकतम अंक :80

सामान्य निर्देश :

- अंक योजना का उद्देश्य मूल्यांकन को अधिकाधिक वस्तुनिष्ठ बनाना है।
- वस्तुपरक प्रश्नों के उत्तरों का मूल्यांकन निर्दिष्ट अंक योजना के आधार पर ही किया जाए।
- वर्णनात्मक प्रश्नों के अंक योजना में दिए गए उत्तर बिंदु अंतिम नहीं हैं। ये सुझावात्मक एवं सांकेतिक हैं।
- यदि परीक्षार्थी इन सांकेतिक बिंदुओं से भिन्न, किंतु उपयुक्त उत्तर दे तो उसे अंक दिए जाएँ ।
- मूल्यांकन कार्य निजी व्याख्या के अनुसार नहीं, बल्कि अंक योजना में निर्दिष्ट निर्देशानुसार ही किया जाए।

प्रश्न	उत्तर संकेत/मूल्यांकन बिंदु	अंक और अंक विभाजन
	खंड - क (अपठित बोध)	18
1	अपठित गद्यांश पर आधारित पूछे गए प्रश्नों के अपेक्षित उत्तर :	10
I	(A) पोषण (यह सही विकल्प है क्योंकि गद्यांश पोषण पर आधारित है।)	1
II	(C) कथन और कारण दोनों सही हैं किन्तु कारण कथन की व्याख्या नहीं करता है। (दोनों कथन सही हैं लेकिन अपना स्वतंत्र अर्थ दे रहे हैं, कारण कथन की व्याख्या नहीं करता।)	1
III	(A) आहार (आहार से ही पोषण मिलता है इसलिए जीवों की मूलभूत आवश्यकता)	1
IV	- आहार एवं पोषण के स्रोत की जानकारी हेतु	1
V	- पोषण का महत्व नहीं समझना	2

	- सही भोजन का अच्छे स्वास्थ्य से संबंध के प्रति जागरूकता का अभाव - भोजन को पेट भरने का साधन समझना	
VI	- आधुनिक खाद्य पदार्थों की ओर झुकाव - खाना पकाने की विधियों में बदलाव - प्रोसेस्ड एवं रेडी टू ईट खाद्य पदार्थों को अपनाना	2
VII	- शरीर को आवश्यक तत्व , ऊर्जा , खनिज और विटामिन प्राप्त होना - शारीरिक कार्यों तथा प्रतिरक्षा प्रणाली का मजबूत होना आदि।	2
2	अपठित काव्यांश पर आधारित पूछे गए प्रश्नों के अपेक्षित उत्तर :	8
I	(C) केवल कथन i,ii,iii सही है। (कथन iv कविता के संदर्भ में असंगत है)	1
II	(B) विविधता को (कविता में विविधता को सुंदर माना गया है।)	1
III	(A) प्रकृति से सीखना होगा (प्रकृति की सुंदरता का आधार विविधता)	1
IV	- समानता	1
V	- प्रकृति से सीखकर - विविधता की सुंदरता को अपनाकर - द्वेष, संघर्ष से मुक्त रहकर	2
VI	- अपने गुणों पर अभिमान करना - दूसरों से तुलना नहीं करना - द्वेष, ईर्ष्या से मुक्त रहना विविधता की सुंदरता को अपनाना	2
	खंड - ख (अभिव्यक्ति और माध्यम पुस्तक से)	22
3	किसी एक विषय पर लगभग 120 शब्दों में रचनात्मक लेख अपेक्षित : • आरंभ 1 • विषयवस्तु 4 • भाषा 1	6
4	किन्हीं चार प्रश्नों के उत्तर लगभग 40 शब्दों में अपेक्षित :	4X2=8
I	दो खूबियाँ -	2

	• व्यापक पहुँच • सस्ती उपलब्धता दो खामियाँ - • दृश्य सामग्री का अभाव • पुनः सुनने की असुविधा	
II	- समाचारों, सूचनाओं और विचारों को आम जनता तक पहुंचाना - सही, निष्पक्षता तथा स्पष्टता - सटीकता, संक्षिप्तता तथा वस्तुनिष्ठता पर जोर	2
III	- समाचारों, सूचनाओं और विचारों को आम जनता तक पहुंचाना - सही, निष्पक्षता तथा स्पष्टता - सटीकता, संक्षिप्तता तथा वस्तुनिष्ठता पर जोर	2
IV	विशेष लेखन की भाषा शैली - - विषय के अनुसार भाषा शैली में बदलाव - सरल, सुबोध, सटीक तथा प्रभावशाली - तकनीकी शब्दावली का प्रयोग - पाठकों के लिए बोधगम्य	2
V	- बोलने में सहजता और वास्तविक समय की जरूरत - लिखने में व्याकरण, संरचना, वर्तनी आदि का ध्यान रखना - भावनाओं को शब्दों में बांधना कठिन	2
5	किन्हीं दो प्रश्नों के उत्तर लगभग 80 शब्दों में अपेक्षित :	2X4=8
I	- भाषा जन संचार का प्रमुख आधार - जनता तक संदेश पहुंचाने के लिए प्रभावी भाषा का होना आवश्यक - रेडियो पर देखने और दोहराने के अवसर नहीं होने से भाषा की सरलता, सहजता तथा बोधगम्य होना आवश्यक - टेलिविजन की भाषा एक खास तरह की दृश्य भाषा - आम बोलचाल से अलग - शब्दों के साथ-साथ दृश्य तथा ध्वनि आदि का प्रयोग - सरल, स्पष्ट, संक्षिप्त तथा प्रवाहपूर्ण भाषा	4
II	- समाचार लेखन से फीचर लेखन के उद्देश्य अलग - फीचर में किसी व्यक्ति, स्थान, विचार या घटना की गहराई से पड़ताल - समाचार सिर्फ तथ्यों पर आधारित - फीचर में लेखक की राय, भावनाएं तथा दृष्टिकोण को रखने की स्वतंत्रता जबकि समाचार में स्वतंत्रता का अभाव	4

	- फीचर में कथात्मक तथा आत्मनिष्ठ शैली के साथ चित्र तथा आँकड़े प्रयोग करने की स्वतंत्रता	
II	- स्तम्भ लेखन विचारपरक लेखन का एक प्रकार - लेखक द्वारा किसी भी विषय पर व्यक्तिगत राय, विश्लेषण तथा दृष्टिकोण की प्रस्तुति - तथ्यों को तर्क के साथ पाठकों के सामने रखना तथा प्रभावित करना - जानकारी के साथ जनमत निर्माण तथा विचार मंथन	4
	खंड - ग (आरोह तथा वितान पर आधारित)	40
6	काव्यांश पर आधारित प्रश्नों के उत्तर अपेक्षित :	5X1=5
I	(A) कवि की (कविता कवि की कल्पना, कल्पना की कोई सीमा नहीं होती)	1
II	(C) चिड़िया की उड़ान की सीमा निश्चित (कल्पना की सीमा नहीं होना, चिड़िया की सीमा होना)	1
III	(B) एक विषय (कवि के लिए फूल कविता का एक विषय)	1
IV	(D) कथन तथा कारण दोनों सही हैं किन्तु कारण कथन की सही व्याख्या नहीं करता है। (कथन और कारण दोनों स्वतंत्र अर्थ रखते हैं, परस्पर संबद्ध नहीं)	1
V	(D) कविता में (कविता कभी पुरानी नहीं होती और न ही कभी अर्थ खोती है)	1
7	किन्हीं दो प्रश्नों के उत्तर लगभग 60 शब्दों में अपेक्षित :	2X3=6
I	- टीवी चैनलों को मुनाफे से मतलब - अपाहिज व्यक्ति से संवेदनहीन बर्ताव करना - दुख को बेचने का प्रयास - मनुष्य से अधिक टीआरपी महत्वपूर्ण	3
II	- प्रातःकाल का आकाश नीला - क्रमशः सूर्योदय तक आकाश के रंग का बदलना - शंख के समान सफ़ेद, राख से लीपा हुआ चौका, स्लेट पर लाल खड़िया मल दी हो किसी ने - सूर्योदय की उपमा नीले पानी में नहाती गोरे रंग की युवती की झिलमिलाती देह से	3
III	- बादल वर्षा के माध्यम से धरती पर नया जीवन	3

	- क्रांति से शोषितों के जीवन में नई ऊर्जा और खुशहाली - बादलों की गर्जना से शोषकों का डरना और न्याय और समानता की ओर इशारा - बादल दबे-कुचले लोगों की आशा	
8	किन्हीं दो प्रश्नों के उत्तर लगभग 40 शब्दों में अपेक्षित :	2X2=4
I	- यौवन के उत्साह, मस्ती के पीछे कवि गहरी उदासी, आंतरिक वेदना और निराशा - बाहरी दुनिया की चकाचौंध में कवि के भीतर गहरा सूनापन एवं दुख	2
II	- बच्चे जन्म से ही कोमल और पवित्र - उनमें जीवन के प्रति निर्मल दृष्टिकोण तथा उत्साह - पतंग उड़ाते समय कल्पना और कोमलता के साथ दुनिया को महसूस करना	2
II	- माँ के लिए बच्चे अनमोल, सुंदर तथा आकर्षक - चाँद की तरह निर्मल, शांति तथा सुकून देने वाला - बच्चे में जीवन की पूर्णता	2
9	पठित गद्यांश पर आधारित पूछे गए प्रश्नों के उत्तर अपेक्षित :	5X1=5
I	(A) आकर्षण के कारण (बाज़ार में जाते ही सामान अपनी ओर आकर्षित करता है)	1
II	(B) खाली मन वालों पर (मन से भरे नहीं होने पर सब कुछ खरीद लेने की इच्छा)	1
III	(D) भरे मन वालों पर भी बाज़ार का जादू (गद्यांश के अनुसार खाली मन पर बाज़ार का जादू चलता है)	1
IV	(A) मन से भरे हों (मन से भरे व्यक्ति पर असर नहीं होता)	1
V	(B) कथन(i) और (ii) सही है (भरे मन वाला बच जाता है)	1
10	किन्हीं दो प्रश्नों के उत्तर लगभग 60 शब्दों में अपेक्षित :	2X3=6
I	चढ़ना - बाज़ार के आकर्षण में फँसकर जरूरत न होने पर भी सामान खरीदते जाना उतरना - बाद में अहसास होना कि खरीदी हुई चीज़ें बेकार थी - आराम देने की जगह जीवन में खलल	3
II	- फेंके गए पानी को जीजी द्वारा त्याग मानना - त्याग से ही फल की प्राप्ति	3

	- किसान द्वारा थोड़े बीज बोकर अधिक फसल उगाना - ठीक वैसे ही इन्द्र देवता को पानी समर्पित कर बारिश का पानी प्राप्त करना	
III	- कठोर परिस्थितियों में जीवन्तता - अविचल और निस्पृह - काल पर विजय, आध्यात्मिक प्रतीक - शिरीष का वृक्ष सहनशील, दृढ़ तथा अनासक्त	3
11	किन्हीं दो प्रश्नों के उत्तर लगभग 40 शब्दों में अपेक्षित :	2X2=4
I	- स्वाभिमान और संघर्षशील - समर्पित सेवाभाव	2
II	- ढोलक रात की भयावहता को ललकारती - गाँववालों की नसों में संजीवनी शक्ति भरकर जीने की प्रेरणा - अपनी पीड़ा भूलकर मौत को भी खुशी से गले लगाना	2
III	हज़ारीप्रसाद द्विवेदी ने संदेश दिया है - - मनुष्य को कठिन और प्रतिकूल परिस्थितियों में भी अविचल, धैर्यवान तथा संघर्षशील रहना चाहिए। - अपनी जीने की इच्छा को बनाए रखना चाहिए।	2
12	किन्हीं दो प्रश्नों के उत्तर लगभग 100 शब्दों में अपेक्षित :	2X5=10
I	मुक्त उत्तर (विद्यार्थियों की समझ तथा अभिव्यक्ति के साथ पाठ के उदाहरणों पर आधारित मूल्यांकन)	5
II	मुक्त उत्तर (विद्यार्थियों की समझ तथा अभिव्यक्ति के साथ पाठ के उदाहरणों पर आधारित मूल्यांकन)	5
II	मुक्त उत्तर निम्नलिखित तीन बिन्दुओं के आधार पर - • नगर योजना • जल निकासी एवं सीवेज प्रणाली • नगर का सुनियोजित विभाजन • पक्के मकानों तथा उन्नत सुविधाओं के आधार पर	5

संस्कृतम् (केन्द्रिकम्, कोड-सङ्ख्या - 322)

आदर्श-प्रश्नपत्रम् *

कक्षा - द्वादशी (2026-27)

समय: - होरात्रयम्

पूर्णाङ्काः - 80

सामान्यनिर्देशाः -

- कृपया सम्यक्तया परीक्षणं कुर्वन्तु यत् अस्मिन् प्रश्नपत्रे 11 पृष्ठानि मुद्रितानि सन्ति ।
- कृपया सम्यक्तया परीक्षणं कुर्वन्तु यत् अस्मिन् प्रश्नपत्रे 18 प्रमुखाः प्रश्नाः सन्ति ।
- अस्मिन् प्रश्नपत्रे चत्वारः खण्डाः सन्ति -

खण्डः (क) अपठितावबोधनम् - 10 अङ्काः

खण्डः (ख) रचनात्मककार्यम् - 15 अङ्काः

खण्डः (ग) अनुप्रयुक्तव्याकरणम् - 20 अङ्काः

खण्डः (घ) I. पठितावबोधनम् - 25 अङ्काः

II. संस्कृत-साहित्येतिहास-परिचयः - 10 अङ्काः

- प्रत्येकं खण्डम् अधिकृत्य उत्तराणि एकस्मिन् स्थाने क्रमेण लेखनीयानि ।
- उत्तरलेखनात् पूर्वं प्रश्नपत्रानुसारं प्रश्नस्य क्रमाङ्कः अवश्यं लेखनीयः ।
- सर्वेषां प्रश्नानाम् उत्तराणि संस्कृतेन लेखनीयानि ।
- अस्य प्रश्नपत्रस्य पठनाय 15 निमेषाः निर्धारिताः सन्ति । अस्मिन् अवधौ केवलं प्रश्नपत्रम् एव पठनीयम् उत्तरपुस्तिकायां च किमपि न लेखनीयम् ।
- प्रश्नानां निर्देशाः ध्यानेन अवश्यं पठनीयाः ।

खण्डः - क

अपठितावबोधनम् - 10 अङ्काः

1. अधोलिखितं गद्यांशं पठित्वा प्रदत्तप्रश्नानामुत्तराणि संस्कृतेन लिखत -

10

अस्माकं देशः प्राचीनकालादेव प्राकृतिक-पर्यावरणस्य पोषकः । वैदिककाले यद्यपि पर्यावरणस्य प्रदूषणस्य समस्या नासीत् तथापि वेदेषु स्थाने-स्थाने ऋषीणां पर्यावरणविषयकं चिन्तनं दृश्यते । अद्य पर्यावरण-प्रदूषणं संसारस्य भीषणतमा समस्या वर्तते, परं जनाः अस्याः गाम्भीर्यं न अनुभवन्ति । पर्यावरण-रक्षणीयं वृक्षाः रोपणीयाः रक्षणीयाः च इति शृण्वन्तः उद्घोषयन्तः अपि वयं प्रतिदिनं तेषां कर्तनं पश्यामः । 'प्लास्टिक्' इति रसायनेन निर्मितवस्तूनि पर्यावरणाय हानिकराणि इति जानन्तः अपि जनाः एतेषां प्रयोगं बाहुल्येन कुर्वन्ति । पर्यावरणप्रदूषकं धूमं क्षिपतां वाहनानाम् औद्योगिक-यन्त्रागाराणां सङ्ख्या निरन्तरं वर्धमाना अस्ति । यद्यपि विकासाय नवीनाः आविष्काराः, अपेक्षिताः परं सञ्चाराय विस्तृताः सुरक्षिताः मार्गाः जनानां कृते अपि आवश्यकाः एव । यदि पर्यावरणं प्राणिजीवनाय

	अनुकूलं न भविष्यति तर्हि पृथिव्यां जीवनमेव असम्भवं भविष्यति तदा भौतिकनिकासेन किम् । अतः सर्वकारः जनसहयोगेन सर्वथा पर्यावरणरक्षणाय यत्नशीलः भवेदिति ।	
	(अ) एकपदेन उत्तरत - (केवलं प्रश्नद्वयम्)	2×1=2
	(i) के रोपणीयाः रक्षणीयाः च? (ii) कदा पर्यावरणस्य प्रदूषणस्य समस्या नासीत्? (iii) अस्माकं देशः कस्य पोषकः?	
	(आ) पूर्णवाक्येन उत्तरत - (केवलं प्रश्नद्वयम्)	2×2=4
	(i) किं जानन्तः जनाः 'प्लास्टिक्'-निर्मितवस्तूनां प्रयोगं बाहुल्येन कुर्वन्ति? (ii) यदि पर्यावरणं प्राणिजीवनाय अनुकूलं न भविष्यति तर्हि किं भविष्यति? (iii) केषां सङ्ख्या निरन्तरं वर्धमाना अस्ति?	
	(इ) अनुच्छेदस्य समुचितं शीर्षकं लिखत ।	1×1=1
	(ई) यथानिर्देशम् उत्तरत -	3×1=3
	(i) 'नवीनाः' इति विशेषणपदस्य विशेष्यपदं किम्? (क) जनाः (ख) आविष्काराः (ग) मार्गाः (घ) अपेक्षिताः (ii) 'शोषकः' इति पदस्य किं विलोमपदं गद्यांशे प्रयुक्तम्? (क) विषयः (ख) चिन्तनीयः (ग) सरलः (घ) पोषकः (iii) जनाः अस्याः गाम्भीर्यं न अनुभवन्ति ।' अत्र किं क्रियापदम्? (क) अत्र (ख) अस्याः (ग) अनुभवन्ति (घ) जनाः	
खण्डः - ख रचनात्मककार्यम् - 15 अङ्काः		
2.	भवान् प्रदीपः । स्वस्य कुशलतायाः विषये सूचयितुं मातरं प्रति लिखितं पत्रं मञ्जूषायां प्रदत्तपदैः पूरयित्वा पुनः लिखतु -	10×½=5
	(i) शिमलातः, तिथिः परमपूज्यमातः! सादरं प्रणामाः ।	

	अहम् अत्र कुशली तत्रापि कामये। भवत्याः पत्रं प्राप्य मनसि सन्तोषः (ii)। मम भ्राता (iii) स्वस्थः इति हर्षस्य विषयः। सः मम अध्ययनस्य (iv) च विषये चिन्तितः आसीत्। अहं पञ्चवादने (v) यथानिर्दिष्टं (vi) करोमि (vii) च पठामि। नववादने विद्यालयं (viii)। चतुर्वादने (ix) आगच्छामि। सप्तवादने गृहकार्यं करोमि। पितृमहाभागानां प्रणामाः कथनीयाः। भवत्याः आज्ञापालकः (x) प्रदीपः। मञ्जूषा पुत्रः, विद्यालयात्, व्यायामम्, स्वास्थ्यस्य, जातः, व्यास-छात्रावासः, इदानीम्, तदनन्तरम्, उत्थाय, गच्छामि।	
3. अ	अधः प्रदत्तं चित्रम् आधृत्य पञ्चविंशतितः त्रिंशत्परिमितैः शब्दैः अनुच्छेदमेकं लिखत -	5
	 मञ्जूषा अकरोत्, महाभारतकाले, अर्जुनः, युद्धम्, प्राप्नोत्, गीतोपदेशः, रथात्, प्रार्थना, श्रीकृष्णः, निराकरोति, ज्ञानप्रवाहः, मोहभग्नम्, विषादम्। अथवा	
आ	अधः प्रदत्तं विषयम् आधृत्य पञ्चविंशतितः त्रिंशच्छब्दपरिमितैः अनुच्छेदमेकं लिखत -	
	विषयः - 'देशभक्तः' मञ्जूषा संस्कृतिम्, प्रति, मन्यते, नित्यम्, देशभक्तः, परित्यज्य, पुरुषः, हृदयम्, स्वदेशम्, अखण्डप्रेम्णा, स्वजन्मभूमेः, स्वार्थम्, राष्ट्रहितम्, सङ्कटकाले, देशरक्षणे, समाजे।	

4. अ	मञ्जूषाप्रदत्त-पदसहायतया अधोलिखितां कथां पूरयत -	10×½=5
	कस्मिंश्चिद् विशाले जनप्रदेशे कश्चन धनादि-ऐश्वर्य-विहीनः (i) जनः प्रतिवसति स्म । सः भिक्षाटनेन (ii) करोति स्म । अथ कदाचित् सः पिष्टेन पूरितम् एकं (iii) प्राप्नोत् । सः तं घटम् आनीय गृहे एकस्मिन् नागदन्ते स्थापितवान् । सः सदा तस्य घटस्य अधः उपविश्य घटमेव पश्यति स्म । एकदा रात्रौ सः (iv) -“यदि प्रदेशे दुर्भिक्षः भवेत् तर्हि एतस्य अधिकं मूल्यं भवेत् । तदा अहम् एतस्य पिष्टपूरितस्य घटस्य (v) कृत्वा तेन धनेन अजानां क्रयणं करिष्यामि । कालान्तरे तेन अजसमूहः भविष्यति । अजसमूहस्य विक्रयणं कृत्वा महिषीः ताः च विक्रीय अश्वान् क्रेष्यामि । अश्वान् अपि विक्रीय यथेष्टं (vi) सम्पादयिष्यामि । तेन धनेन बृहतः भवनस्य निर्माणं कारयिष्यामि । तदा मां धनवन्तं ज्ञात्वा कश्चित् श्रेष्ठी आगत्य रूपवतीं (vii) मह्यं दास्यति । अनन्तरं मम पुत्रः भविष्यति । देवः इति तस्य नामकरणं करिष्यामि । अथ कदाचन अहं प्राङ्गणे उपविश्य (viii) पठिष्यामि । यदा देवः जानुभ्यां चलन् मम (ix) आगमिष्यति तदा तं बालं नेतुं स्वपत्नीम् आज्ञापयिष्यामि । यदि सा मम वचनं न श्रोष्यति, तर्हि अहं कोपेन (x) करिष्यामि ।” इति चिन्तयन् सः पादप्रहारं कृतवान् एव । तेन प्रहारेण घटः पतितः भग्नः चाभवत् । मञ्जूषा चिन्तितवान्, पादप्रहारम्, पुस्तकम्, दरिद्रः, मृत्तिकाघटम्, जीवनयापनम्, विक्रयणम्, धनम्, समीपम्, स्वकन्याम् । अथवा	
आ	अधोलिखिते संवादे मञ्जूषायाः सहायतया रिक्तस्थानानि पूरयत -	
	महेशः - मित्र! भवान् वार्षिकोत्सवाय विद्यालयं न आगच्छत् । अपि गृहे सर्वं कुशलम्? राममनोहरः - (i) _____ । महेशः - तर्हि किमर्थं नागच्छत्? राममनोहरः - (ii) _____ । माधवः - अहो! उज्जयिनीं सर्वे परिवारजनाः अगच्छन् । बहूत्तमम् । किं किं दृष्टम्? राममनोहरः - (iii) _____ । माधवः - उज्जयिन्याः विषये बहुधा श्रुतम् अस्ति । किम् अन्वभवत् तत्र भवान्? राममनोहरः - आनन्दप्रदं नगरं तत्, सर्वेऽपि तत्र चिन्तारहिताः भक्ताः ‘हरहरमहादेव जयमहाकाल’ इति वदन्तः सर्वत्र व्रजन्ति । माधवः - अहो! अद्भुतं खलु तद् दृश्यम् । किं प्रातःकालस्य भस्मारत्या दृश्यम् अवालोकयत्? राममनोहरः - (iv) _____ । माधवः - सत्यं वदति, अहम् अत्र विवरणं श्रुत्वैव आनन्दितः भवामि । राममनोहरः - भवान् अपि कदापि गच्छतु यतोहि वस्तुतः दर्शनीयं स्थलं तत् । माधवः - (v) _____ ।	

	राममनोहरः - स्वागतम्, पुनर्मिलामः महादेव! मञ्जूषा - आम्, अद्भुतं दृश्यं भवति तत्र यदा भस्मारती भवति तदा जनाः मन्दिरपरिसरे उपविश्य आनन्दरताः भवन्ति । - आम् मित्र! परिवारसदस्यैः सह विमर्शं कृत्वा योजनां करिष्यामि । धन्यवादः । - सर्वप्रथमं तु शिप्रानद्यां स्नानं कृतं पश्चात् च वयं महाकालदर्शनम् अकुर्म । - आम् मित्र! गेहे सर्वं कुशलमेव । - वयं गृहे न आस्म, सर्वेऽपि भ्रमणार्थं उज्जयिनीम् अगच्छाम ।	
खण्डः - ग अनुप्रयुक्तव्याकरणम् 20 अङ्काः		
5. अ	अधोलिखितवाक्येषु रेखाङ्कितपदानां सन्धिं सन्धिच्छेदं वा कृत्वा लिखत -	4×1=4
	(क) आचार्याय <u>प्रियम्</u> + <u>धनमाहृत्य</u> प्रजतन्तुं मा व्यच्छेत्सीः । (ख) <u>तनुवाग्विभवः</u> अपि सन् रघूणाम् अन्वयं वक्ष्ये । (ग) एकशरीर - सङ्क्षिप्ता पृथिवी <u>रक्षितव्येति</u> । (घ) क एष मामनुत्तरन् <u>मुमूर्षुः</u> + <u>समायाति</u> । अथवा	
आ	अधोलिखितवाक्येषु रेखाङ्कितपदानां सन्धिं सन्धिच्छेदं वा कृत्वा लिखत -	
	(क) अपेक्षया रूपवतां हि विद्या मानं <u>लभन्तेऽतितरां</u> जगत्याम् । (ख) <u>सन्तुष्टः</u> + <u>राजा</u> मुञ्जः भोजं निजसिंहासने निवेशयेत् । (ग) जाने ते अभिरुचिम् <u>अध्ययनाध्यापनयोः</u> च । (घ) दैवी <u>सम्पत्</u> + <u>विमोक्षाय</u> निबन्धायासुरी मता ।	
6.	अधोलिखितवाक्येषु रेखाङ्कितपदानां समुचितं समस्तपदं विग्रहवाक्यं वा प्रदत्तविकल्पेभ्यः चित्वा लिखत -	4×1=4
	(i) <u>प्रज्ञया सदृशाः आगमाः यस्य सः</u> राजा आसीत् । (क) प्रज्ञसदृशागमात् (ख) प्रज्ञासदृशागमः (ग) प्रज्ञासदृशगमस् (घ) प्रज्ञासदृशागमा (ii) (<u>सवाष्पम्</u>) हा धिक्! अस्मानविज्ञायोपालभसे । (क) वाष्पस्य सहितम् (ख) वाष्पात् सहितम् (ग) वाष्पेण सहितम् (घ) वाष्पेभ्यः सहितम् (iii) यदि ते <u>कर्मणि विचिकित्सा</u> स्यात् । (क) कर्मविचिकित्सा (ख) कर्मन्विचिकित्सा	

	(ग) कर्मणाविचिकित्सा (iv) जनः <u>कामं च क्रोधं च लोभं च</u> त्यजेत् । (क) कामक्रोधलोभम् (ग) कामक्रोधलोभा	(घ) कर्मणाविचिकित्सा (ख) कामक्रोधलोभाः (घ) कामक्रोधलोभान्	
7.	अधोलिखितवाक्येषु रेखाङ्कितपदेषु प्रकृतिप्रत्ययौ संयोज्य विभज्य वा समुचितं रूपं प्रदत्त- विकल्पेभ्यः चिनुत -	4×1=4	
	(i) दौवारिकः भुशुण्डीं स्कन्धे निधाय निपुणं <u>निरीक्षमाणः</u> असीत् । (क) निर्+इक्ष्+मतुप् (ग) निर्+ईक्ष्+शतृ (ii) निवेदितम् <u>अप्रभु + त्व</u> । (क) अप्रभुत्व (ग) अप्रभुत्वम् (iii) अहं <u>बल+मतुप्</u> सिद्धः सुखी च अस्मि । (क) बलवत् (ग) बलवति (iv) आर्य! कः <u>परित्रातव्यः</u> । (क) परि + त्राण् + तव्यत् (ग) परि + त्राण् + अनीयर्	(ख) निर्+ईक्ष्+अण् (घ) निर्+ईक्ष्+शानच् (ख) अप्रभुतम् (घ) अप्रभुता (ख) बलवान् (घ) बलवता (ख) परि + त्राण् + शानच् (घ) परि + त्राण् + क्तिन्	
8.	समुचितं विभक्तियुक्तं पदं प्रदत्तविकल्पेभ्यः चित्वा रिक्तस्थानपूर्तिं कृत्वा लिखत -	4×1=4	
	(i) ते आत्मसम्भाविताः स्तब्धाः अविधिपूर्वकं यजन्ते । (क) नामयज्ञेभ्यः (ग) नामयज्ञेषु (ii) कुलगुरुतुम्बरुमहाभागैः तु अन्यदेव सूचितम् । (क) गन्धर्वराजम् (ग) गन्धर्वराजात् (iii) समीपम् आगत्य दौवारिकः उवाच । (क) दीपेषु (ग) दीपस्य (iv) राजा दिलीपः सदृशागमः आसीत् । (क) प्रज्ञायाः (ग) प्रज्ञा	(ख) नामयज्ञानाम् (घ) नामयज्ञैः (ख) गन्धर्वराजाय (घ) गन्धर्वराजस्य (ख) दीपम् (घ) दीपात् (ख) प्रज्ञाः (घ) प्रज्ञया	

9. अ	वाच्यानुसारं समुचितैः पदैः रिक्तस्थानानि पूरयित्वा अधोलिखितं संवादं लिखत -	4×1=4
	राघवेन्द्रः - भोः मानव! (i) अधुना किं क्रियते? मानवः - किं त्वम् न जानासि? सा परीक्षायै (ii) करोति । राघवेन्द्रः - तया क्रीडनाय कदा (iii)? मानवः - निश्चयेन अध्ययनं समाप्य एव (iv) क्रीडनाय आगमिष्यति । मञ्जूषा आगमिष्यते, सिद्धताम्, सा, राधया । अथवा	
आ	वाच्यानुसारं समुचितैः पदैः रिक्तस्थानानि पूरयित्वा अधोलिखितानि वाक्यानि लिखत -	
	(i) तेन विद्यालयः (गम्) । (ii) (युष्मद्) श्रीमद्भगवद्गीतां जानासि? (iii) पिता सर्वान् (पुत्र) लालयति । (iv) क्रीडकैः ध्यानेन (क्रीड) ।	
	खण्डः - घ भागः - I पठितांशावबोधनम् 25 अङ्काः	
10.	अधोलिखितं गद्यांशं पठित्वा तदाधारितान् प्रश्नान् यथानिर्देशं संस्कृतेन उत्तरत - पुरा धाराराज्ये सिन्धुल-संज्ञो राजा चिरं प्रजाः पर्यपालयत् । तस्य वार्धक्ये भोज इति पुत्रः समजनि । सः यदा पञ्चवार्षिकस्तदा पिता ह्यात्मनो जरां ज्ञात्वा मुख्यामात्यानाहूयानुजं मुञ्च महाबलमालोक्य पुत्रं च बालं संवीक्ष्य विचारयामास - यद्यहं राज्यलक्ष्मीभारधारणसमर्थं सहोदरमपहाय राज्यं पुत्राय प्रयच्छामि, तदा लोकापवादः । अथ वा बालं मे पुत्रं मुञ्चो राज्यलोभाद्विषादिना मारयिष्यति तदा दत्तमपि राज्यं वृथा । पुत्रहानिर्वशोच्छेदश्च इति विचार्य राज्यं मुञ्चाय दत्त्वा तदुत्सङ्गे भोजमात्मानं मुमोच ।	5
	I. एकपदेन उत्तरत - (केवलं प्रश्नद्वयम्)	2×½=1
	(क) राजा कं बालं संवीक्ष्य विचारयामास? (ख) पुत्रहानिर्वशोच्छेदश्च इति विचार्य राजा राज्यं कस्मै अयच्छत्? (ग) कः संज्ञः राजा चिरं प्रजाः पर्यपालयत्?	
	II. पूर्णवाक्येन उत्तरत - (केवलं प्रश्नद्वयम्)	2×1=2
	(क) राजा आत्मनः जरां ज्ञात्वा किं विचारयामास? (ख) राज्ञः वार्धक्ये कः समजनि? (ग) सिन्धुलः किं विचार्य राज्यं मुञ्चाय अयच्छत्?	
	III. (अ) निर्देशानुसारम् उत्तरत -	2×1=2

	(क) 'विचारयामास' इति क्रियापदस्य कर्तृपदं किम्? (ख) 'बबन्ध' इत्यस्य विपर्ययपदं किं प्रयुक्तम्? अथवा	
	(आ) निर्देशानुसारम् उत्तरत - (क) 'सः यदा पञ्चवार्षिकस्तदा' अत्र 'सः' इति सर्वनामपदं कस्मै किं प्रयुक्तम्? (ख) 'अवलोक्य' इत्यर्थे किं पदं गद्यांशे प्रयुक्तम्?	
11.	अधोलिखितं पद्यं पठित्वा तदाधारितान् प्रश्नान् यथानिर्देशं संस्कृतेन उत्तरत - कर्णामृतं सूक्तिरसं विमुच्य, दोषेषु यत्नः सुमहान् खलानाम् । निरीक्षते केलिवनं प्रविश्य, क्रमेलकः कण्टकजालमेव ॥	5
	I. एकपदेन उत्तरत - (केवलं प्रश्नद्वयम्)	2×½=1
	(क) खलानां कीदृशः यत्नः दोषेषु भवति? (ख) कः कण्टकजालं निरीक्षते? (ग) खलानाम् केषु यत्नः भवति?	
	II. पूर्णवाक्येन उत्तरत - (केवलं प्रश्नद्वयम्)	2×1=2
	(क) क्रमेलकः कुत्र प्रविश्य किं निरीक्षते? (ख) पद्ये सूक्तिरसं कीदृशं प्रोक्तम्? (ग) किं विमुच्य खलानां यत्नः दोषेषु भवति?	
	III. (अ) निर्देशानुसारम् उत्तरत -	2×1=2
	(क) 'यत्नः' इति पदस्य विशेषणपदं किम्? (ख) 'गुणेषु' इति पदस्य विलोमपदं किं प्रयुक्तम्? अथवा	
	(आ) निर्देशानुसारम् उत्तरत - (क) 'निरीक्षते' इति क्रियापदस्य किं कर्तृपदं प्रयुक्तम्? (ख) 'त्यक्त्वा' इति पदस्य पर्यायपदं किं प्रयुक्तम्?	
12.	अधोलिखितं नाट्यांशं पठित्वा तदाधारितान् प्रश्नान् यथानिर्देशं संस्कृतेन उत्तरत - रामः - अत्र मोहमुपगतस्तत्रभवान् । हन्त! निवेदितमप्रभुत्वम् । मैथिलि! मङ्गलार्थेऽनया दत्तान् वल्कलांस्तावदानय । करोम्यन्यैर्नृपैर्धर्मं नैवाप्तं नोपपादितम् ॥ सीता - गृह्णात्वार्यपुत्रः । रामः - मैथिलि! किं व्यवसितम्? सीता - ननु सहधर्मचारिणी खल्वहम् । रामः - मयैकाकिना किल गन्तव्यम् । सीता - अतो नु खल्वनुगच्छामि ।	5

	रामः - वने खलु वस्तव्यम् । सीता - तत् खलु मे प्रासादः । रामः - श्वश्रूश्वशुरशुश्रूषापि च ते निर्वर्तयितव्या । सीता - एनामुद्दिश्य देवतानां प्रणामः क्रियते ।	
	I. एकपदेन उत्तरत - (केवलं प्रश्नद्वयम्)	2×½=1
	(क) रामः सीतां कान् आनेतुं कथयति? (ख) सहधर्मचारिणी का अस्ति? (ग) एकाकिना केन गन्तव्यम्?	
	II. पूर्णवाक्येन उत्तरत - (केवलं प्रश्नद्वयम्)	2×1=2
	(क) रामेण कुत्र वस्तव्यम्? (ख) सीता किं निमित्तं देवतानां प्रणामं करोति? (ग) कः मोहं उपगतः?	
	III. (अ) निर्देशानुसारम् उत्तरत -	2×1=2
	(क) 'तत् खलु मे प्रासादः।' इत्यत्र 'मे' इति सर्वनामपदं कस्मै प्रयुक्तम्? (ख) 'करोमि' इति क्रियापदस्य कर्तृपदं किम्? अथवा	
	(आ) निर्देशानुसारम् उत्तरत - (क) 'दानवानाम्' इति पदस्य किं विलोमपदं नाट्यांशे प्रयुक्तम्? (ख) 'मैथिली' इति पदं कस्याः पर्यायः अस्ति?	
13.अ	अधोलिखितस्य पद्यस्य भावार्थं मञ्जूषाप्रदत्तपदैः पूरयित्वा पुनः लिखत -	3×1=3
	तदन्वये शुद्धिमति प्रसूतः शुद्धिमत्तरः । दिलीप इव राजेन्दुरिन्दुः क्षीरनिधाविव ॥ भावार्थः - येन प्रकारेण (i) चन्द्रमा उत्पन्नः अभवत् तथा एव तस्य (ii) वंशे तस्य अपेक्षया अपि (iii) निर्मलतरः राजसु चन्द्रः इव तेजस्वी राजा दिलीपः अभवत् (जन्म लब्धवान्) । मञ्जूषा वैवस्वतमनोः, कान्तिमान्, क्षीरसागरात् । अथवा	
आ	प्रदत्त-भावार्थत्रयात् शुद्धं भावार्थं चित्वा लिखत -	

	(i) सूक्तिरसं विमुच्य दोषेषु यत्नः सुमहान् खलानाम् । (क) खलः नरः दुष्टताम् आचरति । (ख) दुष्टानां प्रयासः सुवचनं त्यक्त्वा दोषेषु/व्यसनेषु भवति । (ग) सज्जनानां सुवचनं त्याज्यं भवति । (ii) युधिष्ठिरस्य एषा एव चिन्तनसरणिः । (क) ज्येष्ठपाण्डुपुत्रस्य ईदृशी एव विचारधारा । (ख) तस्य ईदृशी प्रवृत्ति न आसीत् । (ग) युधिष्ठिरस्य कुलपरम्परा ईदृशी एव । (iii) यान्यनवद्यानि कर्माणि तानि सेवितव्यानि । (क) यानि वन्दनीयानि तानि सेवा योग्यानि । (ख) सेवा एव करणीयानि । (ग) यानि दोषरहितानि अनिन्द्यानि च कार्याणि सन्ति तानि करणीयानि ।											
14.	अधोलिखित-श्लोकस्य प्रदत्ते अन्वये रिक्तस्थानपूर्तिं कुरुत -	3×1=3										
	वनगमननिवृत्तिः पार्थिवस्यैव तावत् मम पितृपरवत्ता बालभावः स एव । नवनृपतिविमर्शे नास्ति शङ्का प्रजानाम् अथ च न परिभोगैर्वञ्चिता भ्रातरो मे ॥ अन्वयः - तावत् एव (i) वनगमन-निवृत्तिः, मम पितृपरवत्ता सः एव (ii), नवनृपति-विमर्शे प्रजानां शङ्का न अस्ति, अथ च मे भ्रातरः (iii) वञ्चिताः न (भविष्यन्ति) । मञ्जूषा बालभावः, परिभोगैः, पार्थिवस्य ।											
15.अ	‘क’ स्तम्भस्य वाक्यांशस्य ‘ख’ स्तम्भस्य वाक्यांशेन सह मेलनं कुरुत -	4×1=4										
	<table style="width: 100%; border-collapse: collapse;"><tr><th style="text-align: left; width: 50%;">‘क’ स्तम्भः</th><th style="text-align: left; width: 50%;">‘ख’ स्तम्भः</th></tr><tr><td>(1) प्रजानामेव भूत्यर्थम्</td><td>(क) अन्तेवासिनमनुशास्ति ।</td></tr><tr><td>(2) वेदम् अनूच्याचार्यः</td><td>(ख) स ताभ्यो बलिमग्रहीत् ।</td></tr><tr><td>(3) अजीर्णे भेषजं वारि</td><td>(ग) शिष्येभ्यः जीवनकलां शिक्षयिष्यामि ।</td></tr><tr><td>(4) आचार्येतिपादं प्राप्य</td><td>(घ) जीर्णे वारि बलप्रदम् ।</td></tr></table> अथवा	‘क’ स्तम्भः	‘ख’ स्तम्भः	(1) प्रजानामेव भूत्यर्थम्	(क) अन्तेवासिनमनुशास्ति ।	(2) वेदम् अनूच्याचार्यः	(ख) स ताभ्यो बलिमग्रहीत् ।	(3) अजीर्णे भेषजं वारि	(ग) शिष्येभ्यः जीवनकलां शिक्षयिष्यामि ।	(4) आचार्येतिपादं प्राप्य	(घ) जीर्णे वारि बलप्रदम् ।	
‘क’ स्तम्भः	‘ख’ स्तम्भः											
(1) प्रजानामेव भूत्यर्थम्	(क) अन्तेवासिनमनुशास्ति ।											
(2) वेदम् अनूच्याचार्यः	(ख) स ताभ्यो बलिमग्रहीत् ।											
(3) अजीर्णे भेषजं वारि	(ग) शिष्येभ्यः जीवनकलां शिक्षयिष्यामि ।											
(4) आचार्येतिपादं प्राप्य	(घ) जीर्णे वारि बलप्रदम् ।											

आ	अधोलिखितेषु वाक्येषु रेखाङ्कितपदानां प्रसङ्गानुसारं शुद्धम् उत्तरं चित्वा लिखत -	
	(क) भूल्यै न प्रमदिव्यम् । (ख) फले कस्मिन् स्पृहा तस्या येनाकार्यं करिष्यति । (ग) राजा ब्राह्मणं सम्प्रेष्य निशीथे शयनमासाद्य व्यचिन्तयत् । (घ) केलिवनं प्रविश्य क्रमेलकः कण्टकजालं निरीक्षते । मञ्जूषा कामना, ऐश्वर्याय, उष्ट्रः, रात्रौ ।	
खण्डः - घ भागः - II सामान्यसंस्कृतसाहित्यपरिचयः 10 अङ्काः		
16.	अधोलिखित-प्रश्नानाम् उत्तराणि लिखत - (केवलं प्रश्नत्रयम्)	3×1=3
	(i) 'शिक्षावल्याः' कः पाठः सङ्कलितः? (ii) 'प्रजानुरञ्जको नृपः' इति पाठः कस्मात् महाकाव्यात् सङ्कलितः? (iii) 'शिवराजविजयः' इत्यस्य उपन्यासस्य लेखकः कः? (iv) 'कार्याकार्यव्यवस्थितिः' इत्यस्य पाठस्य सन्दर्भग्रन्थः कः?	
17.	मञ्जूषायाः समुचितं पदं चित्वा रिक्तस्थानानि पूरयत - (केवलं प्रश्नत्रयम्)	3×1=3
	(i) कालिदासेन रचितं खण्डकाव्यम् अस्ति । (ii) दमयन्तीकथा अपि कथ्यते । (iii) सन्दर्भे 'गद्यं कवीनां निकषं वदन्ति' इति उक्तिः प्रसिद्धा । (iv) दैवीयोदात्तगुणोपेतः उच्चकुलीयः क्षत्रियः नायकः भवति । मञ्जूषा नलचम्पू, महाकाव्यस्य, मेघदूतम्, गद्यरचनायाः ।	
18.	समुचितं मेलयित्वा लिखत -	4×1=4
	भागः - क (i) मृच्छकटिकम् (ii) राजनैतिकनाटकम् (iii) महाभारताधारितम् (iv) मालविग्रिमित्रम् भागः - ख (क) मुद्राराक्षसम् (ख) शूद्रकः (ग) कालिदासः (घ) वेणीसंहारः	

संस्कृतम् (केन्द्रिकम्, कोड-सङ्ख्या - 322)

आदर्श-प्रश्नपत्रम्

कक्षा - द्वादशी (2026-27)

अवधि: - होरात्रयम्

अङ्कयोजना उत्तरसङ्केताश्च

पूर्णाङ्काः - 80

अवधातव्यम् -

1. अङ्कयोजनायां प्रदत्तानि उत्तराणि निदर्शात्मकानि सन्ति । प्रदत्तानि उत्तराणि अतिरिच्यापि सन्दर्भानुसारम् अन्यानि उत्तराणि भवितुम् अर्हन्ति ।
2. आन्तरिकविकल्पात्मकेषु प्रश्नेषु यद्यपि स्पष्टतया निर्देशः दत्तः अस्ति यत् केवलं प्रश्नद्वयम् अथवा प्रश्नत्रयम् इत्यादिकम् उत्तरं दातव्यं तथापि यदि छात्रः अतिरिक्त-प्रश्नानाम् उत्तराणि लिखति तर्हि छात्रहिताय निर्णयः कर्तव्यः । यथा अनुवादकार्ये पञ्चवाक्यानां लेखनम् अभीष्टं परं छात्रः यदि षड् वाक्यानि लिखति तर्हि तत्र केवलं प्रथम-पञ्चवाक्यानां न अपितु यानि वाक्यानि उत्तमानि सन्ति तेषां मूल्याङ्कनं करणीयम् । (अयं नियमः एकादश्यां कक्षायाम् अपि पालनीयः ।)
3. श्लोके नाट्यांशे वा पृष्ठाः प्रश्नाः अवबोधात्मकाः सन्ति । अतः विद्यार्थिनः एतेषु प्रदत्तशब्दानां स्थाने समभाव-पर्यायवाचि-शब्दानां प्रयोगं कर्तुं शक्नुवन्ति । तदर्थम् अङ्काः देयाः । यदि विद्यार्थिनः उत्तरलेखन-समये समुचितानां विभक्तीनां वचनानां च प्रयोगं न कुर्वन्ति तर्हि अंशतः अङ्काः कर्तनीयाः न तु सम्पूर्णाङ्काः ।
4. त्रुटिपूर्णवर्तन्यै व्याकरणात्मक-प्रयोगाय च अनुपाततः अङ्काः कर्तनीयाः न तु सम्पूर्णाङ्काः ।
5. आंशिक-दृष्ट्या समुचितेभ्यः उत्तरेभ्यः अपि अङ्काः देयाः ।
6. रचनात्मक-कार्ये वाक्यरचना प्रमुखा न तु वाक्यसौन्दर्य-तत्त्वम् । अतः आंशिकवाक्यशुद्धये अपि अङ्काः देयाः ।

खण्डः - क

अपठितावबोधनम् - 10 अङ्काः

1.	अधोलिखितं गद्यांशं पठित्वा प्रदत्तप्रश्नानामुत्तराणि संस्कृतेन लिखत -	10
	(अ) एकपदेन उत्तरत - केवलं प्रश्नद्वयम्	2×1=2
	(i) वृक्षाः (ii) वैदिककाले (iii) प्राकृतिक-पर्यावरणस्य	
	(आ) पूर्णवाक्येन उत्तरत - केवलं प्रश्नद्वयम्	2×2=4
	(i) 'प्लास्टिक' इति रसायनेन निर्मितवस्तूनि पर्यावरणाय हानिकराणि इति जानन्तः अपि जनाः एतेषां प्रयोगं बाहुल्येन कुर्वन्ति । (ii) यदि पर्यावरणं प्राणिजीवनाय अनुकूलं न भविष्यति तर्हि पृथिव्यां जीवनमेव	

	असम्भवं भविष्यति । (iii) पर्यावरणप्रदूषकं धूमं क्षिपतां वाहनानाम् औद्योगिक-यन्त्रागाराणां सङ्ख्या निरन्तरं वर्धमाना अस्ति ।	
	(इ) अनुच्छेदस्य समुचितं शीर्षकं लिखत । पर्यावरणम्, प्रकृतिसुरक्षा । अन्ये अपि शीर्षकाः भवितुम् अर्हन्ति ।	1×1=1
	(ई) यथानिर्देशम् उत्तरत -	3×1=3
	(i) (ख) आविष्काराः (ii) (घ) पोषकः (iii) (ग) अनुभवन्ति	
खण्डः - ख रचनात्मककार्यम् - 15 अङ्काः		
2.	भवान् प्रदीपः । स्वस्य कुशलतायाः विषये सूचयितुं मातरं प्रति लिखितं पत्रं मञ्जूषायां प्रदत्तपदैः पूरयित्वा पुनः लिखतु -	10×½=5
	(i) व्यास-छात्रावासः शिमलातः, तिथिः _____ परमपूज्यमातः! सादरं प्रणामाः । अहम् अत्र कुशली तत्रापि कामये । भवत्याः पत्रं प्राप्य मनसि सन्तोषः (ii) जातः । मम भ्राता (iii) इदानीं स्वस्थः इति हर्षस्य विषयः । सः मम अध्ययनस्य (iv) स्वास्थ्यस्य च विषये चिन्तितः आसीत् । अहं पञ्चवादने (v) उत्थाय यथानिर्दिष्टं (vi) व्यायामं करोमि (vii) तदनन्तरं च पठामि । नववादने विद्यालयं (viii) गच्छामि । चतुर्वादने (ix) विद्यालयात् आगच्छामि । सप्तवादने गृहकार्यं करोमि । पितृमहाभागानां प्रणामाः कथनीयाः । भवत्याः आज्ञापालकः (x) पुत्रः प्रदीपः ।	
3. अ	अधः प्रदत्तं चित्रम् आधृत्य पञ्चविंशतितः त्रिंशच्छब्दपरिमितैः अनुच्छेदमेकं लिखत -	5
	अत्र छात्रेभ्यः संक्षिप्तवाक्यरचना अपेक्षिता वर्तते । केवलं वाक्यशुद्धिः द्रष्टव्या । अस्य प्रश्नस्य प्रमुखम् उद्देश्यं वाक्यरचना भावप्रकटनं च अस्ति । वाक्यं दीर्घम् अस्ति अथवा लघु इति महत्त्वपूर्णं नास्ति । व्याकरणदृष्ट्या शुद्धतानिमित्तं स्वबुद्ध्या निर्धारणं करणीयम् । मञ्जूषायां	

	प्रदत्ताः शब्दाः सहायतार्थं सन्ति । छात्रः तेषां वाक्येषु प्रयोगं कुर्यादेव इति अनिवार्यं नास्ति । छात्रः स्वमेधया अपि वाक्यानि निर्मातुं शक्नोति । मञ्जूषायां प्रदत्तानां शब्दानां विभक्तिं परिवर्तनं कृत्वा अपि वाक्यनिर्माणं कर्तुं शक्यते ।	
	अथवा	
आ	अधः प्रदत्तं विषयम् आधृत्य पञ्चविंशतितः त्रिंशच्छब्दपरिमितैः अनुच्छेदमेकं लिखत -	
	अयं विकल्पः सर्वेभ्यः अस्ति । छात्राः मञ्जूषायां प्रदत्तानां शब्दानां विभक्तिं परिवर्तनं कृत्वा अपि वाक्यनिर्माणं कर्तुं शक्नुवन्ति । अतः अङ्काः देयाः । अस्य मूल्याङ्कनाय अन्ये नियमाः चित्रवर्णनस्य अनुगुणं पालनीयाः ।	
4. अ	मञ्जूषाप्रदत्त-पदसहायतया अधोलिखितां कथां पूरयत -	10×½=5
	कस्मिंश्चिद् विशाले जनप्रदेशे कश्चन धनादि-ऐश्वर्य-विहीनः (i) दरिद्रः जनः प्रतिवसति स्म । सः भिक्षाटनेन (ii) जीवनयापनं करोति स्म । अथ कदाचित् सः पिष्टेन पूरितम् एकं (iii) मृत्तिकाघटं प्राप्नोत् । सः तं घटम् आनीय गृहे एकस्मिन् नागदन्ते स्थापितवान् । सः सदा तस्य घटस्य अधः उपविश्य घटमेव पश्यति स्म । एकदा रात्रौ सः (iv) चिन्तितवान् - “यदि प्रदेशे दुर्भिक्षः भवेत् तर्हि एतस्य अधिकं मूल्यं भवेत् । तदा अहम् एतस्य पिष्टपूरितस्य घटस्य (v) विक्रयणं कृत्वा तेन धनेन अजानां क्रयणं करिष्यामि । कालान्तरे तेन अजसमूहः भविष्यति । अजसमूहस्य विक्रयणं कृत्वा महिषीः ताः च विक्रीय अश्वान् क्रेष्यामि । अश्वान् अपि विक्रीय यथेष्टं (vi) धनं सम्पादयिष्यामि । तेन धनेन बृहतः भवनस्य निर्माणं कारयिष्यामि । तदा मां धनवन्तं ज्ञात्वा कश्चित् श्रेष्ठी आगत्य रूपवतीं (vii) स्वकन्यां मह्यं दास्यति । अनन्तरं मम पुत्रः भविष्यति । देवः इति तस्य नामकरणं करिष्यामि । अथ कदाचन अहं प्राङ्गणे (viii) पुस्तकं पठिष्यामि । यदा देवः जानुभ्यां चलन् मम (ix) समीपम् आगमिष्यति तदा तं बालं नेतुं स्वपत्नीम् आज्ञापयिष्यामि । यदि सा मम वचनं न श्रोष्यति, तर्हि अहं कोपेन (x) पादप्रहारं करिष्यामि ।” इति चिन्तयन् सः पादप्रहारं कृतवान् एव । तेन प्रहारेण घटः पतितः भग्नः चाभवत् ।	
	अथवा	
आ	अधोलिखिते संवादे मञ्जूषायाः सहायतया रिक्तस्थानानि पूरयत -	
	महेशः - मित्र! भवान् वार्षिकोत्सवाय विद्यालयं न आगच्छत् । अपि गृहे सर्वं कुशलम्? राममनोहरः - (i) आम् मित्र! गेहे सर्वं कुशलमेव । महेशः - तर्हि किमर्थं नागच्छत्? राममनोहरः - (ii) वयं गृहे न आस्म, सर्वेऽपि भ्रमणार्थं उज्जयिनीम् अगच्छाम । माधवः - अहो! उज्जयिनीं सर्वे परिवारजनाः अगच्छन् । बहूतमम् । किं किं दृष्टम्? राममनोहरः - (iii) सर्वप्रथमं तु शिप्रानद्यां स्नानं कृतं पश्चात् च वयं महाकालदर्शनम् अकुर्म । माधवः - उज्जयिन्याः विषये बहुधा श्रुतम् अस्ति । किम् अन्वभवत् तत्र भवान्? राममनोहरः - आनन्दप्रदं नगरं तत्, सर्वेऽपि तत्र चिन्तारहिताः हरहरमहादेव जयमहाकाल	

	इति वदन्तः सर्वत्र व्रजन्ति । माधवः - अहो! अद्भुतं खलु तद् दृश्यम् । किं प्रातःकालस्य भस्मार्त्याः दृश्यम् अवालोचयत्? राममनोहरः - (iv) आम्, अद्भुतं दृश्यं भवति तत्र यदा भस्मारती भवति तदा जनाः मन्दिरपरिसरे उपविश्य आनन्दरताः भवन्ति । माधवः - सत्यं वदति, अहम् अत्र विवरणं श्रुत्वैव आनन्दितः भवामि । राममनोहरः - भवान् अपि कदापि गच्छतु यतोहि वस्तुतः दर्शनीयं स्थलं तत् । माधवः - (v) आम् मित्र! परिवारसदस्यैः सह विमर्शं कृत्वा योजनां करिष्यामि । धन्यवादः । राममनोहरः - स्वागतम्, पुनर्मिलामः महादेव!	
खण्डः - ग अनुप्रयुक्तव्याकरणम् 20 अङ्काः		
5. अ	अधोलिखितवाक्येषु रेखाङ्कितपदानां सन्धिं सन्धिच्छेदं वा कृत्वा लिखत-	4×1=4
	(क) आचार्याय <u>प्रियं धनमा</u>हत्य प्रजतन्तुं मा व्यच्छेत्सीः । (ख) <u>तनुवाक्</u> + <u>विभवः</u> अपि सन् रघूणाम् अन्वयं वक्ष्ये । (ग) एकशरीर - सङ्क्षिप्ता पृथिवी <u>रक्षितवव्या</u> + <u>इति</u> । (घ) क एष मामनुत्तरन् <u>मुमूर्षुस्समायाति</u> । अथवा	
आ	अधोलिखितवाक्येषु रेखाङ्कितपदानां सन्धिं सन्धिच्छेदं वा कृत्वा लिखत-	4×1=4
	(क) अपेक्षया रूपवतां हि विद्या मानं <u>लभन्ते</u> + <u>अतितरां</u> जगत्याम् । (ख) <u>सन्तुष्टो</u> राजा मुञ्जः भोजं निजसिंहासने निवेशयेत् । (ग) जाने ते अभिरुचिम् <u>अध्ययन</u> + <u>अध्यापनयोः</u> च । (घ) दैवी <u>सम्पद्धिमोक्षाय</u> निबन्धायासुरी मता ।	
6.	अधोलिखित-वाक्येषु रेखाङ्कितपदानां समुचितं समस्तपदं विग्रहवाक्यं वा प्रदत्तविकल्पेभ्यः चित्वा लिखत -	4×1=4
	(i) (ख) प्रज्ञासदृशागमः (ii) (ग) वाष्पेण सहितम् (iii) (क) कर्मविचिकित्सा (iv) (घ) कामक्रोधलोभान्	
7.	अधोलिखित-वाक्येषु रेखाङ्कितपदेषु प्रकृतिप्रत्ययौ संयोज्य विभज्य वा समुचितं रूपं प्रदत्तविकल्पेभ्यः चिनुत -	4×1=4
	(i) (घ) निर्+ईक्ष्+शानच् (ii) (ग) अप्रभुत्वम् (iii) (ख) बलवान्	

	(iv) (क) परि + त्राण् + तव्यत्	
8.	समुचितं विभक्तियुक्तं पदं प्रदत्तविकल्पेभ्यः चित्वा रिक्तस्थानपूर्तिं कृत्वा लिखत -	4×1=4
	(i) ते आत्मसम्भाविताः स्तब्धाः (घ) नामयज्ञैः अविधिपूर्वकं यजन्ते । (ii) कुलगुरुतुम्बरुमहाभागैः तु (ख) गन्धर्वराजाय अन्यदेव सूचितम् । (iii) (ग) दीपस्य समीपम् आगत्य दौवारिकः उवाच । (iv) राजा दिलीपः (घ) प्रज्ञया सदृशागमः आसीत् ।	
9. अ	वाच्यानुसारं समुचितैः पदैः रिक्तस्थानानि पूरयित्वा अधोलिखितं संवादं लिखत-	4×1=4
	राघवेन्द्रः - भोः मानव! (i) राधया अधुना किं क्रियते? मानवः - किं त्वम् न जानासि? सा परीक्षायै (ii) सिद्धताम् करोति । राघवेन्द्रः - तया क्रीडनाय कदा (iii) आगमिष्यते? मानवः - निश्चयेन अध्ययनं समाप्य एव (iv) सा क्रीडनाय आगमिष्यति । अथवा	
आ	वाच्यानुसारं समुचितैः पदैः रिक्तस्थानानि पूरयित्वा अधोलिखितानि वाक्यानि लिखत-	
	(i) तेन विद्यालयः गम्यते । (ii) त्वं श्रीमद्भगवद्गीतां जानासि? (iii) पिता सर्वान् पुत्रान् लालयति । (iv) क्रीडकैः ध्यानेन क्रीड्यते ।	
	खण्डः - घ भागः - I पठितांशावबोधनम् - 25 अङ्काः	
10.	अधोलिखितं गद्यांशं पठित्वा तदाधारितान् प्रश्नान् यथानिर्देशं संस्कृतेन उत्तरत -	5
	I. एकपदेन उत्तरत - (केवलं प्रश्नद्वयम्)	2×½=1
	(क) पुत्रम् (ख) मुञ्जाय (ग) सिन्धुल-संज्ञः	
	II. पूर्णवाक्येन उत्तरत - (केवलं प्रश्नद्वयम्)	2×1=2
	(क) राजा आत्मनः जरां ज्ञात्वा विचारयामास - यद्यहं राज्यलक्ष्मीभारधारणसमर्थं सहोदरमपहाय राज्यं पुत्राय प्रयच्छामि, तदा लोकापवादः । अथ वा बालं मे पुत्रं मुञ्जो राज्यलोभाद्विषादिना मारयिष्यति तदा दत्तमपि राज्यं वृथा । (ख) राज्ञः वार्धक्ये भोज इति पुत्रः समजनि । (ग) पुत्रहानिर्विशोच्छेदश्च इति विचार्य राज्यं मुञ्जाय अयच्छत् ।	
	III. (अ) निर्देशानुसारम् उत्तरत -	2×1=2
	(क) पिता/राजा	

	(ख) मुमोच अथवा	
	(आ) निर्देशानुसारम् उत्तरत - (क) पुत्राय/भोजाय (ख) संवीक्ष्य	
11.	अधोलिखितं पद्यं पठित्वा तदाधारितान् प्रश्नान् यथानिर्देशं संस्कृतेन उत्तरत -	5
	I. एकपदेन उत्तरत - (केवलं प्रश्नद्वयम्)	2×½=1
	(क) सुमहान् (ख) क्रमेलकः (ग) दोषेषु	
	II. पूर्णवाक्येन उत्तरत - (केवलं प्रश्नद्वयम्)	2×1=2
	(क) क्रमेलकः केलिवनं प्रविश्य कण्टकजालं निरीक्षते । (ख) पद्ये सूक्तिरसं कर्णामृत-सदृशं प्रोक्तम् । (ग) कर्णामृतं सुक्तिरसं विमुच्य खलानां यत्नः दोषेषु भवति ।	
	III. (अ) निर्देशानुसारम् उत्तरत -	2×1=2
	(क) सुमहान् (ख) दोषेषु अथवा	
	(आ) निर्देशानुसारम् उत्तरत - (क) क्रमेलकः (ख) विमुच्य	
12.	अधोलिखितं नाट्यांशं पठित्वा तदाधारितान् प्रश्नान् यथानिर्देशं संस्कृतेन उत्तरत -	5
	I. एकपदेन उत्तरत - (केवलं प्रश्नद्वयम्)	2×½=1
	(क) वल्कलान् (ख) सीता (ग) रामेण	
	II. पूर्णवाक्येन उत्तरत - (केवलं प्रश्नद्वयम्)	2×1=2
	(क) रामेण वने वस्तव्यम् । (ख) सीता श्वश्रूश्वशुरशुश्रूषानिमित्तं देवतानां प्रणामं करोति । (ग) भवान् (लक्ष्मणः) मोहम् उपगतः ।	
	III. (अ) निर्देशानुसारम् उत्तरत -	2×1=2
	(क) सीतायै	

	(ख) अहम् (रामः) अथवा	
	(आ) निर्देशानुसारम् उत्तरत - (क) देवतानाम् (ख) सीतायाः	
13. अ	अधोलिखितस्य पद्यस्य भावार्थं मञ्जूषाप्रदत्तपदैः पूरयित्वा पुनः लिखत - भावार्थः - येन प्रकारेण (i) क्षीरसागरात् चन्द्रमा उत्पन्नः अभवत् तथा एव तस्य (ii) वैवस्वतमनोः वंशे तस्य अपेक्षया अपि (iii) कान्तिमान् निर्मलतरः राजसु चन्द्रः इव तेजस्वी राजा दिलीपः अभवत् (जन्म लब्धवान्) । अथवा	3×1=3
आ	प्रदत्त-भावार्थत्रयात् शुद्धं भावार्थं चित्वा लिखत- (i) सूक्तिरसं विमुच्य दोषेषु यत्नः सुमहान् खलानाम् । (ख) दुष्टानां प्रयासः सुवचनं त्यक्त्वा दोषेषु/व्यसनेषु भवति । (ii) युधिष्ठिरस्य एषा एव चिन्तनसरणिः । (क) ज्येष्ठपाण्डुपुत्रस्य ईदृशी एव विचारधारा । (iii) यान्यनवद्यानि कर्माणि तानि सेवितव्यानि । (ग) यानि दोषरहितानि अनिन्द्यानि च कार्याणि सन्ति तानि करणीयानि ।	
14.	अधोलिखित- श्लोकस्य प्रदत्ते अन्वये रिक्तस्थानपूर्तिं कुरुत - अन्वयः - तावत् एव (i) पार्थिवस्य वनगमन-निवृत्तिः, मम पितृपरवत्ता सः एव (ii) बालभावः, नवनृपति-विमर्शे प्रजानां शङ्का न अस्ति, अथ च मे भ्रातरः (iii) परिभोगैः वञ्चिताः न (भविष्यन्ति) ।	3×1=3
15. अ	‘क’ स्तम्भस्य वाक्यांशस्य ‘ख’ स्तम्भस्य वाक्यांशेन सह मेलनं कुरुत - ‘क’ स्तम्भः (1) प्रजानामेव भूत्यर्थम् (2) वेदम् अनूच्याचार्यः (3) अजीर्णे भेषजं वारि (4) आचार्येतिपादं प्राप्य ‘ख’ स्तम्भः (ख) स ताभ्यो बलिमग्रहीत् । (क) अन्तेवासिनमनुशास्ति । (घ) जीर्णे वारि बलप्रदम् । (ग) शिष्येभ्यः जीवनकलां शिक्षयिष्यामि । अथवा	4×1=4
आ	अधोलिखितेषु वाक्येषु रेखाङ्कितपदानां प्रसङ्गानुसारं शुद्धम् उत्तरं चित्वा लिखत - (क) ऐश्वर्याय न प्रमदिव्यम् । (ख) फले कस्मिन् कामना तस्या येनाकार्यं करिष्यति । (ग) राजा ब्राह्मणं सम्प्रेष्य रात्रौ शयनमासाद्य व्यचिन्तयत् ।	

	(घ) केलिवनं प्रविश्य उष्ट्रः_कण्टकजालं निरीक्षते ।	
खण्डः - घ भागः - ii सामान्यसंस्कृतसाहित्यपरिचयः 10 अङ्काः		
16.	अधोलिखित-प्रश्नानाम् उत्तराणि लिखत- (केवलं प्रश्नत्रयम्)	3×1=3
	(i) ‘शिक्षावल्याः’ अनुशासनम् इति पाठः सङ्कलितः । (ii) ‘प्रजानुरञ्जको नृपः’ इति पाठः रघुवंशमहाकाव्यात् सङ्कलितः? (iii) ‘शिवराजविजयः’ इत्यस्य उपन्यासस्य लेखकः पं. अम्बिकादत्तव्यासः । (iv) ‘कार्याकार्यव्यवस्थितिः’ इत्यस्य पाठस्य सन्दर्भग्रन्थः श्रीमद्भगवद्गीता ।	
17.	मञ्जूषायाः समुचितं पदं चित्वा रिक्तस्थानानि पूरयत - (केवलं प्रश्नत्रयम्)	3×1=3
	(i) कालिदासेन रचितं खण्डकाव्यम् मेघदूतम् अस्ति । (ii) नलचम्पू दमयन्तीकथा अपि कथ्यते । (iii) महाकाव्यस्य सन्दर्भे ‘गद्यं कवीनां निकषं वदन्ति’ इति उक्तिः प्रसिद्धा । (iv) दैवीयोदात्तगुणोपेतः उच्चकुलीयः क्षत्रियः गद्यरचनायाः नायकः भवति ।	
18.	समुचितं मेलयित्वा लिखत -	4×1=4
	भाग क भाग ख (i) मृच्छकटिकम् (ख) शूद्रकः (ii) राजनैतिकनाटकम् (क) मुद्राराक्षसम् (iii) महाभारताधारितम् (घ) वेणीसंहारः (iv) मालविष्णिमित्रम् (ग) कालिदासः	

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PHYSICAL EDUCATION (Subject Code 048)
Class XII (2026-27)
Sample Question Paper

TIME ALLOWED: 3 HRS

MAX MARKS: 70

GENERAL INSTRUCTIONS:

1. The question paper consists of 5 sections and 37 Questions.
2. Section A consists of question 1-18 carrying 1 mark each and is multiple choice questions. All questions are compulsory
3. Sections B consist of questions 19-24 carrying 2 marks each and are very short answer types and should not exceed 60-90 words. Attempt any 5.
4. Sections C consist of Question 25-30 carrying 3 marks each and are short answer types and should not exceed 100-150 words. Attempt any 5.
5. Sections D consist of Question 31-33 carrying 4 marks each and are case studies. There is an internal choice available.
6. Section E consists of Question 34-37 carrying 5 marks each and are long answer types and should not exceed 200-300 words. Attempt any 3.

Section -A										
Q-1.	Rules and regulations of a sports tournament are the responsibility of _____ committee? (a) Technical (b) Logistics (c) Marketing (d) Finance	1								
Q-2.	Given below are the two statements labelled Assertion (A) and Reason (R). Assertion (A): In this type of tournament, a team once defeated gets eliminated only the winners continue in the competition. Reason (R): Good team once lost cannot make a comeback. In context of the above two statements, which one of the following is correct? (a) A is true, but R is false (b) A is false, but R is true (c) Both A and R are true and R is the correct explanation of A (d) Both A and R are true, but R is not the correct explanation of A	1								
Q-3.	Match the following <table><tr><td>(a) Knock knee</td><td>(i) Increase exaggeration of backward curve</td></tr><tr><td>(b) Kyphosis</td><td>(ii) Wide gap between the knees when standing with feet together</td></tr><tr><td>(c) Lordosis</td><td>(iii) Knees touch each other in normal standing position;</td></tr><tr><td>(d) Bow legs</td><td>(iv) Inward curvature of the spine</td></tr></table>	(a) Knock knee	(i) Increase exaggeration of backward curve	(b) Kyphosis	(ii) Wide gap between the knees when standing with feet together	(c) Lordosis	(iii) Knees touch each other in normal standing position;	(d) Bow legs	(iv) Inward curvature of the spine	1
(a) Knock knee	(i) Increase exaggeration of backward curve									
(b) Kyphosis	(ii) Wide gap between the knees when standing with feet together									
(c) Lordosis	(iii) Knees touch each other in normal standing position;									
(d) Bow legs	(iv) Inward curvature of the spine									

Note: There is no change in the Question Paper Design and Assessment Pattern for Academic Session 2026-27.

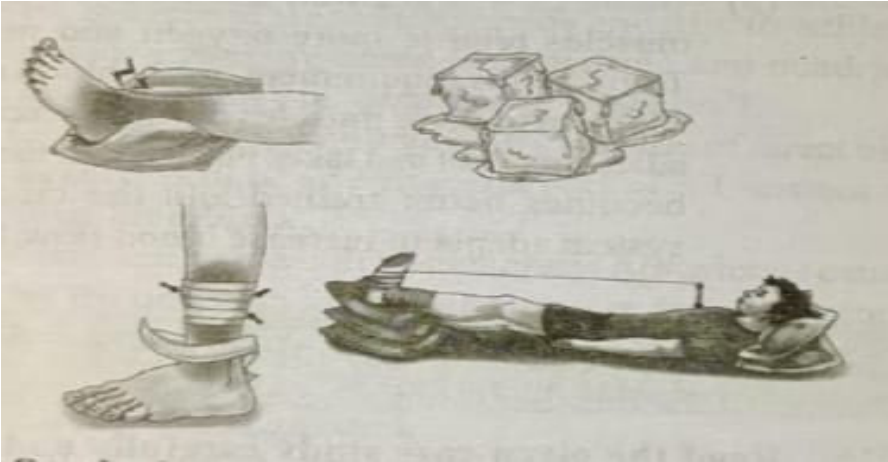
	(a) A-(iii), B-(i), C-(iv), D-(ii) (b) A-(i), B-(iii), C-(iv), D-(ii) (c) A-(iv), B-(ii), C-(i), D-(iii) (d) A(iii), B-(i), C-(iv), D-(ii)	
Q 4.	How much carbohydrates are required for strength dominant sports? (a) 40% (b) 55% (c) 70% (d) 80%	1
Q 5.	Identify the yoga asana below.  (a) Vakrasana (b) Tadasana (c) Vajrasana (d) Ardha Matsyendrasana	1
Q 6.	Which asana is preparatory asana for pawanmuktasana? (a) Vajra asana (b) Bhujang asana (c) Matsendra asana (d) Nauka asana	1
Q 7.	Who is known as the father of Paralympic games? (a) Dr. Ludwig Guttman (b) George Iser (c) Pierre de Coubertin (d) Jacques Rogge	1
Q 8.	Deficiency of which of the following nutrients leads osteoporosis? (a) Iron (b) Iodine (c) Calcium (d) Sulphur	1
Q 9.	From the following find water soluble vitamins. (a) A, D (b) E, K (c) C, A (d) B, C	1

Q10	Which of the following is an aerobic endurance test. (a) Rockport (b) Harvard (c) 6 min walk (d) 100 m run	1
Q11	Which of the following is an effect of exercise on muscular system? (a) Cardiac output (b) Hypertrophy of muscles (c) Tidal volume (d) I.R.V	1
Q12	Overstretching of the ligaments near the joints is known as _____. (a) Contusion (b) Sprain (c) Laceration (d) Fracture	1
Q13	_____ refers to the resistance to the motion at the contact of two surfaces. (a) Attraction (b) Friction (c) Reaction (d) Acceleration	1
Q14	Biomechanics deals with which of the following? (a) Muscles involved in movement (b) Effect of force on different movements done by human body (c) To understand the physiology of the body (d) To understand time and distance concept of various biomechanics	1
Q15	Psychology deals with -. (a) Function of body (b) Activity of air (c) Anatomy (d) Behavior	1
Q16	Given below are the two statements labelled Assertion (A) and Reason (R). Assertion (A): Introverts are more comfortable living alone and being by themselves. Reason (R): They are actively involved in the world of people and things. In context of the above two statements, which one of the following is correct? (a) (A) is false, but (R) is true. (b) A is true, but (R) is false	1

	(c) Both (A) and (R) are true and (R) is the correct explanation of (A). (d) Both (A) and (R) are true, but (R) is not the correct explanation of (A).	
Q17	Two major components of load are _____. (a) Specificity and volume (b) Intensity and volume (c) Intensity and Progression (d) Continuity and recovery	1
Q18	Ability to your muscle overcome resistance is called _____. (a) Strength (b) Speed (c) Balance (d) Explosive strength	1
	Section-B (Attempt any 5)	
Q19	What is Osteoporosis. Mention the factors responsible for it in women.	1+1=2
Q20	What do you mean by roughage? Mention its importance also.	1+1=2
Q21	What changes come in our senses with advancing age?	2
Q22	What is PRICE?	2
Q23	How extrinsic motivation sometime may kill intrinsic motivation?	2
Q24	Suggest any two Isometric exercises for shoulder region.	1+1=2
	Section-C (Attempt any 5)	
Q25	Discuss how League tournament is a better way to judge the best team of any tournament. Also explain one of its methods to declare the winner	2+1=3
Q26	What is Scoliosis? What are the causes of Scoliosis?	1+2=3

Q27 .	What do you understand by the term inclusion? Explain its need and implementation.	1+2=3
Q28 .	What are proteins? Write their functions along with their daily requirement.	1+2=3
Q29 .	List down any three advantages of friction.	1+1+1 =3
Q30 .	What is self-esteem? How participation in physical activities enhances self-esteem among children?	1+2=3
	Section-D (There is an internal choice available)	
Q31 .	Based on above given fixture answer the following questions: (i) Which method is followed in drawing the fixture given above - (A) Single knockout (C) Consolation (B) Double knockout (D) Ladder	1 1

	(ii) The formula for number of matches played in the above tournament is- (A) $N(N-1)$ (B) $N-1$ (C) $N+1$ (D) $N \times 2$	1
	(iii) If 7 teams participate in a double league tournament such as in IPL, how many matches will be conducted in the first phase of the league? (A) 42 (B) 45 (C) 54 (D) 58	1
	(iv) In this type of tournament, a team once defeated get (A) Rematch (B) Consolation award (C) Elimination (D) Bye	
	OR Which no. of team in the above given fixture will be given the 7th bye? (A) 2 (B) 5 (C) 12 (D) 18	
	(For Visually Impaired Candidates Only) The sports captain of XYZ school organized a basketball tournament on knockout basis. He found spectators were losing interest in the tournament because the best 2 teams got knocked out in the beginning. Answer the following questions-	
	(i) Which provision could have avoided this kind of situation? (A) Bye (B) Pool (C) Seeding (D) Halves	
	(ii) If the number of teams is 58, How many byes will be given? (A) 6 (B) 12 (C) 7 (D) 9	1
	(iii) In a knockout tournament if byes are in odd number, then number of byes in lower half are calculated by- (A) $(NB+1)/2$ (B) $(NB-1)/2$ (C) $NB/2$ (D) $NB-1$	1
	(iv) Which of the following tournaments is the most economical- (A) Knockout Tournament (B) League Tournament	1

	(C) Combination Tournament (D) Challenge Tournament OR League tournament is also known as – (A) Combination Tournament (B) League cum League tournament (C) Round Robin Tournament (D) Consolation Tournament	1
Q32	Read the given case study carefully and answer the questions that follow: The International Paralympic Committee is the global governing body of the Paralympic Movement. Its purpose is to organize the summer and winter Paralympic Games and act as the International Federation for ten sports, supervising and coordinating World Championships and other competitions. (a) IPC in sports stands for _____. (b) What was the reason Paralympic Games got their name? (c) Which body governs the Paralympic Movement? (d) When was the IPC formed?	4
Q33	In relation to the pictures, answer the following questions:  (a) While playing in school ground Aman got injured. The injury is stretching in ligaments. What should be the first step to provide him the first aid? (b) What is the importance of Elevation? (c) What is the duration of application of ice? (d) First aid is focused on what are called 3 'P's, <u>P</u>reserve life, <u>P</u>revent deterioration and _____.	4

	(Question for candidates with visual impairment) Ramesh is an athlete of a school. He is use to do 100m event for his school. He used to do hard work throughout the year to get his best performance. One day he got injured in winter season due to improper warming-up. He has been given first -aid before sent to hospital. 1. Sprain is an injury of _____. a) Ligament b) Bone c) Muscle d) Joint 2. In PRICE treatment I stands for _____. a) Icing b) Incision c) Incline d) Irritation 3. Abrasion is a _____. a) Type of fracture b) Soft tissue injury c) Joint dislocation d) Internal injury 4. Why warming up is necessary? a) To avoid injuries b) To increase body temperature c) To increase pulse rate d) All of these	
	Section-E (Attempt any 3)	
Q34 .	What is Diabetes and its types. Draw stick diagram of Gomukhasana and mention its benefits.	2+1+2 =5
Q35 .	Make a list of all the test items in Jhonson – Metheny Test of Motor Educability. Explain the procedure of jumping Half turns and jumping full turns Johnson-Metheny educability test battery.	1+2+2 =5
Q36 .	What is Sports training cycle? Explain micro cycle, meso cycle and macro cycle.	1+4=5
Q37 .	What is a Projectile? Discuss the factors affecting projectile's trajectory.	2+3=5

PHYSICAL EDUCATION (Subject Code 048)
Class XII (2026-27)
Marking Scheme

TIME ALLOWED: 3 HRS

MAX MARKS: 70

Q No.	<u>SECTION A</u>	Marks
Q1.	A. Technical	1
Q2.	C. Both A and R are true and R is the correct explanation of A	1
Q3.	A. A-(iii), B-(i), C-(iv), D-(ii)	1
Q4.	B. 55 %	1
Q5.	A. Vakrasana	1
Q6.	C. Matsendraasana	1
Q7.	A. Dr. Ludwig Guttman	1
Q8.	C. Calcium	1
Q9.	D. B, C	1
Q10.	D. Harvard	1
Q11.	B. Hypertrophy of muscles	1
Q12.	B. Sprain	1
Q13.	C. Reaction	1
Q14.	B. Effect of force on different movements done by human body	1
Q15.	D. Behavior	1
Q16.	B. (A) is true, but (R) is false.	1
Q17.	B. Intensity and volume	1
Q18.	A. Strength	1
	SECTION B	
Q19.	Osteoporosis is a bone disorder in which bone density decreases, causing bones to become weak and fragile. 1. Especially after menopause, due to reduced estrogen levels that accelerate bone loss. 2. Hormonal imbalance, calcium and vitamin D deficiency, 3. Lack of physical activity, aging 4. Poor nutrition, and smoking.	1+1=2
Q20.	Roughage: Indigestible part of food (dietary fibre) Importance (any one): • Roughage consists of water and improves intestinal function by adding bulk to food • It helps correct the disorder of large intestine. • It prevents constipation • Soluble roughage reduces blood sugar level • Insoluble roughage is a good stool softener	1+1=2
Q21.	1. Changes in senses with advancing age • Decline in vision and hearing • Reduced taste and smell	1+1=2

	Slower response to stimuli With advancing age, the efficiency of sensory organs gradually decreases. Vision becomes weaker due to reduced elasticity of the eye lens. Hearing ability declines, making it difficult to hear high-frequency sounds. Sense of taste and smell also reduces, affecting appetite. Reaction time becomes slower, which may affect balance, coordination, and overall physical performance	
Q22.	What is PRICE? P – Protection R – Rest I – Ice C – Compression E – Elevation	2
Q23.	- Over-dependence on rewards reduces self-interest - External pressure decreases internal enjoyment - Rewards shift focus from learning to winning prizes - Loss of self-satisfaction	2
Q24.	- Plank - Wall push - Static shoulder press - Holding dumbbells without movement - Isometric push-up hold	1+1=2
SECTION C		
Q25.	- League tournament is considered the best method to judge the strongest team because every team gets equal opportunities to play against all other teams. - It eliminates the factor of luck as no team is eliminated after a single loss. - This format provides fair competition and accurate ranking. - Teams can improve performance match by match. The winner is declared using British Method that is point system. Generally, a team gets 2 points for a win, 1 point for a draw, and 0 points for a loss. The team with maximum points is declared the winner.	2+1=3
Q26.	Scoliosis is a position in which the spine is tilted to either side of the body. It is a position of lateral curvature or sideways curvature of the spine. Causes: - Birth defect - Lifting of weight towards one side in routine - Arthritis, Paralysis or Rickets - Cerebral palsy and muscular dystrophy	1+2=3
Q27.	Meaning: Participation of all, including CWSN Need: Equality, social integration Implementation: - Modified rules - Adapted equipment - Inclusive programs	3

Q28.	Proteins: Body-building nutrients Functions (any two): • Growth and repair • Muscle development • Enzyme formation Daily requirement: ~1 g/kg body weight	1+2=3
Q29.	Advantages of Friction e.g. Gymnastics- To increase the frictional force between rod and hands. Weightlifting- The lifter needs more friction between their feet and the floor to prevent slipping while lifting heavy weights. Badminton- Badminton racket had a knot of clothing that increases the frictional force of the player's hand due to which the racket does not slip	3
Q30.	Self-esteem: Feeling of self-worth Enhancement: • Success in sports • Social interaction • Confidence building • Peer recognition	3
Q31.	1. Fixture Based Questions (i) (A) Single Knockout (ii) (B) N-1 (iii) (A) 42 (iv) (C) Elimination OR (C) 12 (VISUALLY IMPAIRED) (i) (C) Seeding (ii) (A) 6 (iii) (A) (NB+1)/2 (iv) (A) Knockout OR (C) Round Robin Tournament	1x4=4
Q32.	IPC: International Paralympic Committee Name reason: Started for paraplegic athletes Governing body: IPC Formed: 1989	1x4=4
Q33.	1. (b) Sprain – It involves overstretching or tearing of ligaments around a joint. 2. R.I.C.E. Method: R – Rest: Stop playing to prevent further damage. I – Ice: Apply ice packs to reduce swelling and pain.	1x4=4

	C – Compression: Use elastic bandage to limit swelling. E – Elevation: Keep the injured area above heart level to minimize swelling. 3. Difference: Sprain – Ligament injury (e.g., twisted ankle). Strain – Muscle or tendon injury (e.g., pulled hamstring). 4. Preventive Measures: Proper warm-up and stretching before play. Wearing appropriate footwear and protective gear. OR Possible Effects: Chronic pain, joint instability, ligament tear, or repeated injuries	
Q34.	Diabetes Mellitus is a chronic metabolic disorder in which the body is unable to regulate blood glucose (sugar) levels due to: • insufficient production of insulin, or • improper utilization of insulin by body. As a result, the level of glucose in the blood becomes abnormally high (hyperglycaemia). Type 1 Diabetes Type 2 Diabetes Diagram – 1 mark Benefits – any four • Controls diabetes • Improves digestion • Improves posture • Strengthens muscles • Reduces stress	2+1+2=5
Q35.	• Forward Roll • Backward Roll • Jumping Half Turn • Jumping Full Turn (a) Jumping Half Turn • In Jumping Half Turn, the subject jumps vertically upward from both feet. • While in the air, the performer turns the body 180 degrees (half rotation). • The performer lands on both feet, maintaining balance and control. • Arms may be used freely to assist rotation and balance. Purpose / importance: • Tests coordination, balance, and motor control • Indicates ability to learn and perform new motor skills	1+2+2=5

	(b) Jumping Full Turn • In Jumping Full Turn, the subject jumps upward from a standing position. • During the jump, the performer rotates the body 360 degrees (full turn) in the air. • The performer lands safely on both feet without losing balance. • Proper coordination of arms, legs, and trunk is required. Purpose / importance: • Measures advanced coordination, agility, and motor educability • Reflects the learner's capacity to acquire complex motor skills	
Q36.	The sports training cycle is a systematic and planned process of training, divided into different time phases, which aims at achieving peak performance of an athlete at the right time of competition. 1. Micro Cycle • The shortest unit of the training cycle. • Usually lasts for one week (5–7 days). • Includes daily training sessions, rest, and recovery. • Focuses on specific training objectives like strength, speed, or skill improvement. 2. Meso Cycle • The medium-term training phase. • Generally, lasts for 3 to 6 weeks. • Consists of several micro cycles combined together. • Aims at development of a particular fitness component, such as endurance or strength. 3. Macro Cycle • The longest phase of the training cycle. • Usually covers one full season or one year. • Includes pre-season, competitive season, and transition period. • Main aim is to achieve peak performance during major competitions.	1+4=5
Q37.	A projectile is an object which is thrown or projected into the air and, after leaving the hand or an implement, moves under the influence of gravity alone. Once released, no further force acts on it except gravity. Factors – Explain any three • Angle of projection • Velocity • Height of release • Gravity • Air resistance	2+3=5

APPLIED ART – COMMERCIAL ART CODE- (052)
SAMPLE QUESTION PAPER*
CLASS: XII (2026-27)

Time – 2 hours

Max Marks – 30

General Instructions

Read the following instructions carefully.

1. There are 9 questions in this question paper with internal choice.
2. SECTION A consists of 8 multiple-choice questions carrying 1 mark each.
3. SECTION B consists of 5 short answer questions carrying 2 marks each (Answer in about 100 words).
4. SECTION C consists of 3 long answer questions carrying 6 marks each (Answer in about 200 words). Attempt any two Questions.

S.No		MARKS
1.	SECTION -A Select the right answer from the given option	
i.	Which semi-abstract painting by M.F. Husain evokes compassion in our hearts? A. Ram vanishing the pride of the ocean B. Mother and child C. Mother Teresa D. Haldi grinders	1
ii.	Which etching and aquatint print is based on the theme of the struggle and agony of a poor family? A. Man woman and tree B. Devi C. Of Walls D. Children	1
iii.	Identify the creation by Ustad Mansoor in which he has depicted the present received by Jahangir from the Persian Emperor Shah Abbas. A. Krishna on swing B. Hazrat Nizamuddin Auliya and Amir Khusro C. Falcon on a bird Rest D. Shiva and Sati	1
iv.	Assertion (A): The immortal painting ‘Bani Thani’ (Radha) is the identity of the Kishangarh style.	1

* There is no change in the Question Paper Design and Assessment Pattern for Academic Session 2026-27.

	Reason (R): Exaggerated features like arched eyebrows, pointed noses, and chins with side locks became the hallmark of beauty in this style of painting. A. Both A & R are true, R is the correct explanation of A B. Both A & R are true, R is not the correct explanation of A C. A true, R false D. A false, R true	
v.	'Krishna with Gopis' is a symbolic representation of Purush and Prakriti inspired by the Gita Govinda. Identify its sub-school. A. Kangra B. Chamba C. Basohli D. Guler	1
vi.	Which statement is incorrect regarding the miniature painting 'Bharat Meets Rama at Chitrakut'? A. It was painted by Guman B. Medium of painting is water colours in the tempera on paper C. This painting is from Jodhpur school D. It is in the collection of National Museum	1
vii.	Assertion (A): The miniature painting 'Chand Bibi Playing Polo' depicts players mounted on horses. Reason (R): Men helped her play the game due to the physical strength required for this sport. A. Both A and R are true and R is the correct explanation of A. B. Both A and R are true but R is not the correct explanation of A C. A is true but R is false D. A is false but R is true.	1
viii.	The Marriage procession (Baraat) of Dara Shikoh depicts a grand event, the painting belongs to which period? A. Jahangir B. Akbar C. Provincial Mughal D. Shahjahan	1
	SECTION -B	
2(A)	A female Indian-Hungarian artist developed a unique style by amalgamating Indian themes in Western techniques. i. Justify the above statement through the painting Haldi Grinders. ii. Explain how she inspires you. OR	1+1

* There is no change in the Question Paper Design and Assessment Pattern for Academic Session 2026-27.

2(B)	A collapsed camel is shown against the backdrop of dusk. The sensitivity with the textures are created symbolically leads us to the narrative on one hand and literary illusion on the other. i. Identify the painting, painter, medium and technique. ii. How does the painter create empathy through colour tones?	1+1
3(A)	Nuruddin has painted a wavy mound in the centre of the painting. This serves as a pictorial divide that places one setting in a court and the other in tree-filled court yard. i. Identify the name of the painting, miniature school and collection and technique ii. Appreciate, in your own words, the narrative shown.	1+1
3(B)	OR In Indian culture, Gurus are given a status that is higher than God himself. Disciples served their Gurus to receive education. One such miniature painting of Deccan School reflects mentor disciple relationship. i. Identify this miniature painting, give its title and medium. ii. Describe at least four emotions you feel that the mentor and disciple share .	1+1
4(A)	In the famous sculpture 'Cries Unheard', three stick-like figures are shown as a family (husband, wife and child) flinging their arms above and crying out for help in vain. i. Write name of its sculptor, medium, technique and collection. ii. Explain the sentiments of the sculpture, its message which artist wants to convey through this art.	1+1
4(B)	OR The stretch of muscles and postures of working-class people has been portrayed naturally and realistically by Devi Prasad Roy Chowdhury. i. Name the sculpture, medium, technique and collection. ii. Describe the artwork aesthetically.	1+1
5(A)	Miniature paintings based on the Bhakti movement, depicting saints, encouraged secularism. Rendered in realism, this simple composition reflects that the saints "practiced what they preached". i. Identify the painting, artist, medium and period ii. write briefly what message you get from the painting.	1+1
5(B)	OR Write a short note on the following statements on Maru Ragini: i. How successfully has an artist shown the desert scene and movement in the painting? ii. How does 'Maru-Ragini' depict romance? (Subject Matter)	1+1
6(A)	To crush the ego of Indra, Lord Krishna uses the mountain as a huge umbrella under which the entire village takes shelter.	1+1

* There is no change in the Question Paper Design and Assessment Pattern for Academic Session 2026-27.

6(B)	i. Identify the Painting, Artist, its Patron and Collection. ii. Describe the compositional arrangement through the characteristics of its period. OR Dana has successfully depicted the subject matter accurately in his art work. i. Name the painting, medium and technique and its sub school. ii. To what extent do you agree with the above given statement Justify your answer on the basis of aesthetic criteria .	1+1
	SECTION-C Attempt <u>any two</u> questions from the given options	
7.	In the late 19th century, an artist revived Indian themes in the European style by using oil colours in his own technique. The waves shown in this painting advance swiftly from the ocean towards the shore, striking against the rock, to disappear like white milk. i. Name the painting from which this description is taken, and who is the artist of the painting? ii. In the middle ground, the waves reveal three human figures. Why is one of them lifting both his hands? iii. To convey the contrasting emotions of anger and forgiveness in the painting, to what extent has the artist succeeded in his compositional arrangement?	2+2+2=6
8.	During the freedom struggle, Indian artists, awakened and inspired the spirit of nationalism among the Indian masses, through their artworks and re-imagined Indian art. i. In your opinion, what is the contribution of Indian artists in Bengal art towards freedom movement? ii. Write about the Indian artists active during the freedom movement and how these are contributed to the freedom movement. iii. Name two such artists and describe their work, (which should not be a part of your earlier answer.)	2+2+2=6
9.	“Nanda along with his relatives, is travelling on a bullock cart for the safety of his people and family. Nanda is seen migrating with them” i. Identify the name of the Painting, the painter and his style (school & sub school) of the painting. ii. To what extend is the painter successful in depicting the subject matter in the given picture? iii. Describe the beauty of the painting, highlighting the expressions and emotions shown by the artist.	2+2+2=6



* There is no change in the Question Paper Design and Assessment Pattern for Academic Session 2026-27.

APPLIED ART – COMMERCIAL ART CODE- (052)
MARKING SCHEME
CLASS: XII (2026-27)

Time – 2 hours

Max Marks – 30

General Instructions

Read the following instructions carefully.

1. There are 9 questions in this question paper with internal choice.
2. SECTION A consists of 8 multiple-choice questions carrying 1 mark each.
3. SECTION B consists of 5 short answer questions carrying 2 marks each (Answer in about 100 words).
4. SECTION C consists of 3 long answer questions carrying 6 marks each (Answer in about 200 words). Attempt any two Questions.

S.No		MARKS
1.	SECTION -A	
i.	C	1
ii.	D	1
iii.	C	1
iv.	A	1
v.	C	1
vi.	C	1
vii.	C	1
viii.	C	1
	SECTION -B	
2(A)	i. The statement is justified through Amrita Sher-Gil's painting Haldi Grinders. The painting depicts rural Indian women engaged in the traditional activity of grinding turmeric. Their Indian attire, covered heads, and calm yet serious expressions reflect Indian culture and rural life, while the structural treatment of forms and colour harmony reflects Western influence. - 1 mark ii. Amrita Sher-Gil inspires me through her ability to portray the dignity and emotional depth of ordinary Indian people. It encourages artists to explore their cultural roots while experimenting with modern techniques. Her work motivates me to express social reality with honesty and emotional strength. - 1 mark OR	2

2(B)	i. Name of the painting: Journey's End Painter: Abanindranath Tagore Medium: Watercolour Technique: Tempera (wash technique of the Bengal School). - 1 mark ii. Abanindranath Tagore creates empathy through the use of muted, earthy colour tones and a red dusk background. The soft washes and subdued hues evoke a sense of exhaustion, sadness, and silence, reflecting the camel's suffering. The sensitive texture and gentle blending of colours enhance the emotional depth of the scene, symbolising the end of both a physical journey and life itself. This thoughtful use of colour leads the viewer to feel compassion and emotional connection with the subject. - 1 mark	2
3(A)	i. Name of the painting: Krishna on Swing School: Bikaner School (Rajasthani miniature painting) Technique: Watercolour (tempera technique) Collection: National Gallery of Modern Art, New Delhi. - 1 mark ii. The painting beautifully narrates the divine love between Krishna and Radha. The central wavy mound divides the composition into two harmonious sections, guiding the viewer's eye through the scene. In the upper part, Krishna is seated on a hexagonal swing, watched lovingly by Radha, symbolising divine romance. In the lower section, Krishna and Radha are seated together on a red carpet in royal Rajputana attire, accompanied by a female attendant. The graceful figures, rhythmic lines, and balanced composition enhance the lyrical and romantic mood of the painting, making the narrative visually engaging and emotionally expressive. - 1 mark	2
3(B)	OR i. Title of the painting: Hazrat Nizamuddin Auliya and Amir Khusro Medium: Watercolour (tempera technique) - 1 mark ii. The painting belongs to the Sufi devotional subgenre of the Deccan School. It focuses on the spiritual bond between the Guru (Hazrat Nizamuddin Auliya) and his disciple (Amir Khusro). The emphasis is on devotion, reverence, and spiritual learning rather than royal grandeur. The use of soft colours, delicate brushwork, and symbolic elements reflects the mystical and spiritual nature of Sufism, highlighting humility, wisdom, and the sacred teacher-disciple relationship. - 1 mark	2
4(A)	i. Name of the sculptor: Amarnath Sehgal Medium: Bronze Collection: National Gallery of Modern Art, New Delhi - 1 mark	2

4(B)	ii. The sculpture expresses deep anguish, helplessness, and suffering of the common people. The elongated, stick-like figures and raised arms symbolise desperation and silent cries for justice. The distorted forms convey emotional pain rather than physical realism. Through this work, the artist highlights social injustice, exploitation, and the neglect of the poor by society. The sculpture serves as a powerful reminder of human suffering and the urgent need for compassion and social responsibility. - 1 mark OR i. Name of the sculpture: Triumph of Labour Medium: Bronze Collection / Location: Marina Beach, Chennai- 1 mark ii. The sculpture depicts four muscular labourers straining together to move a massive rock, symbolising collective strength and unity. The rhythmic arrangement of bodies, dynamic postures, and taut muscles convey intense physical effort and determination. The realistic modelling of human anatomy enhances the sense of movement and energy. Aesthetically, the sculpture celebrates the dignity of labour and portrays the working class as heroic contributors to nation-building, making it both visually powerful and socially meaningful. - 1 mark	2
5(A)	i. Name of the painting: Kabir and Raidas Artist: Ustad Faquirullah Khan Medium: Watercolour (tempera technique) Period: Mughal period (reign of Shah Jahan) - 1 mark ii. The painting conveys a message of spiritual unity, simplicity, and equality. By depicting saints from different social backgrounds engaged in humble activities, it emphasises dignity of labour and the belief that devotion and spiritual wisdom are accessible to all. The realistic portrayal reinforces the idea that true spirituality lies in simple living and sincere practice rather than ritual or social status. - 1 mark OR 5(B) i. The artist Sahibdin has very successfully portrayed the desert environment by using barren landscapes, minimal vegetation, and warm earthy colours. The movement is suggested through the forward motion of the camel, the flowing garments of the figures, and the accompanying attendants and hunting dog. These elements together create a sense of travel and journey across the harsh desert terrain. - 1 mark	2

	ii. Maru Ragini depicts romance through the theme of love, longing, and separation associated with the musical raga. The prince and princess riding together on a decorated camel symbolise emotional bonding and devotion. Their calm expressions and closeness reflect a quiet, enduring romance set against the vast and challenging desert, enhancing the emotional depth of the painting. - 1 mark	
6(A)	i. Name of the painting: Krishna Lifting Mount Govardhan Artist: Miskin Patron: Emperor Akbar Collection: National Museum, New Delhi- 1 mark ii. The painting belongs to the Mughal period and displays its characteristic features such as a well-organised composition, realistic depiction of human figures, and detailed rendering of nature. Krishna is placed at the centre as the focal point, shown lifting Mount Govardhan effortlessly with his little finger, symbolising divine power. The villagers and animals are arranged rhythmically beneath the mountain, creating unity and balance. The use of vibrant colours, careful detailing of trees, rocks, and expressive faces, along with decorative borders, reflects Persian influence blended with Indian themes, a hallmark of Mughal miniature painting. - 1 mark	2
6(B)	OR i. Name of the painting: Chaugan Players Medium: Watercolour Technique: Tempera technique Sub-school: Jodhpur (Rajasthani School) - 1 mark ii. I strongly agree with the statement. Dana effectively portrays the royal sport of chaugan through a balanced and dynamic composition. The horizontal format enhances the sense of movement, while the central placement of the polo ball draws the viewer's attention and unifies the action. The rhythmic movement of horses and riders, along with expressive gestures, conveys energy and excitement. The bold and contrasting colour palette adds visual appeal and highlights the importance of the game, fulfilling aesthetic principles such as balance, rhythm, harmony, and emphasis. - 1 mark	2
	SECTION-C Attempt <u>any two</u> questions from the given options	
7.	i. Name of the painting: Rama Vanquishing the Pride of the Ocean	6

	Artist: Raja Ravi Varma- 2 marks ii. In the middle distance, the waves reveal three human figures emerging from the ocean. The central figure is Varuna, the sea god, who is lifting both his hands in a gesture of surrender and supplication. He pleads for forgiveness from Lord Rama after realising his mistake in refusing to grant passage to Lanka. This gesture symbolises humility, repentance, and submission before divine power. - 2 marks iii. The artist has been highly successful in using compositional arrangement to express contrasting emotions of anger and forgiveness. Lord Rama is shown standing firmly on the shore in a strong, upright posture, holding his bow, which conveys determination and righteous anger. In contrast, Varuna is depicted in a lower position within the turbulent ocean, with raised hands and a submissive posture, symbolising repentance and forgiveness. The dynamic waves, dramatic lighting, and strong diagonals enhance the tension of anger, while the pleading gestures and softened expressions introduce a sense of mercy and reconciliation. Through this balanced composition, Raja Ravi Varma effectively communicates the emotional climax of the narrative. - 2 marks	
8.	i. The artists of the Bengal School played a vital role in the freedom movement by rejecting Western academic realism imposed by British rule and reviving indigenous Indian art traditions. They drew inspiration from Indian miniature paintings, Ajanta cave murals, and spiritual themes rooted in Indian culture. Through their artworks, they promoted national pride, cultural identity, and self-respect. Bengal School artists used art as a form of cultural resistance, encouraging Indians to value their own heritage and traditions during the struggle for independence. - 2 marks ii. Several Indian artists actively contributed to the freedom movement through their art. Abanindranath Tagore's famous painting Bharat Mata became a powerful symbol of nationalism, portraying India as a nurturing yet strong mother figure. Nandalal Bose created simple and impactful artworks inspired by folk traditions and worked closely with Mahatma Gandhi, designing posters and images for nationalist movements. Gaganendranath Tagore used satirical cartoons and caricatures to criticise British policies and social injustices, making art a tool for political awareness and reform. - 2 marks	6

	iii. A. Shiv and Sati - 1 mark Artist: Nandalal Bose Nandalal Bose's Shiv and Sati reflects the spiritual and symbolic approach of the Bengal School of Art. The painting depicts Lord Shiva and Goddess Sati in a calm and harmonious composition, emphasising devotion, purity, and divine unity. Bose uses simple forms, flowing lines, and soft, earthy colours to convey serenity and spiritual depth. The restrained expression and minimal background focus the viewer's attention on the emotional bond between the divine couple. The work reflects Indian philosophical ideals and reinforces cultural pride, aligning with the nationalist spirit of the freedom movement. B. Radhika -1 mark Artist: M. A. R. Chughtai Radhika by M. A. R. Chughtai is a lyrical and romantic painting inspired by Indian mythology and poetry. The artist employs graceful, elongated figures, delicate lines, and a refined colour palette influenced by Mughal and Persian art traditions. Radhika is portrayed as an embodiment of beauty, devotion, and spiritual love. The ornamental detailing and expressive posture evoke a sense of grace and emotional sensitivity. Through this work, Chughtai celebrates Indian cultural aesthetics and contributes to the revival of indigenous art forms during the freedom movement.	
9.	i. Name of the painting: Krishna with Kinsmen Going to Vrindavan Painter: Nainsukh Medium & Technique – Temper on paper, fine brush work, delicate linear drawing, soft colour washes. Style / School: Kangra School of Pahari miniature painting-2 marks ii. The painter has been highly successful in depicting the subject matter. Nainsukh clearly conveys the idea of migration and protection by showing Nanda, Yashoda, baby Krishna, and their relatives moving together in an organised procession. The use of rhythmic lines, balanced composition, and realistic details makes the narrative easy to understand and visually engaging. The calm yet purposeful movement of the bullock cart and figures effectively communicates the reason for the journey. -2 marks	6

	iii. The beauty of the painting lies in its delicate lines, soft colours, and natural expressions. The figures display gentle emotions such as care, devotion, and concern for baby Krishna. Yashoda's affectionate expression reflects maternal love, while Nanda appears responsible and protective. The peaceful faces of the accompanying villagers, along with the serene landscape, create a harmonious and emotionally touching scene. The overall mood is calm, devotional, and humane, making the painting aesthetically pleasing and emotionally rich.- 2 marks	
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SAMPLE QUESTION PAPER
Class XII Session 2026-27
COMPUTER SCIENCE (Code 083)

TIME: 3 hours

MAX. MARKS: 70

General Instructions:

- This question paper contains 37 questions.
- All questions are compulsory. However, internal choices have been provided in some questions. Attempt only one of the choices in such questions
- The paper is divided into 5 Sections- A, B, C, D and E.
- Section A consists of 21 questions (1 to 21). Each question carries 1 Mark.
- Section B consists of 7 questions (22 to 28). Each question carries 2 Marks.
- Section C consists of 3 questions (29 to 31). Each question carries 3 Marks.
- Section D consists of 4 questions (32 to 35). Each question carries 4 Marks.
- Section E consists of 2 questions (36 to 37). Each question carries 5 Marks.
- All programming questions are to be answered using Python Language only.
- In-case of MCQ, text of the correct answer should also be written.

Q No.	Section-A (21 x 1 = 21 Marks)	Marks
1	Write the output on execution of the following Python code: L1=[10,20,25,30] L1.insert(1,15) print(L1)	1
2	What will be the output of the following expression? Msg = "programming is amazing" print(Msg.split("m")) a) ['progra', '', 'ing is a', 'azing'] b) ['progra', 'ming is a', 'azing'] c) ('progra', '', 'ing is amazing') d) ['program', 'ing is a', 'zing']	1
3	Which of the following data types in Python is mutable? a) Tuple b) String c) Integer d) List	1
4	A column in one table matching a primary key of another table is called a: a) Composite key b) Candidate key c) Foreign key d) Super key	1
5	Consider the following Python code: t = (1, 2, 3) l = [4, 5] print(t + l) What will happen when this code is executed? a) [1, 2, 3, 4, 5] b) (1, 2, 3, 4, 5) c) Error, because a tuple cannot be concatenated with a list	1

*There is no change in the Question Paper Design and Assessment Pattern for Academic Session 2026-27.

	d) ((1, 2, 3), [4, 5])	
6	What possible output is expected to be displayed on the screen at the time of execution of the Python program from the following code? <pre>import random games = {0: "Chess",1: "Scrabble",2: "Sudoku",3: "Tic-Tac-Toe",4: "Puzzle"} start_key = random.randint(1, 2) end_key = random.randrange(3, 4) for k in range(start_key, end_key + 1): print(games[k], end="@@")</pre> a) Sudoku@@Tic-Tac-Toe@@Puzzle@@ b) Scrabble@@Sudoku@@Tic-Tac-Toe@@ c) Chess@@Scrabble@@Tic-Tac-Toe@@ d) Scrabble@@Tic-Tac-Toe@@	1
7	Predict the output for the following: <pre>DI={"Pen":12, "Pencil":6, "Scale":5, "InkPen":20} print(12 in DI)</pre> a) False b) Error c) None d) True	1
8	Long-distance communication without line-of-sight is mainly achieved using: a) Microwaves b) Ultraviolet c) Radio waves d) X-rays	1
9	Which MySQL query will display all employees whose salaries are between 90,000 and 100,000 (including limits)? a) SELECT * FROM Employees WHERE salary > 90000 AND salary < 100000; b) SELECT * FROM Employees WHERE salary IN (90000, 100000); c) SELECT * FROM Employees WHERE salary BETWEEN 90000 AND 100000; d) SELECT * FROM Employees WHERE salary = 90000 OR salary = 100000;	1
10	What will be the output of the following Python statement: <pre>print(25+100**1**3/5)</pre>	1
11	What is the data type of the result when the expression 5 // 2 is evaluated in Python? a) float b) int c) string d) None	1
12	Every network interface card (NIC) comes with its own _____ address. a) Internet Protocol (IP) b) Open Systems Interconnection (OSI) c) Physical (MAC) d) Dynamic Host Configuration Protocol (DHCP)	1
13	In a student table, "Class" can only take values from {IX, X, XI, XII}. This set is called the _____. a) Domain b) Tuple	1

	c) Attribute d) Key	
14	What would be written in the file errorlog.txt after the following code is run? <pre>def data(num): try: return 190/(29-num) except ZeroDivisionError: logfile = open ("errorlog.txt", "w") logfile.write ("Num was 29") logfile.close() data(29)</pre>	1
15	Which of the following will NOT change if you insert a new record into a table? a) Cardinality b) Degree c) Number of tuples d) Total rows	1
16	What will be the output of the following Python code? <pre>y = 8 def update(): y = y + 2 print(y) update()</pre> a) 10 b) 8 c) Error d) None	1
17	In _____ switching, before a communication starts, a dedicated path is identified between the sender and the receiver. a) Graph b) Plot c) Circuit d) Packet	1
18	What will be the output of the following Python code? <pre>text = "Drone Expo" print(text[-2: :-4])</pre>	1
19	Which MySQL command correctly removes an attribute Age from table Student? a) ALTER TABLE Student DROP COLUMN Age; b) ALTER TABLE Student REMOVE Age; c) DROP COLUMN Age FROM Student; d) DELETE COLUMN Age FROM Student;	1
Q20 and Q21 are Assertion(A) and Reason(R) based questions. Mark the correct choice as: a) Both A and R are True and R is the correct explanation for A. b) Both A and R are True and R is not the correct explanation for A. c) A is True but R is False. d) A is False but R is True.		
20	Assertion (A): Opening a file in mode rb allows you to read a binary file without modifying it. Reason (R): In rb mode, if the file does not exist, Python creates a new empty file.	1

21	Assertion (A): The MySQL query <code>SELECT Student_Name FROM Student WHERE Guardian_Phone IS NULL</code> ; displays the names of students whose guardian phone number is not recorded. Reason (R): In MySQL, you can also use <code>=</code> to check for NULL values; it is equivalent to <code>IS NULL</code> to identify columns with no value.	1
	Section-B (7 x 2=14 Marks)	
22	A. Define global variable and local variable with a suitable example. OR B. Write the difference between the <code>seek()</code> and <code>tell()</code> methods in Python text file handling with a suitable example.	2
23	The Python program below tries to print the list in reverse. However, there are syntax and logical errors in the code. Rewrite it after removing all the errors. Also, underline all the corrections made <code>words=["Class Test","Term Exams","Pre-board Exam","Board Exam"]</code> <code>L=len(words)</code> <code>for i in range(L, -1, -1)</code> <code>Print (words[i] , end = " ")</code>	2
24	A. Write a Python function <code>capitalize_words(words)</code> that takes a list of strings <code>words</code> and returns a new list with each word capitalize. Example: If the input is <code>["python", "computer", "science"]</code> The output should be <code>["Python", "Computer", "Science"]</code> . OR B. Write a Python function <code>sum_positive(list1)</code> that takes a list of numbers and prints the sum of all positive numbers in the list. Example: If the input is <code>[10, -5, 20, -3, 7]</code> The output should be 37.	2
25	A. (Answer using Python built-in methods/functions only): I. Write a statement to check whether the string <code>username</code> starts with <code>"admin"</code> . II. Given <code>data = [2, 7, 9, 9, 2]</code> , write a statement to count how many times the largest element occurs. OR B. Predict the output of the following Python code: <code>text = "Python Programming"</code> <code>print(text.replace("o", "0"))</code> <code>print(text.find("z"))</code>	2
26	Predict the output of the following Python code: <code>code = "gLaD5"</code> <code>result = []</code> <code>i = 0</code> <code>while i < len(code):</code> <code>if code[i].isupper():</code> <code>result.append(code[i].lower())</code>	2

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	<pre> elif code[i].isdigit(): result.append(int(code[i]) * 2) else: result.append("#") i += 1 print(result) </pre>	
27	A. Write suitable commands to do the following in MySQL. I. Display a list of all the relations stored in a database. II. Delete a database named CS_SP. OR B. Differentiate between alter and update command in MySQL with a suitable example.	2
28	A. Which protocol helps us to browse through web pages using internet browsers? Name any one internet browser. OR B. Define tree topology. Also, write down any one limitation of tree topology.	2
	Section-C (3 x 3 = 9 Marks)	
29	A. Write and call a Python function to read "History.txt" and display all lines that contain a four-digit year (e.g., 1999, 2024 etc.) OR B. Write a Python function that displays the number of times the word "Python" appears in a text file named "Prog.txt".	3
30	A list containing records of books is given as: B = [("Machine Learning Basics", 550), ("World Geography", 450), ("Wonder World", 140), ("AI Revolution", 750)] Write the following user-defined functions to perform operations on a stack named Books: I. Push_element(): Push only those books whose price is more than 250 into the stack. II. Pop_element(): Pop the items from the stack and display them. After all items are popped, display "Stack Empty". Expected Output: ('AI Revolution', 750) ('World Geography', 450) ('Machine Learning Basics', 550) Stack Empty	3
31	A. Write a Python function avg_len() segment that adds up the lengths of all the words in a list and then prints the average (mean) length. OR B. Consider the tuple pairs = ((2,5),(4,2),(9,8),(12,10)). Write a Python function cnt_even() to count the number of pairs (a, b) where both a and b are even.	3
	Section-D (4 x 4 = 16 Marks)	

32

Consider the table TECH_EVENT_REG as given below:

reg_id	participant_name	event_name	grade	reg_fee
501	Aarav	Hackathon	11	200
502	Riya	RoboRace	10	150
503	Krish	WebDev Challenge	12	250
504	Navya	Hackathon	11	200
505	Samaira	CodeSprint	9	100
506	Rohan	RoboRace	10	150

A. Write the following queries:

I. To display the number of participants in each event where the number of participants is greater than 1.

II. To display the distinct event names available in the Tech Event.

III. To display details of participants whose names contain the letters ‘an’.

IV. To display all records of TECH_EVENT_REG sorted by participant_name in descending order.

OR

B. Predict the output of the following:

I. Select participant_name, event_name from tech_event_reg where grade = 11;

II. Select event_name, count(*) from tech_event_reg group by event_name;

III. Select participant_name from tech_event_reg where event_name like '%challenge';

IV. Select max(reg_fee) from tech_event_reg where grade in (9, 10);

4

33

Kabir runs a vehicle rental agency and maintains a CSV file named Rentals.csv. The file stores daily rental details with columns:
Vehicle_ID, Vehicle_Type, Hours_Rented, Rate_Per_Hour

Create the following user-defined functions:

I. AddRental() – to accept rental details from the user and append them to Rentals.csv.

II. CalculateTotalRent() – to calculate and return the total rent earned (Hours_Rented × Rate_Per_Hour).

4

34

Aditi is managing an events database and needs to access certain information from the chess_event and registrations tables for an upcoming survey. Help her extract the required information by writing the appropriate MySQL queries as per the tasks mentioned below:

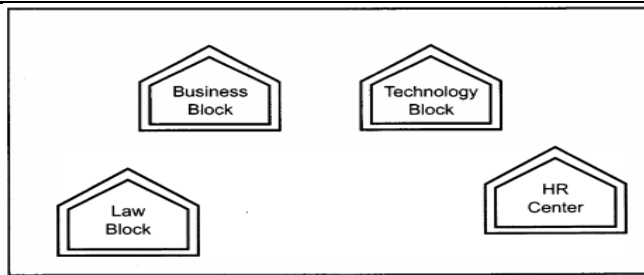
Table: Chess_Event

Event_ID	Event_Name	Event_Date	Venue	Max_Participants
101	Inter-School Chess Championship	2025-01-15	Auditorium Hall	60
102	Rapid Chess Tournament	2025-02-10	Activity Room 3	40
103	Under-16 Chess Cup	2025-03-05	Sports Complex Room 2	50
104	Teachers vs Students Chess Meet	2025-04-12	Library Conference Area	30
105	Open Blitz Chess Challenge	2025-05-20	IT Lab 1	80

Table: Registrations

4

	<table><tr><th>Reg_ID</th><th>Student_Name</th><th>Class</th><th>Event_ID</th><th>Registration_Date</th></tr><tr><td>1</td><td>Aarav Singh</td><td>9A</td><td>101</td><td>2024-12-20</td></tr><tr><td>2</td><td>Navya Sharma</td><td>9C</td><td>103</td><td>2025-01-12</td></tr><tr><td>3</td><td>Rudransh Verma</td><td>10B</td><td>102</td><td>2025-01-25</td></tr><tr><td>4</td><td>Daksh Lal</td><td>9B</td><td>104</td><td>2025-02-18</td></tr><tr><td>5</td><td>Abhijay Malhotra</td><td>11A</td><td>105</td><td>2025-03-30</td></tr><tr><td>6</td><td>Krish Sharma</td><td>10A</td><td>101</td><td>2024-12-22</td></tr><tr><td>7</td><td>Manas Taneja</td><td>8C</td><td>102</td><td>2025-01-28</td></tr><tr><td>8</td><td>Riya Kapoor</td><td>11B</td><td>105</td><td>2025-04-01</td></tr><tr><td>9</td><td>Harsh Mehta</td><td>12A</td><td>103</td><td>2025-02-20</td></tr><tr><td>10</td><td>Simran Kaur</td><td>9D</td><td>104</td><td>2025-03-05</td></tr></table>	Reg_ID	Student_Name	Class	Event_ID	Registration_Date	1	Aarav Singh	9A	101	2024-12-20	2	Navya Sharma	9C	103	2025-01-12	3	Rudransh Verma	10B	102	2025-01-25	4	Daksh Lal	9B	104	2025-02-18	5	Abhijay Malhotra	11A	105	2025-03-30	6	Krish Sharma	10A	101	2024-12-22	7	Manas Taneja	8C	102	2025-01-28	8	Riya Kapoor	11B	105	2025-04-01	9	Harsh Mehta	12A	103	2025-02-20	10	Simran Kaur	9D	104	2025-03-05	
Reg_ID	Student_Name	Class	Event_ID	Registration_Date																																																					
1	Aarav Singh	9A	101	2024-12-20																																																					
2	Navya Sharma	9C	103	2025-01-12																																																					
3	Rudransh Verma	10B	102	2025-01-25																																																					
4	Daksh Lal	9B	104	2025-02-18																																																					
5	Abhijay Malhotra	11A	105	2025-03-30																																																					
6	Krish Sharma	10A	101	2024-12-22																																																					
7	Manas Taneja	8C	102	2025-01-28																																																					
8	Riya Kapoor	11B	105	2025-04-01																																																					
9	Harsh Mehta	12A	103	2025-02-20																																																					
10	Simran Kaur	9D	104	2025-03-05																																																					
	I. Write a MySQL query to update the venue of the event "Inter-School Chess Championship" to "Multi-Purpose Hall". II. Display the details of all chess events scheduled after 2025-01-01. III. Write a MySQL query to display the registration details of students who have registered for events scheduled in 'Auditorium Hall', 'Activity Room 3', or 'Library Conference Area'. IV. a. Display the student_name along with the event_name for all registrations or b. Write a MySQL query to display the cartesian product of Chess_Event and Registrations tables.																																																								
35	MySQL database named LibraryDB has a table book_records which contains the following attributes: • Book_ID: ID of the book (Integer) • Book_Title: Title of the book (String) • Author: Author of the book (String) • Copies: Number of copies available (Integer) Consider the following details to establish Python-MySQL connectivity: • Username: librarian • Password: lib@2025 • Host: localhost Write a Python-MySQL program to change the Book_Title to 'Data Structures in Python' for the record whose Book_ID is 109 in the book_records table.	4																																																							
	Section-E (2 X 5 = 10 Marks)																																																								
36	A college administrator, Atul, maintains student course enrollment records. Each record includes Roll_No, Student_Name, Course, Fees. Write Python functions to: I. Input enrollment details and append them to a binary file. II. Update the Fees of all students enrolled in the "Data Science" course to 75000.	2+3																																																							
37	AKA University is setting up its Academic blocks at Raipur and planning to set up a network. The university has 3 academic blocks and one Human Resource Center as shown in the diagram below:	5																																																							



Center to center distances between various blocks is as follows:

Law Block to Business Block	90 m
Law Block to Technology Block	55 m
Law Block to HR Center	120 m
Business Block to Technology Block	70 m
Business Block to HR Center	105 m
Technology Block to HR Center	45 m

Number of Computers in each of the Blocks/Center is as follows:

Law Block	30
Technology Block	55
HR Center	120
Business Block	45

- I. Suggest the most suitable place (i.e. Block/Center) to install the server of this university with a suitable reason.
- II. Identify and draw the most suitable topology for connecting all the blocks if the university wants a centralized network management system.
- III. Suggest and placement of the following devices with reasons.
 - a. Repeater
 - b. Switch
- IV. The Institute is planning to link its study center situated in Delhi. Suggest a way to connect it with reasonably high speed guided medium.
- V. A. The Vice-Chancellor wants to hold a face-to-face digital meeting with the Heads of Departments in all blocks simultaneously. Which Protocol will be used?

OR

B. What is the use of VoIP?

MARKING SCHEME: SAMPLE QUESTION PAPER
Class XII Session 2026-27
COMPUTER SCIENCE (Code 083)

TIME: 3 hours

MAX. MARKS: 70

General Instructions:

- This question paper contains 37 questions.
- All questions are compulsory. However, internal choices have been provided in some questions. Attempt only one of the choices in such questions
- The paper is divided into 5 Sections- A, B, C, D and E.
- Section A consists of 21 questions (1 to 21). Each question carries 1 Mark.
- Section B consists of 7 questions (22 to 28). Each question carries 2 Marks.
- Section C consists of 3 questions (29 to 31). Each question carries 3 Marks.
- Section D consists of 4 questions (32 to 35). Each question carries 4 Marks.
- Section E consists of 2 questions (36 to 37). Each question carries 5 Marks.
- All programming questions are to be answered using Python Language only.

Q No.	Section-A (21 x 1 = 21 Marks)	Marks
1	Answer: [10, 15, 20, 25, 30] (1 mark for correct answer)	1
2	Answer: a) ['progra', '', 'ing is a', 'azing'] (1 mark for correct answer)	1
3	Answer: d) List (1 mark for correct answer)	1
4	Answer: c) Foreign key (1 mark for correct answer)	1
5	Answer: c) Error, because a tuple cannot be concatenated with a list (1 mark for correct answer)	1
6	Answer: b) Scrabble@@Sudoku@@Tic-Tac-Toe@@ (1 mark for correct answer)	1
7	Answer: a) False (1 mark for correct answer)	1

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8	Answer: c) Radio waves (1 mark for correct answer)	1
9	Answer: c) SELECT * FROM Employees WHERE salary BETWEEN 90000 AND 100000; (1 mark for correct answer)	1
10	Answer: 45.0 (1 mark for correct answer)	1
11	Answer: b) int (1 mark for correct answer)	1
12	Answer: c) Physical (MAC) address (1 mark for correct answer)	1
13	Answer: a) Domain (1 mark for correct answer)	1
14	Answer: Num was 29 (1 mark for correct answer)	1
15	Answer: b) Degree (1 mark for correct answer)	1
16	Answer: c) Error (1 mark for correct answer)	1
17	Answer: c) Circuit (1 mark for correct answer)	1
18	Answer: peD (1 mark for correct answer)	1
19	Answer: a) ALTER TABLE Student DROP COLUMN Age; (1 mark for correct answer)	1

*There is no change in the Question Paper Design and Assessment Pattern for Academic Session 2026-27.

20	Answer: c) A is true, but R is false (1 mark for correct answer)	1
21	Answer: c) A is true, but R is false (1 mark for correct answer)	1
	Section-B (7 x 2=14 Marks)	
22	Answer: A. Global variable: Defined outside a function; accessible anywhere in the program. x = 10 # global print(x) Local variable: Defined inside a function; accessible only inside that function. def demo(): y = 5 # local print(y) OR B. tell(): Returns the current position of the file pointer in the file. f = open("file.txt", "r") print(f.tell()) # e.g.,0 seek(offset): Moves the file pointer to a specified position in the file. f.seek(5) # moves pointer to 5th byte (1 mark for correct difference) (1/2 mark for each correct example)	2
23	Answer: words=["Class Test","Term Exams","Pre-board Exam","Board Exam"] L=len(words) for i in range(L-1, -1, -1): print (words[i] , end = " ") (1/2 mark each for correcting 4 mistakes)	2
24	Answer: A. def capitalize_words(words): #words is a list of strings result = [] for w in words: result.append(w.capitalize()) print(result) OR B. def sum_positive(list1): #list1 is a list of numbers total = 0 for num in list1: if num > 0:	2

*There is no change in the Question Paper Design and Assessment Pattern for Academic Session 2026-27.

	total += num print(total) (1/2 mark for function definition) (1 mark for the correct/similar logic) (1/2 mark for correct print statement)							
25	Answer: A. I. username.startswith("admin") (1 mark for correct answer) II. data.count(max(data)) (1 mark for correct answer) OR B. PythOn PrOgramming (1 mark for correct answer) -1 (1 mark for correct answer)	2						
26	Answer: ['#', 'l', '#', 'd', 10] (2 marks for the correct output)	2						
27	Answer: A. I. Show tables; (1 mark for correct answer) II. Drop database CS_SP; (1 mark for correct answer) OR B. <table><tr><td>ALTER</td><td>UPDATE</td></tr><tr><td>Used to change the structure of a table. It adds, deletes or modifies columns or constraints.</td><td>Used to modify the data stored in the table. It changes the values in rows.</td></tr><tr><td>Ex: ALTER TABLE Employee ADD age INT;</td><td>Ex: UPDATE Employee SET salary = 50000 WHERE emp_id = 10;</td></tr></table> (1 mark for correct answer) (1/2 mark for each correct example) C.	ALTER	UPDATE	Used to change the structure of a table. It adds, deletes or modifies columns or constraints.	Used to modify the data stored in the table. It changes the values in rows.	Ex: ALTER TABLE Employee ADD age INT;	Ex: UPDATE Employee SET salary = 50000 WHERE emp_id = 10;	2
ALTER	UPDATE							
Used to change the structure of a table. It adds, deletes or modifies columns or constraints.	Used to modify the data stored in the table. It changes the values in rows.							
Ex: ALTER TABLE Employee ADD age INT;	Ex: UPDATE Employee SET salary = 50000 WHERE emp_id = 10;							
28	Answer: A. HTTP (Hyper Text Transfer Protocol) helps us browse web pages using internet browsers. Name of any one internet browser can be Chrome / Firefox / Edge / Safari / Opera. (1 mark for correct definition) (1 mark for any one browser name) OR B. Tree topology is a network topology that combines characteristics of bus and star topologies, where groups of star-configured computers are connected to a central bus backbone. Limitations: Failure of the main backbone cable can bring down the entire network. It is expensive because it requires a lot of cable and network devices. (1 mark for correct definition) (1 mark for any one limitation)	2						

	Section-C (3 x 3 = 9 Marks)	
29	Answer: A. <code>def DisplayYearLines():</code> <code> f = open("History.txt", "r")</code> <code> for line in f:</code> <code> words = line.split()</code> <code> for w in words:</code> <code> if w.isdigit() and len(w) == 4:</code> <code> print(line)</code> <code> break</code> <code> f.close()</code> <code>DisplayYearLines()</code> (1/2 mark for correct function header) (1/2 mark for correctly opening the file) (1^{1/2} mark for correct/similar logic for displaying the desired lines) (1/2 mark for correctly calling the function) OR B. <code>def count_python():</code> <code> count = 0</code> <code> with open("Prog.txt", 'r') as file:</code> <code> text = file.read()</code> <code> words = text.split()</code> <code> for word in words:</code> <code> if word.lower() == "python":</code> <code> count += 1</code> <code> print("The word Python appears", count, "times.")</code> (1/2 mark for correct function header) (1/2 mark for correctly opening the file) (1/2 mark for correctly reading from the file) (1/2 mark for splitting the text into words) (1/2 mark for correct use of counter variable) (1/2 mark for displaying the result)	3
30	Answer: I. <code>B = [("Machine Learning Basics", 550),("World Geography", 450),("Wonder World", 140),("AI Revolution", 750)]</code> <code>Books = []</code> <code>def Push_element():</code> <code> for item in B:</code> <code> if item[1] > 250:</code> <code> Books.append(item)</code> II. <code>def Pop_element():</code> <code> while Books:</code> <code> print(Books.pop())</code> <code> print("Stack Empty")</code> (1½ marks for each correct part)	3

*There is no change in the Question Paper Design and Assessment Pattern for Academic Session 2026-27.

31	Answer: A. <pre>def avg_len(words): total = 0 count = 0 for w in words: total += len(w) count += 1 return total / count</pre> my_words = ["computer", "science", "python", "data"] print("Average word length:", avg_len(my_words)) OR B. <pre>pairs = ((2,5), (4,2), (9,8), (12,10)) def cnt_even(t): c = 0 for a, b in t: if a % 2 == 0 and b % 2 == 0: c += 1 return c</pre> print("Number of even-even pairs:", cnt_even(pairs)) (1/2 mark for function definition) (2 marks for the correct/similar logic) (1/2 mark to print/return statement)	3						
	Section-D (4 x 4 = 16 Marks)							
32	Answer: A. I. select event_name, count(*) as total_participants from tech_event_reg group by event_name having count(*) > 1; II. select distinct event_name from tech_event_reg; III. select * from tech_event_reg where participant_name like '%an%'; IV. select * from tech_event_reg order by participant_name desc; (4 x 1 mark for each correct query) OR B. I. <table><tr><td>participant_name</td><td>event_name</td></tr><tr><td>Aarav</td><td>Hackathon</td></tr><tr><td>Navya</td><td>Hackathon</td></tr></table>	participant_name	event_name	Aarav	Hackathon	Navya	Hackathon	4
participant_name	event_name							
Aarav	Hackathon							
Navya	Hackathon							

II.

event_name	COUNT(*)
Hackathon	2
RoboRace	2
WebDev Challenge	1
CodeSprint	1

III.

participant_name
Krish

IV.

MAX(reg_fee)
150

(4 x 1 mark for each correct query output)

33

Answer:

```
import csv
```

```
def AddRental():
```

```
    Vehicle_ID = input("Enter Vehicle ID: ")
```

```
    Vehicle_Type = input("Enter Vehicle Type: ")
```

```
    Hours_Rented = input("Enter Hours Rented: ")
```

```
    Rate_Per_Hour = input("Enter Rate Per Hour: ")
```

```
    with open("Rentals.csv", "a") as f:
```

```
        w = csv.writer(f)
```

```
        w.writerow([Vehicle_ID, Vehicle_Type, Hours_Rented, Rate_Per_Hour])
```

```
    print("Rental record added successfully.")
```

(1/2 mark for correctly taking user input)

(1/2 mark for opening the file in append mode)

(1/2 mark for correctly creating the writer object)

(1/2 mark for correctly using writerow() of writer object)

```
def CalculateTotalRent():
```

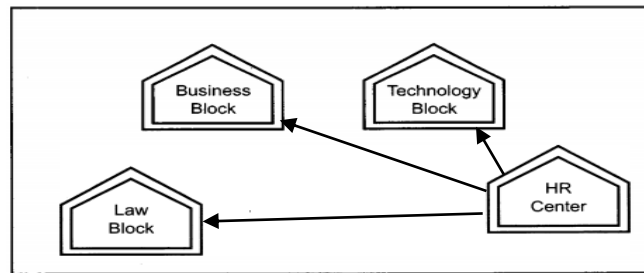
4

	<pre> total = 0 f = open("Rentals.csv", "r") r = csv.reader(f) for row in r: hours = int(row[2]) rate = int(row[3]) total += hours * rate print("Total Rent Earned:", total) f.close() </pre> (1/2 mark for opening in the file in right mode) (1/2 mark for correctly creating the reader object) (1/2 mark for correc calculation by converting it into integers) (1/2 mark for correctly displaying the total rent earned) Note (for both parts (I) and (II)): Ignore import csv as it may be considered the part of the complete program.	
34	Answer: I. UPDATE CHESS_EVENTS SET Venue = 'Multi-Purpose Hall' WHERE Event_Name = 'Inter-School Chess Championship'; II. SELECT * FROM CHESS_EVENTS WHERE Event_Date > '2025-01-01'; III. SELECT * FROM REGISTRATIONS R JOIN CHESS_EVENTS C ON R.Event_ID = C.Event_ID WHERE C.Venue IN ('Auditorium Hall', 'Activity Room 3', 'Library Conference Area'); IV. A. SELECT R.Student_Name, C.Event_Name FROM REGISTRATIONS R JOIN CHESS_EVENTS C ON R.Event_ID = C.Event_ID; OR B. SELECT * FROM CHESS_EVENTS, REGISTRATIONS; (4 x 1 mark for each correct query)	4
35	Answer: <pre> import mysql.connector con=mysql.connector.connect(host="localhost",user="librarian",password="lib@2025", database="LibraryDB") cur = con.cursor() q = "UPDATE book_records SET Book_Title='Data Structures in Python' WHERE Book_ID=109" cur.execute(q) con.commit() print("Book title updated successfully.") cur.close() con.close() </pre> (1/2 mark for correctly importing the connector object) (1/2 mark for correctly creating the connection object) (1/2 mark for correctly creating the cursor object) (1 mark for correct creation of update query) (1 mark for correctly executing the query with commit) (1/2 mark for correctly closing the connection)	4

	Section-E (2 X 5 = 10 Marks)	
36	Answer: I. <pre>def AddEnrollment(): Roll = int(input("Enter Roll No: ")) Name = input("Enter Student Name: ") Course = input("Enter Course: ") Fees = int(input("Enter Fees: ")) rec = [Roll, Name, Course, Fees] # LIST record with open("Enrollments.dat", "ab") as f: pickle.dump(rec, f) print("Record added successfully.")</pre> (1/2 mark for correctly defining the function header) (1/2 mark for correctly opening the file in append mode) (1/2 mark for correctly taking user input) (1/2 mark for using dump() method of the pickle module) II. <pre>import pickle def UpdateFees(): updated = False records = [] with open("Enrollments.dat", "rb") as file: try: while True: rec = pickle.load(file) if rec[2] == "Data Science": # Course at index 2 rec[3] = 75000 # Fees at index 3 updated = True records.append(rec) except EOFError: pass with open("Enrollments.dat", "wb") as file: for rec in records: pickle.dump(rec, file) if updated: print("Fees updated for Data Science students.") else: print("No student enrolled in Data Science found.")</pre> (1/2 mark for correctly defining the function header) (1/2 mark for correctly opening the file) (1 mark for using load() with while loop and try-except block) (1 mark for checking the condition and updating the value) Note (for both parts (I) and (II)): Ignore import pickle as it may be considered the part of the complete program.	2+3
37	Answer: I. HR Centre as it has maximum number of computers.	5

*There is no change in the Question Paper Design and Assessment Pattern for Academic Session 2026-27.

II. Star Topology



- III. a. Repeater is to be placed between HR Center to Law Block and from HR Center to Business Block as distance between them is more than 100 meters.
b. Switch is to be placed in all the block as network is to be formed in each and every block.

IV. Optical Fibre

- V. A. VOIP (Voice Over Internet Protocol)

OR

B. Voice over Internet Protocol (VoIP) is a technology that allows users to make phone calls and other communications over the Internet instead of a traditional phone line.

(5 x 1 mark for each correct part)

HINDUSTANI MUSIC –VOCAL (CODE NO. 034)
SAMPLE QUESTION PAPER*
CLASS- XII (2026-27)

Time allowed: 2 hrs.

Maximum Marks: 30

General Instructions:

- Section-A
Attempt all Questions (Each Question carries 1 mark)
- Section-B
Attempt all Questions (Each Question carries 2 Marks)
- Section-C
Attempt all Questions (Each Question carries 6 Marks)

S. No.	SECTION –A	Marks
1.	Pioneer musician to establish musical swaras on the string of the Veena - A Sharang Dev B Ahobal C Vishnu Digambar Paluskar D V. N. Bhatkhande	1
2.	'Ga Ma Dha Ni śa' – phrase belongs to raga- A Bageshri B Bhimpalasi C Bhairav D Malkauns	1
3.	Recipient of the title 'Aftab-e-Mausiqui.' A Sharang Dev B Bade Ghulam Ali Khan C Faiyaz Khan D Krishna Rao Shankar Pandit	1
4.	Choose the correct statements: I. Each Gram has 7 Murchhanas. II. Vadi swar of raga Bageshri is 'Madhyam'. III. Faiyaz Khan belonged to the Gwalior Gharana. IV. Dhamar tala has 10 Matras. Choose the correct option- A. II & IV B. I & II C. II & III D. I & IV	1
5.	Choose the correct statements- I. Dhamar tala is played with Dhamar gayan. II. Tanas are sung at the beginning of Khayal gayan. III. Raga Bageshri is sung in the second prahar of the night. IV. Jhaptala has 2 Khalis. Choose the correct option- A. I & III B. I & II	1

* There is no change in the Question Paper Design and Assessment Pattern for Academic Session 2026-27.

	C. III & IV D. II & IV											
6.	Match list I with list II <table><tr><td>List I</td><td>List II</td></tr><tr><td>a. Ahobal</td><td>i Manka</td></tr><tr><td>b. Tanpura</td><td>ii (Pa)</td></tr><tr><td>c. Khatka</td><td>iii 29 swaras</td></tr><tr><td>d. Dhamar</td><td>iv Ga Ti Ta</td></tr></table> Choose the correct answer from the options given below- A. a-iii, b-iv, c-ii, d-i B. a-iv, b-iii, c-i, d-ii C. a-iii, b-i, c-ii, d-iv D. a-ii, b-iii, c-i, d-iv	List I	List II	a. Ahobal	i Manka	b. Tanpura	ii (Pa)	c. Khatka	iii 29 swaras	d. Dhamar	iv Ga Ti Ta	1
List I	List II											
a. Ahobal	i Manka											
b. Tanpura	ii (Pa)											
c. Khatka	iii 29 swaras											
d. Dhamar	iv Ga Ti Ta											
7.	Statement I: Division of Vibhagas in Jhaptala is 2,3,2,3. Statement II: Thaata of raga Bageshri is Khamaj. Choose the correct option: A. Statement I & II both are true B. Statement I & II both are false C. Statement I is true, but II is false D. Statement I is false, but II is true	1										
8.	Statement I: Tanpura has 4 frets. Statement II: Tanas are played on Tanpura. Choose the correct option: A. Statement I & II both are true B. Statement I & II both are false C. Statement I is true, but II is false D. Statement I is false, but II is true	1										
SECTION - B												
9	A. Describe any two of the following with examples: Alankar, Murki, Meend. OR B. Give a detailed description of the raga Malkauns.	2										
10	A. Describe in brief the life sketch of the musician belonging to the Gwalior Gharana. OR B. Describe tala Rupak and write its Tigun, Chaugun in tala notation.	2										
11.	A. Describe any two of the following: Aalap, Gram, Gamak. OR B. Discuss the musical contents given in 'Sangeet Parijaat.'	2										
12.	A. Describe the parts and techniques used in tuning the Tanpura. OR B. Discuss in brief the 'Time Theory of Ragas'.	2										
13.	A. Give a brief description of 'Sangeet Ratnakar'. OR B. Describe in brief the life sketch of Bade Ghulam Ali Khan.	2										

	SECTION- C	
14.	A. Write down the notation of a Vilambit Khayal in any one of the prescribed ragas. OR B. Write down the notation of a Dhamar or Tarana in any one of the prescribed ragas.	6 6
15	A. Tanas are fast, rhythmically organized melodic passages used in Indian classical music. Tanas played on instruments such as the sitar or the sarod are called Todas. They are sung using aakar, sargam, or bols based on the notes of ragas. Tanas showcase the artist's command over voice or instrument, clarity of swaras, breath control, and imagination. Different types of tanas are used to enhance the aesthetic beauty of the raga. Based on the above passage, write two tanas of different varieties in each prescribed raga. OR B. Identify the raga from the following phrase of swaras and elaborate it upto 50 swaras using kan, meend, khatka, etc. 'Ga Ma <u>Dha</u> <u>Dha</u> Pa, Ga Ma <u>Re</u> <u>Re</u> Sa.	2+2+2 1+5

HINDUSTANI MUSIC-VOCAL CODE NO.034
MARKING SCHEME
CLASS XII (2026-27)

Time allowed: 2 hrs.

Maximum Marks: 30

General Instructions:

- Section-A
Attempt all Questions (Each Question carries 1 mark)
- Section-B
Attempt all Questions (Each Question carries 2 Marks)
- Section-C
Attempt all Questions (Each Question carries 6 Marks)

S No.	SECTION -A	Marks
1.	B. Ahobal	1
2.	A. Bageshri	1
3.	C. Faiyaz Khan	1
4.	B. I & II	1
5.	A. I & III	1
6.	C. a-iii, b-i, c-ii, d-iv	1
7.	C. Statement I is true, but II is false	1
8.	B. Statement I & II both are false	1
	SECTION -B	
9.	A. The candidate should write a brief explanation of Alankar, Murki, and Meend (any two) with examples.1+1 OR B. The candidate is expected to write Thaata, Vadi, Samvadi, Jati, Swar, Aroh, Avroh, Pakad, similar Raga, time, and other features of Raga Malkauns.	2 2
10.	A. The candidate is expected to write about date and place of birth, parentage, education, guru, style, gharana, techniques, disciples, and the contribution of Krishna Rao Shankar Pandit to music. OR B. The candidate is expected to write the special features of Rupak tala and its Tigan and Chaugun in Tala notation with Matras, Bols, Vibhags, and signs of Tali and Khali.	2 2
11.	A. The candidate is expected to give a brief description of Aalap, Gram, Gamak (any two), and write their types with examples.1+1 OR B. The candidate is expected to write the author's name, time, chapters, and musical concepts given in each chapter of Sangeet Parijat.	2 2
12.	A. The candidate is expected to write about the different parts of the Tanpura involved in tuning it and the method of tuning its strings.	2

	OR B. The candidate is expected to explain the meaning, importance, and historical development of the Time Theory of Ragas.	2
13.	A. The candidate should write the author's name, time, and special features and musical concepts of Sangeet Ratnakar. OR B. The candidate is expected to write date and place of birth, parentage, education, gharana, guru, style, disciples' achievements, and the contribution of Bade Ghulam Ali Khan to music.	2 2
	SECTION -C	
14.	A. Writing the notation of a Vilambit Khayal in any one of the prescribed ragas in the proper format of the notation system. OR B. Writing the notation of a Dhamar or Tarana in any one of the prescribed Ragas with swaras, Bols, and signs of Tala, etc.	6 6
15.	A. After reading the passage, the candidate is expected to write 2 tanas of different varieties in each prescribed raga, i.e., Bhairav, Malkauns, and Bageshri. OR B. The candidate is expected to identify raga Bhairav and elaborate it upto 50 swaras using kan, meend, khatka, etc.	2+2+2 1+5