

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. 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

Questions 1 to 16 carry 1 mark each.

1. The site of pollen grain germination is usually:

- A. Ovule B. Stigma C. Ovary D. Anther

2. Which hormone is primarily responsible for ovulation?

- A. FSH B. LH C. Progesterone D. Oxytocin

3. The acrosome of a sperm is derived from the:

- A. Mitochondria B. Golgi apparatus C. Nucleus D. Endoplasmic reticulum

4. In a typical angiosperm embryo sac, the number of nuclei before fertilisation is:

- A. Four B. Six C. Eight D. Ten

5. Which of the following is an example of a test cross?

- A. $TT \times TT$ B. $Tt \times Tt$ C. $Tt \times tt$ D. $TT \times Tt$

6. The enzyme responsible for joining DNA fragments is:

- A. DNA ligase B. Helicase C. Amylase D. Primase

7. The genetic material of most organisms is:

- A. Protein B. Lipid C. DNA D. Carbohydrate

8. Which of the following is a sex-linked disorder?

- A. Haemophilia B. Typhoid C. Malaria D. Tuberculosis

9. The theory of natural selection was proposed by:

- A. Gregor Mendel B. Charles Darwin C. Louis Pasteur D. Robert Hooke

10. The microbes used in the production of curd belong mainly to:

A. Lactobacillus

B. Rhizobium

C. Plasmodium

D. Penicillium

11. Which cells are primarily infected by HIV?

A. Red blood cells

B. Helper T-lymphocytes

C. Platelets

D. Osteocytes

12. Bt cotton is resistant to certain insect pests due to a gene obtained from:

A. Agrobacterium

B. Bacillus thuringiensis

C. Rhizobium

D. Escherichia coli

Questions 13 to 16 consist of two statements – Assertion (A) and Reason (R).

Answer these questions by 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 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.

13. Assertion: Reproductive and Child Healthcare Programmes is for reproduction related areas.

Reason: It deals with creating awareness among various reproduction related aspects.

14. Assertion: The two chains of DNA have anti-polarity.

Reason: In one chain of DNA, ribose sugar at 5' end consists of a free phosphate moiety while at the other end the ribose has a free 3' OH group.

15. Assertion: Flowers are the structures related to sexual reproduction in flowering plants.

Reason: Various embryological processes of plants occur in a flower.

16. Assertion: In Griffith's experiment, a mixture of heat-killed virulent bacteria R and live non-virulent bacteria S, lead to the death of mice.

Reason: 'Transforming principle' got transferred from heat killed R strain to S strain and made it virulent.

SECTION – B

17. Differentiate between autogamy and geitonogamy.

18. What is spermatogenesis? Name the hormone that stimulates the process.

19. State Mendel's law of segregation. Why is it called the law of purity of gametes?

20. What is PCR? Mention one important application.

21. Define the following:

(a) Homologous organ

(b) Analogous organ

SECTION – C

22. Explain double fertilisation in flowering plants. Why is it considered a characteristic feature of angiosperms?

23. Describe the menstrual cycle in humans, mentioning the major hormonal changes.

24. Explain incomplete dominance with a suitable example.

25. Describe the main steps involved in DNA fingerprinting.

26. What are vaccines? Explain how vaccination provides immunity against a pathogen.

27. Explain the principle of recombinant DNA technology. Mention the roles of restriction enzymes, DNA ligase and vectors.

28. Explain the 10% law of energy transfer in an ecosystem with an example.

SECTION – D

Q. No. 29 and 30 are case-based questions. Each question has subparts with internal choice in one subpart.

29. Read the passage and answer the questions that follow.

In a flowering plant, pollen grains are transferred from the anther to the stigma. After reaching a compatible stigma, the pollen grain germinates and forms a pollen tube. The male gametes travel through this tube towards the embryo sac.

- (a)** What is pollination? **(1)**
- (b)** Name the structure through which the pollen tube usually enters the ovule. **(1)**
- (c)** What are the two fusion events involved in double fertilisation? **(2)**

30. Read the passage and answer the questions that follow.

A population of bacteria is exposed to an antibiotic. Most bacteria are sensitive to the antibiotic, but a few possess variations that allow them to survive. These surviving bacteria reproduce and pass the advantageous trait to their offspring.

- (a)** Name the evolutionary mechanism illustrated. **(1)**
- (b)** What is meant by natural selection? **(1)**
- (c)** Explain how antibiotic resistance can become common in a bacterial population. **(2)**

SECTION – E

31. Explain the structure of a mature human sperm with a labelled diagram. Describe the major events of fertilisation in humans.

OR

Explain the structure of the human female reproductive system and describe the functions of its major parts.

32. Explain Mendel's dihybrid cross with a suitable example. State the phenotypic ratio obtained in the F₂ generation and name the law demonstrated.

OR

Describe the structure of DNA according to the Watson-Crick model. Explain the semiconservative mode of DNA replication.

33. Describe the major steps involved in recombinant DNA technology, from isolation of genetic material to obtaining the desired product.

OR

Explain the major causes of biodiversity loss. Describe any three measures used for biodiversity conservation.

General Instructions:

All questions are compulsory.

SECTION A —

OBJECTIVE TYPE QUESTIONS

(16 × 1 = 16 Marks)

1. Which concentration term is independent of temperature?

- (A) Molarity (B) Molality (C) Normality (D) Volume percentage

2. For a dilute solution, relative lowering of vapour pressure is equal to the mole fraction of the:

- (A) Solvent (B) Solute (C) Solution (D) Volatile component

3. The SI unit of conductivity is:

- (A)
- $S\ m^{-1}$
- (B)
- $S\ m^2\ mol^{-1}$
- (C)
- $mol\ L^{-1}$
- (D)
- $\Omega\ m^{-1}$

4. For a first-order reaction, the half-life is:

- (A) Directly proportional to initial concentration (C) Independent of initial concentration
-
- (B) Inversely proportional to initial concentration (D) Equal to the rate constant

5. The oxidation state commonly shown by lanthanoids is:

- (A) +1 (B) +2 (C) +3 (D) +5

6. Which of the following is a bidentate ligand?

- (A)
- NH_3
- (B)
- H_2O
- (C)
- Cl^-
- (D) Ethane-1,2-diamine

7. The IUPAC name of $CH_3CH_2CH_2Cl$ is:

- (A) 1-Chloropropane (B) 2-Chloropropane
-
- (C) Propyl chloride only (D) Chloropropene

8. The functional group present in phenol is:

- (A)
- $-CHO$
- (B)
- $-OH$
- attached to an aromatic ring
-
- (C)
- $-COOH$
- (D)
- $-O-$
- between two alkyl groups

9. Which reagent is commonly used to distinguish aldehydes from most ketones?

- (A) Tollens' reagent (B) NaCl solution
-
- (C) Dilute HCl (D) Bromine-free water

10. The general formula of a primary amine is:

- (A)
- R_3N
- (B)
- R_2NH
- (C)
- RNH_2
- (D)
- $RCONH_2$

11. Which of these is a polysaccharide?

- (A) Glucose (B) Fructose (C) Sucrose (D) Cellulose

12. Which of the following cannot be a ligand-

- (A)
- Ni^{++}
- (B)
- Cl^-
- (C)
- H_2O
- (D)
- NH_3

Each of the following questions consists of two statements, one is "Assertion (A)" and other is Reason (R). Give answer

(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.

13.(i) Assertion (A): Toxic metal ions are removed by the chelating ligands.
tend to be more stable

Reason (R): Chelate complexes

14.(ii) Assertion (A): $[Cr(H_2O)_6]Cl_2$ and $[Fe(H_2O)_6]Cl_2$ are reducing in nature.
are present in their d-orbitals

Reason (R): Unpaired electrons

15.(iii) Assertion (A): Complexes of MX_6 and MX_5L type X and L are unidentate) do not show geometrical isomerism.

Reason (R): Geometrical isomerism is shown by complexes with coordination number 6

16.(iv) Assertion (A): Linkage isomerism arises in coordination compounds containing ambidentate ligand.

Reason (R): Ambidentate ligand has two different donor atoms.

SECTION B

VERY SHORT ANSWER QUESTIONS

(5 × 2 = 10 Marks)

17. Define molality and write its unit.
18. State Raoult's law for a solution containing a volatile component.
19. Write the relationship between Gibbs energy change and cell EMF.
20. What is the order of a reaction?
21. Name one water-soluble vitamin and state one function.

SECTION C

SHORT ANSWER QUESTIONS

(7 × 3 = 21 Marks)

22. Explain why the vapour pressure of a solvent decreases when a non-volatile solute is dissolved in it.
23. State Kohlrausch's law of independent migration of ions and mention one application.
24. Differentiate between order and molecularity of a reaction (any three points).
25. Give two characteristic properties of transition metals and explain the reason for one of them.
26. Explain the difference between haloalkanes and haloarenes with one example of each.
27. Describe the acidic nature of phenol and explain why it is more acidic than ethanol.
28. Distinguish between primary, secondary and tertiary amines by their structures.

SECTION D

CASE STUDY BASED QUESTIONS

(2 × 4 = 8 Marks)

29. Case Study 1: Electrochemical Cells

A galvanic cell converts chemical energy into electrical energy through a spontaneous redox reaction. The cell potential depends on the nature and concentration of the reacting species. The Nernst equation is used to calculate the electrode or cell potential under non-standard conditions. The relation between cell EMF and Gibbs energy helps predict spontaneity.

- (a) What is the sign of ΔG for a spontaneous cell reaction?
- (b) Write the relation between ΔG and cell EMF in terms of n and F .
- (c) Name the equation used to calculate cell potential under non-standard conditions.
- (d) What does a positive cell EMF indicate about the cell reaction?

30. Case Study 2: Carbohydrates

Carbohydrates include simple sugars and complex polysaccharides. Glucose and fructose are monosaccharides, while sucrose, lactose and maltose are disaccharides. Starch, cellulose and glycogen are polysaccharides with different biological roles.

- (a) Classify glucose as a mono-, oligo- or polysaccharide.
- (b) Name the two monosaccharide units that form sucrose.
- (c) Which polysaccharide is the principal storage carbohydrate in animals?
- (d) Name the structural polysaccharide found in plant cell walls.

SECTION E

LONG ANSWER QUESTIONS

(3 × 5 = 15 Marks)

31. Derive the integrated rate equation for a first-order reaction and obtain the expression for its half-life.
32. Explain Werner's theory of coordination compounds. Define primary and secondary valencies and illustrate them with a suitable example.

33. Describe the preparation and chemical properties of carboxylic acids, giving suitable equations for any three reactions.

SUBJECT – BUSINESS STUDIES (054)

M.M.: 80

Read the instructions very carefully and strictly follow them:

- 7. Attempt all parts of a question together.**

Multiple Choice Questions

(A) It is an impersonal form of communication.

- (B) Personal selling does not allow a sales person to develop personal relationships with the prospective customers.
- (C) Personal selling involves oral presentation of message in the form of conversation with one or more prospective customers for the purpose of making a sale.
- (D) Personal selling refers to short-term incentives, which are designed to encourage the buyers to make immediate purchase of a product or service.

Q10. There are two statements, Assertion (A) and Reason (R):

Assertion (A): Coordination ensures unity of action.

Reason (R): Coordination act as a binding force between departments, and ensures that all action is aimed at achieving the goals of the organisation.

Choose the correct alternative from the alternatives given below:

- (A) Both Assertion (A) and Reason (R) are correct and Reason (R) is the correct explanation of Assertion (A).
 (B) Both Assertion (A) and Reason (R) are correct, but Reason (R) is not the correct explanation of Assertion (A).
 (C) Assertion (A) is correct, but Reason (R) is wrong. (D) Assertion (A) is wrong, but Reason (R) is correct.

Q11. In an informal organisation, authority arises out of:

- (A) Virtue of position in management (C) Scalar chain
 (B) Company's rules and policies (D) Personal qualities

Q12. HG Air Conditioner Pvt. Ltd. is lagging behind its scheduled production target by a month. Despite a high demand, the company is struggling to meet its production target. Even after taking measures like training of employees and assigning additional workers and equipment to the project, the targets could not be met. The Production Manager, now, decided to revise the standards.

Identify the step of the controlling process under which the Production Manager decided to revise the standards.

- (A) Setting performance standards (C) Analysing deviations
 (B) Measurement of actual performance (D) Taking corrective action

Q13. Statement-I: Motivation is a complex process as individuals are heterogeneous in their expectations, perceptions and reactions.

Statement-II: Motivation can be either positive or negative.

Choose the correct option from the following:

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

Q14. Alfa Graphics Ltd. was a reputed Indian company which had been in business for many years. The Chief Executive Officer of the company, Rohit Gupta always believed in understanding the business environment as well as responding and adapting to it.

When he found that a foreign multinational company, Leno Graphics, is entering the Indian market with new substitutes, he prepared to meet this threat by reducing cost and creating good quality and aesthetically appealing layouts, advertisements, logos etc. As a result, Alfa Graphics Ltd. was not only able to retain its own customers, but also started getting new projects.

The point of importance of Business Environment discussed above is:

- (A) Tapping useful resources. (B) Identifying threats and early warning signals.
 (C) Improving performance. (D) Identifying opportunities and getting first mover advantage.

Q15. Organising provides a clear description of jobs and related duties. This helps to avoid confusion and duplication.

The point of importance of organising described above is:

- (A) Adaptation to change (C) Development of personnel
 (B) Effective administration (D) Expansion and growth

Q16. Statement-I: Regulation of takeover bids by companies is one of the Regulatory functions of Securities and Exchange Board of India.

Statement-II: Training of intermediaries of securities market is one of the Development functions of Securities and Exchange Board of India.

Choose the correct option from the following:

- (A) Statement I is correct and Statement II is incorrect. (C) Both Statement I and Statement II are correct.
 (B) Statement II is correct and Statement I is incorrect. (D) Both Statement I and Statement II are incorrect.

Q17. 'High inflation rates generally result in constraints on business enterprises as they increase the various costs of business such as the purchase of raw materials and payment of wages and salaries to employees etc.'

The dimension of business environment referred to above is:

- (A) Political Environment (C) Technological Environment
 (B) Social Environment (D) Economic Environment

Q18. Match the concepts of marketing in Column I with their respective explanations in Column II:

Column – I	Column – II
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(a) Product concept	(i) Its main focus is on quality, performance and feature of the product.
(b) Selling concept	(ii) Its main focus is on satisfaction of customer needs.
(c) Marketing concept	(iii) Its main focus is on aggressively persuading buyer to purchase the existing product.
(d) Societal concept	(iv) Its main focus is on satisfaction of customer needs and society's well-being.

Choose the correct options from the following:

(A) (iv) (iii) (ii) (i)

(C) (ii) (i) (iii) (iv)

(B) (iii) (ii) (i) (iv)

(D) (i) (iii) (ii) (iv)

Q19. Sadhna, a graduate of a reputed institute of management, is a successful manager. She applies her acquired knowledge in a personalised and skillful manner in difficult situations at work. She uses her imagination and creativity in handling these situations.

The aspect of the nature of management highlighted in the above case is:

(A) Management as an Art

(C) Management as a Profession

(B) Management as a Science

(D) Management both as a Science and as a Profession

Q20. 'The principles of management can be modified by the managers when the situation so demands.' This highlights which of the following feature of principles of management:

(A) General guidelines

(C) Contingent

(B) Flexible

(D) Mainly behavioural

SECTION – B

Short Answer Questions

Q21. P. Madhav is the production manager of 'Trendy Style Pvt. Ltd.', a firm manufacturing office furniture. His objective is to increase production by 20% in the next one year. But the Sales Manager, R. Shetty does not approve of the increase in production, till changes are brought about in the quality of wood, locks, handles etc. to incorporate latest trends. This kind of conflict brings to light an important concept of management that can help to link the activities of various departments.

(i) Identify and explain the concept discussed above.

(ii) State any two points of importance of the concept identified in (i) above.

Q22. (a) Give meaning of 'Communication'. State first two elements in the process of communication.

OR

(b) State any three 'Organisational barriers' to Communication.

Q23. Madhwan was appointed as a Human Resource Manager in 'Health Grow Ltd.' six months back. As a Human Resource Manager, he has to perform many specialised activities and duties like analyzing jobs by collecting information about jobs and prepare job descriptions, training and development of employees etc.

State three other specialised activities that Madhwan must perform in addition to the above as a Human Resource Manager of Health Grow Ltd.

Q24. (a) State any three points of importance of Financial Planning.

OR

(b) State any three factors that affect the fixed capital requirements of a company.

Q25. (a) State any four points of importance of 'Directing' function of Management.

OR

(b) State any four limitations of internal sources of recruitment.

Q26. (a) Explain the following external sources of recruitment:

(i) Direct Recruitment

(ii) Casual Callers

OR

(b) Explain the following non-financial incentives which motivate employees for higher performance:

(i) Employee participation

(ii) Organisational climate

Q27. Abha had guests at home. She ordered vegetable, biryani from 'Biryani House'. The biryani came in a beautiful packaging and Abha opened it with lot of excitement. However, when she started serving biryani to the guests, she realised that it was non-vegetarian. She checked the package and noticed that there was no indication whether it was a vegetarian or non-vegetarian biryani. She contacted 'Biryani House' for the same. The manager at 'Biryani House' apologised and immediately sent a vegetarian biryani along with complimentary sweet dish.

Identify and explain the two consumer rights discussed in the above case.

Q28. 'Tech Work' an Artificial Intelligence (AI) startup started in 2024. It was earning good profits. It wanted to expand its business and for its research and development, it required 100 crores.

The Chief Executive Officer of 'Tech Work' consulted the Finance Manager who suggested that there is a market which facilitates transfer of investible funds from savers to entrepreneurs seeking to establish new enterprises or expand existing ones through the issue of securities.

The management of 'Tech Work' decided to raise funds from the investors by issuing equity shares @ 200 per share for the first time.

(i) Name the type of capital market through which 'Tech Work' decided to raise funds for its expansion.

(ii) State three features of the market identified in (i) above.

Q29. Ganesh Jain is the Marketing Manager at 'KL Goods Ltd'. He has a team of four employees working under him - Kavya, Ritesh, Pooja and Madhav. Kavya and Ritesh are temporary employees while Pooja and Madhav's job is permanent. All four of them have been working hard and consistently met all targets. Ganesh Jain wanted to reward them for their good performance. He understood that in all human beings, there exists a hierarchy of needs. So, he identified the need level of each of the employees to provide motivation to them.

Kavya and Ritesh were made permanent in the job with a good pension plan while Pooja and Madhav were given an autonomy status.

(i) Identify and state the need of employees recognised by Ganesh Jain in the above case.

(ii) State any two assumptions on which Maslow's Need Hierarchy Theory is based on.

Q30. VK Ltd. is a fast moving consumer goods company. It has shareholders spread all over India. Most of its shareholders depend upon a regular income from their investment.

VK Ltd. has been earning consistent profits. The management of the company keeps in mind the preference of the shareholders regarding payment of dividend. Since its shareholders, in general, desire that atleast a certain amount is paid as dividend to them every year, the company declares dividend every year.

Atul, the Finance Manager of the company identified promising growth opportunities. He suggested to the Chief Executive Officer to retain the earnings to finance the required investments instead of declaring dividend every year. For this, the Chief Executive Officer decided to call a General Body Meeting of the shareholders.

(i) Identify two factors affecting dividend decision discussed above.

(ii) State two other factors that affect the dividend decision of a company.

SECTION – C

Long Answer Questions

Q31. (a) Explain the following principles of General Management:

(i) Scalar chain

(ii) Equity

(iii) Initiative

OR

(b) 'Objectives of Management can be classified into organisational, social and personal objectives.' Explain these objectives.

Q32. (a) Explain the following points of importance of 'Planning' function of management:

(i) Planning provides directions.

(ii) Planning promotes innovative ideas.

(iii) Planning reduces the risk of uncertainty.

OR

(b) Explain 'Objectives', 'Rule' and 'Budget' as types of plans.

Q33. DG Ltd., an E-plane car company has developed a revolutionary flying car for passenger mobility. This hybrid flying car can accommodate upto two persons and features innovative wing like doors for comfortable entry. The seats are designed for utmost comfort, crafted from high quality materials. The distinguishing feature of this flying car is that its production will be in India and it will utilise biofuel alongside electricity, ensuring a sustainable mode of transportation.

DG Ltd. has obtained the first testing approval for its category. Priced at ₹2.5 crores, the company has to take decisions in respect of discounts to customers, credit terms etc., so that the customers perceive the price to be in line with the value of the product.

To make the flying car available to the target customers, DG Ltd. is in the process of selecting dealers or intermediaries to reach the customers, providing support to the intermediaries etc.

To communicate the availability, features, merits etc. of the product to the target customers and persuade them to buy the flying car. DG Ltd. decided to go in for digital marketing campaigns, press releases and demos conducted by influencers and journalists.

The above case describes the combination of elements used by DG Ltd. to prepare its market offering. Quoting lines from the above para, identify and explain the elements.

Q34. Royal Glaze Ltd. continues to maintain its position as one of the largest consumer goods companies in the world. Its organisational structure is designed to facilitate the achievement of its objectives in alignment with its vision statement. The company maintains two distinct product divisions in its organisational structure - 'Foods' and 'Home Care'.

Looking ahead, the company is focusing on embracing changes so that it can continue to be the market leader. As part of its expansion plans, it is planning to venture into the electronics segment in the near future.

(i) Identify the organisational structure of 'Royal Glaze Ltd'.

(ii) Draw the organisational structure chart of 'Royal Glaze Ltd.' considering its future plans to enter into Electronics segment.

(iii) State any three advantages of the type of organisational structure drawn in (ii) above.

SUBJECT – PHYSICS (042)

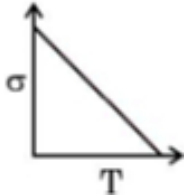
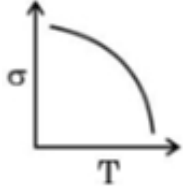
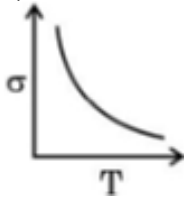
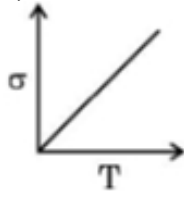
TIME: 3 HOURS

M.M.: 70

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 one question in Section B, one question in Section C, one question in each CBQ in Section D 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.

Section A

1. If N is Avogadro number, M is atomic weight and ρ , the density, the number of free electrons per unit volume of a monovalent metallic crystal can be expressed as [1]
a) $N/\mu M$
b) $\rho N/M$
c) MN/ρ
d) $\rho M/N$
2. Which one of the following is the correct representation of variation of conductivity of a conductor with temperature? [1]
a) 
b) 
c) 
d) 
3. The principal behind optical fibre is: [1]
a) Total internal reflection
b) Both Total external reflection and Total internal reflection
c) Diffraction
d) Total external reflection
4. A bar magnet of pole strength (m) and magnetic moment (M) is cut perpendicular to its axis in two equal halves. The new pole strength (m') and magnetic moment (M') of each part are respectively: [1]
a) m and $M/2$
b) m and M
c) $2m$ and $M/2$
d) $m/2$ and $2M$
5. Two charges $3 \times 10^{-8} \text{ C}$ and $-2 \times 10^{-8} \text{ C}$ are located 15 cm apart. At what point on the line joining them, the potential will be zero. [1]
a) 3 cm from first charge
b) 9 cm from first charge
c) None of these
d) 6 cm from first charge
6. The Magnetic Resonance Imaging (MRI) is based on the phenomenon of [1]

- a) Nuclear magnetic resonance
c) Electron spin resonance

- b) Electron paramagnetic resonance
d) Diamagnetism of human tissues

7. Two identical circular coaxial coils A and B, arranged in vertical planes parallel to each other, carry currents in the same direction. If the distance between the coils is decreased at a constant rate, the current: [1]

- a) increases in both A and B.
b) increases in A and decreases in B.
c) decreases in both A and B.
d) remains same in both A and B.

8. At a point on the right bisector of a magnetic dipole, the magnetic: [1]

- a) field is perpendicular to the axis of dipole
b) potential is zero at all points on the right bisector
c) potential varies as $1/r^2$
d) field varies as r^3

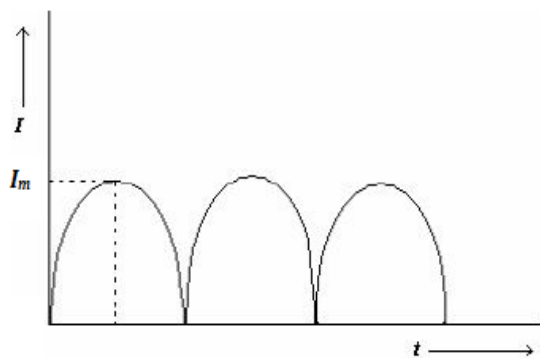
9. If two sources have a randomly varying phase different $\phi(t)$, the resultant intensity will be given by [1]

- a) $2 I_0$
b) $(3/2) I_0$
c) $I_0/2$
d) $I_0/\sqrt{2}$

10. The number of electric field lines crossing an area ΔS is n_1 when $\Delta S \parallel E$, while number of field lines crossing same area is n_2 when ΔS makes an angle of 30° with E , then: [1]

- a) $n_1 < n_2$
b) $n_1 = n_2$
c) $n_1 > n_2$
d) cannot say anything.

11. The output current I versus time (t) curve of a full wave rectifier is shown in the figure. The average value of the output current in this case is [1]



- a) I_m
b) Zero
c) $2I_m/\pi$
d) I_m/π

12. Which of the following pairs of media has the least value of critical angle? [1]

- a) Glass to air
b) Glass to water
c) Diamond to water
d) Diamond to air

13. **Assertion (A):** In his study of photoelectric emission, Hallwachs connected a negatively charged zinc plate to an electroscope. He found that negatively charged particles were emitted from the zinc plate under the action of visible light. [1]

Reason (R): An uncharged zinc plate becomes positively charged when it is irradiated by visible light.

- 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.

14. **Assertion:** If the distance between parallel plates a capacitor is halved and dielectric constant is made three times then the capacitance becomes six times. [1]

Reason: (R) Capacitance of the capacitor does not depend upon the nature of the material of the plates of the capacitor.

- a) Assertion and reason both are correct statements and reason is correct explanation for assertion.
b) Assertion and reason both are correct statements but reason is not correct explanation for assertion.

- c) Assertion is correct statement but reason is wrong statement. d) Assertion is wrong statement but reason is correct statement.

15. **Assertion (A):** Interference pattern is made by using yellow light instead of red light, the fringes becomes narrower. [1]

Reason (R): In Young's double slit experiment, fringe width is given by $\beta = \lambda D/d$.

- 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.

16. **Assertion (A):** In alternating current, the direction of motion of free electrons changes periodically. [1]

Reason (R): Alternating current changes its direction after a certain is always constant.

- 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.

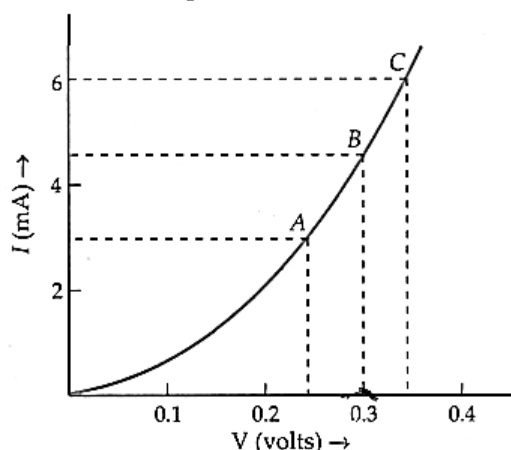
Section B

17. a. Which one of the following electromagnetic radiations has least frequency: UV radiations, X-rays, Microwaves? [2]
b. How do you show that electromagnetic waves carry energy and momentum?
c. Write the expression for the energy density of an electromagnetic wave propagating in free space.
18. Two equal and unlike poles placed 5 cm apart in the air attract each other with a force of 14.4×10^{-4} N. How far from each other should they be placed so that the force of attraction will be 1.6×10^{-4} N? [2]

OR

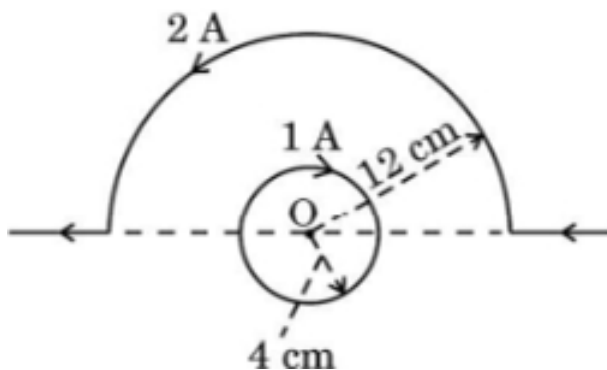
A short bar magnet placed in a horizontal plane has its axis aligned along the magnetic north-south direction. Null points are found on the axis of the magnet at 14 cm from the centre of the magnet. The earth's magnetic field at the place is 0.36 G and the angle of dip is zero. What is the total magnetic field on the normal bisector of the magnet at the same distance as the null-point (i.e., 14 cm) from the centre of the magnet? (At null points, field due to a magnet is equal and opposite to the horizontal component of earth's magnetic field.)

19. The figure shows the characteristic curve of a junction diode. Determine the d.c. and a.c. resistance of the diode, when it operates at 0.3 V. [2]



20. If Bohr's quantisation postulate (angular momentum = $nh/2\pi$) is a basic law of nature, it should be equally valid for the case of planetary motion also. Why then do we never speak of quantisation of orbits of planets around the sun? [2]

21. A current carrying circular loop and a straight wire bent partly in the form of a semicircle are placed as shown in the figure. Find the magnitude and direction of net magnetic field at point O. [2]



Section C

22. A conductor of length l is connected to a DC source of potential V . If the length of the conductor is tripled by gradually stretching it, keeping V constant, how will [3]
- drift speed of electrons and
 - resistance of the conductor be affected? Justify your answer
23. a. State briefly, with what purpose was Davisson and Germer experiment performed and what inference was drawn from this. [3]
- b. Obtain an expression for the ratio of the accelerating potentials required to accelerate a proton and an α -particle to have the same de-Broglie wavelength associated with them.
24. How is a light emitting diode fabricated? Briefly explain the basic processes involved in the emission of spontaneous radiation from it. Write two advantages of LED lamps over the incandescent low power lamps. [3]
25. Plot a graph showing the variation of binding energy per nucleon as a function of mass number. Which property of nuclear force explains the approximate constancy of binding energy in the range $30 < A < 170$? [3]
- How does one explain the release of energy in both processes of nuclear fission and fusion from the graph?
26. An electron in a hydrogen atom makes transitions from orbits of higher energies to orbits of lower energies. [3]
- When will such transitions result in (a) Lyman (b) Balmer series?
 - Find the ratio of the longest wavelength in Lyman series to the shortest wavelength in Balmer series.
27. A plane wavefront is propagating from a rarer into a denser medium. Use Huygens principle to show the refracted wavefront and verify Snell's law. [3]
28. Define the term self-inductance of a solenoid. Obtain the expression for the magnetic energy stored in an inductor of self-inductance L to build up a current I through it. [3]

OR

Define mutual inductance between a pair of coils. Derive an expression for the mutual inductance of two long coaxial solenoids of the same length wound one over the other.

Section D

29. **Read the text carefully and answer the questions:** [4]
- Microwave oven:** The spectrum of electromagnetic radiation contains a part known as microwaves. These waves have frequency and energy smaller than visible light and wavelength larger than it. What is the principle of a microwave oven and how does it work? Our objective is to cook food or warm it up. All food items such as fruit, vegetables, meat, cereals, etc., contain water as a constituent. Now, what does it mean when we say that a certain object has become warmer? When the temperature of a body rises, the

energy of the random motion of atoms and molecules increases and the molecules travel or vibrate or rotate with higher energies. The frequency of rotation of water molecules is about 2.45 gigahertz (GHz). If water receives microwaves of this frequency, its molecules absorb this radiation, which is equivalent to heating up water. These molecules share this energy with neighbouring food molecules, heating up the food. One should use porcelain vessels and non-metal containers in a microwave oven because of the danger of getting a shock from accumulated electric charges. Metals may also melt from heating. The porcelain container remains unaffected and cool, because its large molecules vibrate and rotate with much smaller frequencies, and thus cannot absorb microwaves. Hence, they do not get eaten up.

Thus, the basic principle of a microwave oven is to generate microwave radiation of appropriate frequency in the working space of the oven where we keep food. This way energy is not wasted in heating up the vessel. In the conventional heating method, the vessel on the burner gets heated first and then the food inside gets heated because of transfer of energy from the vessel. In the microwave oven, on the other hand, energy is directly delivered to water molecules which is shared by the entire food.

- (a) As compared to visible light microwave has frequency and energy
- | | |
|---|----------------------------|
| a) Frequency is less but energy is more | b) more than visible light |
| c) less than visible light | d) equal to visible light |
- (b) When the temperature of a body rises
- | | |
|---|--|
| a) the energy of the random motion of atoms and molecules remains same. | b) the energy of the random motion of atoms and molecules decreases. |
| c) the random motion of atoms and molecules becomes streamlined. | d) the energy of the random motion of atoms and molecules increases |
- (c) The frequency of rotation of water molecules is about
- | | |
|-------------|-------------|
| a) 2.45 kHz | b) 2.45 GHz |
| c) 2.45 MHz | d) 2.45 THz |

OR

In the microwave oven

- | | |
|--|---|
| a) The vessel gets heated first, and then the food grains inside | b) The vessel gets heated first and then the water molecules collect heat from the body of the vessel |
| c) Energy is directly delivered to the food grains. | d) Energy is directly delivered to water molecules which is shared by the entire food |
- (d) Why should one use porcelain vessels and non-metal containers in a microwave oven?
- | | |
|---|---|
| a) Because it will prevent the food items to become hot | b) Because it may crack due to high frequency |
| c) Because of the danger of getting a shock from accumulated electric charges | d) Because it will get too much hot |

30. The smallest charge that can exist in nature is the charge of an electron. During friction, it is only the transfer of electrons that makes the body charged. Hence net charge on anybody is an integral multiple of the charge of an electron [1.6×10^{-19} C] i.e. [4]

$$\begin{array}{c} +2e \\ -3e \end{array} = -e \quad \begin{array}{c} +10e \\ +5e \end{array} = 15e$$

$$q = \pm ne$$

where $n = 1, 2, 3, 4, \dots$

Hence nobody can have a charge represented as $1.1e$, $2.7e$, $(3/5)e$, etc.

Recently, it has been discovered that elementary particles such as protons or neutrons are composed of more elemental units called quarks.

- Find the number of electrons if the body has 3.2×10^{-18} C of charge.
- If a charge on a body is 1 nC, then how many electrons are present on the body?

- iii. If a body gives out 10^9 electrons every second, how much time is required to get a total charge of 1 C from it?
- iv. A polythene piece rubbed with wool is found to have a negative charge of 3.2×10^{-7} C. Calculate the number of electrons transferred.

Section E

31. a. Draw a ray diagram for formation of a real and diminished image of an object kept in front of a concave mirror. Hence derive the mirror equation. [5]
- b. A concave mirror of focal length 10 cm produces a real image which is 3 times the size of the object. Find the distance of the object from the mirror.

OR

- i. Describe briefly how a diffraction pattern is obtained on a screen due to a single narrow slit illuminated by a monochromatic source of light. Hence, obtain the conditions for the angular width of secondary maxima and secondary minima.
 - ii. Two wavelengths of sodium light of 590 nm and 596 nm are used in turn to study the diffraction taking place at a single slit of aperture 2×10^{-6} m. The distance between the slit and the screen is 1.5m. Calculate the separation between the positions of first maxima of the diffraction pattern obtained in the two cases.
32. A capacitor of capacitance C_1 is charged to a potential V_1 while another capacitor of capacitance C_2 is charged to a potential difference V_2 . The capacitors are now disconnected from their respective charging batteries and connected in parallel to each other. [5]
- i. Find the total energy stored in the two capacitors before they are connected.
 - ii. Find the total energy stored in the parallel combination of two capacitors.
 - iii. Explain the reason for the difference of energy in parallel combination in comparison to the total energy before they are connected

OR

- a. If two similar large plates, each of area A having surface charge densities $+\sigma$ and $-\sigma$ are separated by a distance d in air, then find the expression for
 - i. the field at points between the two plates and on the outer side of the plates. Specify the direction of the field in each case.
 - ii. the potential difference between the plates.
 - iii. the capacitance of the capacitor so formed.
 - b. Two metallic spheres of radii R and 2R are charged so that both of these have the same surface charge density σ . If they are connected to each other with a conducting wire, in which direction will the charge flow and why?
33. An emf $\epsilon = 100 \sin 314 t$ is applied across a pure capacitor of 637 μ F. Find [5]
- i. the instantaneous current I
 - ii. instantaneous power P
 - iii. the frequency of power and
 - iv. the maximum energy stored in the capacitor.

OR

- i. An ac source of voltage $V = V_0 \sin \omega t$ is connected to a series combination of L, C, and R. Use the phasor diagram to obtain expressions for impedance of the circuit and phase angle between voltage and current. Find the condition when the current will be in phase with the voltage. What is the circuit in this condition called?
- ii. In a series, LR circuit $X_L = R$ and power factor of the circuit is P_1 . When capacitor with capacitance C such that $X_L = X_C$ is put in series, the power factor becomes P_2 . Calculate P_1/P_2 .

(SAMPLE PAPER– 2026-27) (SET–A)
CLASS - XII
SUBJECT – APPLIED MATHEMATICS (241)

TIME: 3 HOURS

M.M.: 80

General Instructions:

1. This Question Paper has 5 Sections A, B, C, D and E.
2. Section A has 20 MCQs carrying 1 mark each
3. Section B has 5 questions carrying 02 marks each.
4. Section C has 6 questions carrying 03 marks each.
5. Section D has 4 questions carrying 05 marks each.
6. Section E has 3 case based integrated units of assessment (04 marks each) with sub- parts of the values of 2 marks each respectively.
7. All Questions are compulsory.

SECTION-A

(1 × 20 = 20)

1: An asset costing ₹ 15000 is expected to have a useful life of 5 years. If scrap value of the asset is ₹ 3000, then annual depreciation charge is

- (a) ₹3000 (b) ₹2400 (c) ₹ 2800 (d) ₹3600

2: The function $f(x) = x^2 - 4x + 6$ is increasing in the interval

- (a) (0,2) (b) $(-\infty, 2]$ (c) [1, 2] (d) [2, ∞)

3: If $f(2a - x) = f(x)$ then $\int_0^{2a} f(x)dx$ is

- (a) $\int_0^{2a} f\left(\frac{x}{2}\right)dx$ (b) $\int_0^a f(x)dx$ (c) $2 \int_a^0 f(x)dx$ (d) $2 \int_0^a f(x)dx$

4: If $A = \begin{bmatrix} 1 & 12 & 4y \\ 6x & 5 & 2x \\ 8x & 4 & 6 \end{bmatrix}$ is a symmetric matrix, then $(2x + y)$ is

- (a) -8 (b) 0 (c) 6 (d) 8

5: The probability distribution of a discrete random variable X is given below:

X	30	10	-10
P(x)	$\frac{1}{5}$	$\frac{3}{10}$	$\frac{1}{2}$

Then, E (X) is equal to

- (a) 6 (b) 4 (c) 3 (d) -5

6: The order of the differential equation of all circles of given radius a is

- (a) 1 (b) 2 (c) 3 (d) 4

7: The last (unit) digit of $(22)^{12}$ is

(a) 2

(b) 4

(c) 6

(d) 8

8: Which of the following can be both a symmetric and skew-symmetric matrix?

(a) Unit Matrix

(b) Diagonal Matrix

(c) Null Matrix

(d) Row Matrix

9: If $\frac{|x+1|}{x+1} > 0, x \in \mathbf{R}$. then

(a) $x \in [-1, \infty)$

(b) $x \in (-1, \infty)$

(c) $x \in (-\infty, -1)$

(d) $x \in (-\infty, -1]$

10: A cylindrical tank of radius 10 cm is being filled with sugar at the rate of $100 \pi \frac{\text{cm}^3}{\text{s}}$. The rate, at which the height of the sugar inside the tank is increasing, is:

(a) 0.1 cm/s

(b) 0.5 cm/s

(c) 1 cm/s

(d) 1.1 cm/s.

Q 11: If $[A]_{3 \times 2} [B]_{x \times y} = [C]_{3 \times 1}$, then

(a) $x = 1, y = 3$

(b) $x = 2, y = 1$

(c) $x = 3, y = 3$

(d) $x = 3, y = 1$

Q 12: The rise in price before Diwali an example of

(a) Long term trend

(b) Cyclical trend

(c) Seasonal trend

(d) Irregular trend

Q 13: Region represented by $x \geq 0, y \geq 0$ is:

(a) first quadrant

(b) second quadrant

(c) third quadrant

(d) fourth quadrant

Q 14: The objective function of a linear programming problem is:

(a) a constraint

(b) function to be optimized

(c) A relation between the variables

(d) None of these

Q15: If $A = \begin{bmatrix} 2x & 0 \\ x & x \end{bmatrix}$ and $A^{-1} = \begin{bmatrix} 1 & 0 \\ -1 & 2 \end{bmatrix}$, then the value of x is

(a) 2

(b) 3

(c) 4

(d) $\frac{1}{2}$

Q16: If 'm' is the mean of poisson distribution, then its standard deviation is given by

(a) $\sqrt{m}$

(b) m^2

(c) m

(d) $m/2$

Q17: A fire in a factory delaying production for some time is

(b) Long term trend

(b) Cyclical trend

(c) Seasonal trend

(d) Irregular trend

Q18: What is the degree of differential equation $(y''')^2 + (y'')^3 + (y')^4 + y^5 = 0$?

(a) 2

(b) 3

(c) 4

(d) 5

DIRECTION: In the following questions number 19 and 20, a statement of Assertion (A) is followed by a statement of Reason (R). Mark the correct choice as:

(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.

19: Assertion (A): Rejection rule using critical value approach of two tail t-test is

Reject H_0 if $t \leq -t_{\alpha/2}$ or if $t \geq t_{\alpha/2}$.

Reason (R): Rejection rule using critical value approach of lower tail t-test is

Reject H_0 if $t \leq -t_{\alpha}$.

20: Assertion (A): A sofa-set costing ₹40000 has a useful life of 10 years. If annual depreciation is ₹3500, then its scrap value using linear method is ₹6000.

Reason (R): The formula of calculating annual depreciation by linear method is

Annual depreciation = $\frac{\text{original cost} - \text{scrap value}}{\text{useful life in years}}$

SECTION: B

(2 × 5 = 10)

Q 21: Find the units digit in 7^{295} .

OR

In what ratio must a grocer mix two varieties of pulses worth ₹ 85 per kg and ₹100 per kg respectively so as to get a mixture worth ₹ 92 per kg?

Q 22: If $\begin{bmatrix} x+y & x+2 \\ 2x-y & 16 \end{bmatrix} = \begin{bmatrix} 8 & 5 \\ 1 & 3y+1 \end{bmatrix}$, then find the values of x and y.

Q 23: Find the values of 'a' for which $f(x) = \sin x - ax + b$ is increasing on R.

Q 24: At 6 % p.a. compounded quarterly, find the present value of a perpetuity of ₹ 600 payable at the end of each quarterly.

Q 25: If A and B are square matrices of order 3 such that $|A| = -1$ and $|B| = 3$, then find the value of $|3AB|$.

SECTION: C

(3 × 6 = 18)

Q 26: (a) Solve the differential equation $2(y + 3) - xy \frac{dy}{dx} = 0$; given $y(1) = -2$.

OR

(a) Solve the following differential equation:

$$(1 + x^2) \frac{dy}{dx} + 2xy = 4x^2.$$

Q 27: In a one kilometre race, A beats B by 30 seconds and B beats C by 15 seconds. If A beats C by 180 meters, then find the time taken by A to run 1 kilometre.

Q 28.: Solve the following linear programming problem graphically:

$$\text{Minimise } Z = x - 5y$$

Subject to the constraints:

$$x - y \geq 0$$

$$-x + 2y \geq 2, x \geq 3, y \leq 4, y \geq 0$$

Q 29: If $y = \log \left(\sqrt{x} + \frac{1}{\sqrt{x}} \right)^2$,

then show that $x(x + 1)^2 y_2 + (x + 1)^2 y_1 = 2$

OR

If $x\sqrt{1+y} + y\sqrt{1+x} = 0, -1 < x < 1, x \neq y$, then prove that $\frac{dy}{dx} = -\frac{1}{(1+x)^2}$.

Q 30: Compute the seasonal indices by 4- years moving averages from the given data of production of paper (in thousand tons):

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Index number	2450	1470	2150	1800	1210	1950	2300	2500	2480	2680

OR

Fit a straight line trend by method of least squares to the following table and find the trend values.

Year	2010	2012	2013	2014	2015	2016	2019
Sales (in lakh ₹)	65	68	70	72	75	67	73

Q 31: Find: $\int \frac{1}{x} \sqrt{\frac{x+a}{x-a}} dx$.

SECTION:D

(5 × 4 = 20)

Q 32.: Using integration, find the area of the region bounded by the line $y = 5x + 2$, the x - axis and the ordinates $x = -2$ and $x = 2$.

Q 33: Find: $\int \frac{x^2+x+1}{(x+2)(x^2+1)} dx..$

Q 34: The mortality rate for a certain disease is 0.007. Using Poisson distribution, calculate the probability for 2 deaths in a group of 400 people. (Use $e^{-2.8} = 0.0608$)

OR

Given that mean of a normal variate X is 9 and standard deviation is 3, then find:

(i) The z- score of the data point 15.

(ii) The data point if its z-score is 4.

Q 35:. Given $A = \begin{bmatrix} -4 & 4 & 4 \\ -7 & 1 & 3 \\ 5 & -3 & -1 \end{bmatrix}$ and $B = \begin{bmatrix} 1 & -1 & 1 \\ 1 & -2 & -2 \\ 2 & 1 & 3 \end{bmatrix}$, find AB . Hence solve the system of

linear equation:

$$x - y + z = 4, x - 2y - 2z = 9, 2x + y + 3z = 1$$

OR

If $A = \begin{bmatrix} 1 & 2 & 0 \\ -2 & -1 & -2 \\ 0 & -1 & 1 \end{bmatrix}$, then find A^{-1} .

Hence, solve the system of linear equations:

$$x - 2y = 10, 2x - y - z = 8, -2y + z = 7.$$

SECTION: E

(4 × 3 = 12)

Case based Questions:

Read the following text and answer the following questions on the basis of the same:

Q 36: When observed over a long period of time, a time series data can predict trend that can forecast increase or decrease or stagnation of a variable under consideration. Such analytical studies can benefit a business for forecasting or prediction of future estimated sales or production. Mathematically, for finding a line of best-fit to represent a trend, many methods are available. Methods like moving- averages and least- square are some of the techniques to predict such trends.

Mrs Samita runs a bread factory and the record of her sales of bakery items for the period of 2015-2019 is as follows:

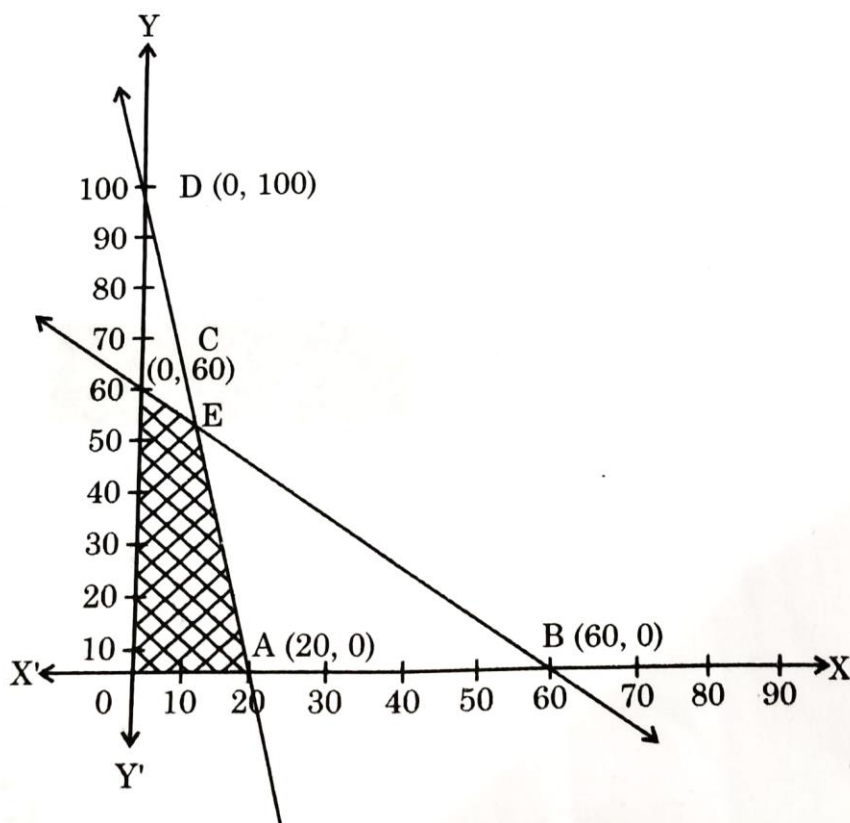
Year	2015	2016	2017	2018	2019
Sales (in ₹ thousands)	35	42	46	41	48

Based on the given information, answer the following questions:

(a) By taking year 2017 as origin, use method of least- squares to find the best- fit trend line equation for Mrs Shamita's business. Show the steps of your working.

(b) What are the estimated sales for Mrs Shamita's business for year 2022?

Q 37: Shree manages transport and storage for his company. He formulate the problem as a linear programming problem using his budget and warehouse availability as variables X and Y. The given graph shows the feasible solution of an LPP.



Based on the given information, answer the following questions:

- (a) Write the constraints he has used in LPP.
 (b) If $Z = 500x + 150y$ represents the profit, then what is $\max Z$?

Q 38: If $y = \{f(x)\}^{g(x)}$ then

$$\frac{dy}{dx} = \{f(x)\}^{g(x)} \frac{d}{dx} [g(x) \cdot \log f(x)]$$

$$\Rightarrow \frac{dy}{dx} = \{f(x)\}^{g(x)} \cdot \left[\frac{g(x)}{f(x)} \cdot f'(x) + \log f(x) \cdot g'(x) \right]$$

Based on the given information, answer the following questions:

- (a) If $y = (x + 3)^{(4x-5)}$, then find $\frac{dy}{dx}$.
 (b) If $y = (\log x)^{(x^2+2)}$, then find $\frac{dy}{dx}$.

(SAMPLE PAPER– 2026-27) (SET–A)

CLASS - XII

SUBJECT – COMPUTER SCIENCE WITH PYTHON (083)

TIME: 3 HOURS

M.M.: 70

GENERAL INSTRUCTIONS

1. Please check that this question paper contains **37 questions**.
2. The paper is divided into **5 Sections – A, B, C, D, and E**.
3. **Section A** consists of 21 questions (1 to 21). Each question carries **1 mark**.
4. **Section B** consists of 7 questions (22 to 28). Each question carries **2 marks**.
5. **Section C** consists of 3 questions (29 to 31). Each question carries **3 marks**.
6. **Section D** consists of 4 questions (32 to 35). Each question carries **4 marks**.
7. **Section E** consists of 2 questions (36 & 37). Each question carries **5 marks**.
8. All programming questions are to be answered using **Python Language only**.
9. In case of MCQs, the **text of the correct answer** must also be written.

SECTION A 21 Marks — 1 Mark Each

Q1. Which of the following is a valid Python identifier?

- (a) _rollno (b) for (c) 2nd_name (d) my-variable

Q2. What will be the output of the following Python expression?

`print("PythonProgram"[-1:2:-2])`

- (a) mroPo (b) mor (c) Prg (d) Error

Q3. Which of the following data types is immutable in Python?

- (a) List (b) Dictionary (c) Tuple (d) Set

Q4. To open a binary file named data.dat for reading and writing both, which file mode should be used?

- (a) r+b (b) wb (c) w+ (d) ab

Q5. Which SQL command is used to remove a table structure entirely from the database?

- (a) DELETE (b) DROP (c) REMOVE (d) TRUNCATE

Q6. Which aggregate function in SQL ignores NULL values automatically while computing the result?

- (a) COUNT(*) (b) SUM() (c) COUNT(column_name) (d) Both (b) and (c)

Q7. Which network device operates at the Physical layer and is used to regenerate weak signals over long distances?

- (a) Router (b) Switch (c) Repeater (d) Gateway

Q8. Expand the protocol used to securely transfer web pages over the internet:

- (a) File Transfer Protocol
(b) Hyper Text Transfer Protocol Secure
(c) Simple Mail Transfer Protocol
(d) Post Office Protocol

Q9. Which function from the random module will generate a floating-point number strictly between 0.0 and 1.0?

- (a) randint() (b) randrange() (c) random() (d) uniform()

Q10. If D = {101: 'Aarav', 102: 'Diya'}, what will be the output of D.get(103, 'Not Found')?

- (a) KeyError (b) None (c) Not Found (d) 103

Q11. What principle does a Stack data structure follow for insertion and deletion of elements?

- (a) FIFO (First In, First Out)
(b) LIFO (Last In, First Out)
(c) LILO (Last In, Last Out)
(d) Linear Order

Q12. Which SQL constraint ensures that no column can have a NULL value?

- (a) UNIQUE (b) PRIMARY KEY (c) NOT NULL (d) CHECK

Q13. In a relational database table, the total number of attributes (columns) is known as the:

- (a) Cardinality (b) Degree (c) Tuple count (d) Domain

Q14. Which block in Python exception handling is guaranteed to execute irrespective of whether an exception occurred or not?

- (a) try (b) except (c) else (d) finally

Q15. Which of the following is a guided (wired) transmission medium?

- (a) Radio waves (b) Infrared (c) Optical Fiber (d) Microwaves

Q16. What will be the output of the following code snippet?

```
i = 5
```

```
print(i, end="")
```

- (a) 5\n (b) 5 (c) = (d) Error

Q17. Which SQL clause is used along with aggregate functions to display summary rows for each group?

- (a) ORDER BY (b) WHERE (c) GROUP BY (d) HAVING

Q18. In Python, which method is used to write a sequence/iterable (like a list of strings) into a text file all at once?

- (a) write() (b) writeline() (c) writelines() (d) append()

Q19. Which SQL operator is used for pattern matching using wildcards like % and _?

- (a) IN (b) BETWEEN (c) LIKE (d) IS NULL

Q20 and Q21 are ASSERTION AND REASONING based questions.

Choose the correct option:

A – Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation for Assertion (A).

B – Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation for Assertion (A).

C – Assertion (A) is true, but Reason (R) is false.

D – Assertion (A) is false, but Reason (R) is true.

Q20. Assertion (A): The expression `[1, 2] + [3, 4]` results in `[1, 2, 3, 4]` in Python.

Reason (R): The `+` operator when used with lists performs concatenation, combining the elements into a single list sequence.

Q21. Assertion (A): A PRIMARY KEY constraint automatically enforces UNIQUE and NOT NULL properties on a column.

Reason (R): A primary key uniquely identifies each record in a database table and cannot accept duplicate or blank values.

SECTION B 14 Marks — 2 Marks Each

Q22. Explain the difference between break and continue keywords inside a loop in Python.

Q23. Write Python statements using built-in methods/functions for the following:

- (i) To count the occurrences of a substring "the" inside a string str1.
(ii) To remove whitespace from both the beginning and the end of a string str1.

Q24. Find the output of the following Python code snippet:

```
def display(n):  
    if n % 2 == 0:  
        return "Even"  
    else:  
        return "Odd"
```

```
ans = display(7) + display(4)  
print(ans)
```

Q25. Write a Python function Push_Num(Arr) that takes a list of numbers as an argument and pushes only the odd numbers onto a stack implemented as a list.

Q26. Differentiate between the DELETE and DROP commands in SQL. Give one example of each.

Q27. Consider a table STUDENT with 5 rows and 3 columns. Two rows have NULL values in the grade column. What will be the Degree and Cardinality of this table?

Q28. Briefly explain the role and functioning of a Gateway in computer networking.

SECTION C 9 Marks — 3 Marks Each

Q29. Write a Python function display words () that reads a text file article.txt and displays all those words whose length is less than or equal to 4 characters.

Q30. Write a user-defined function Jumble (Msg) in Python that takes a string argument and returns a new string where characters at even indices are converted to uppercase and characters at odd indices are converted to lowercase.

Example: If Msg = "computer", it should return "CoMpUtEr".

Q31. Observe the following Python code carefully and write the minimum and maximum possible values that can be generated by random. randint (). Also, state the number of times the loop executes:
import random

```
List1 = [10, 20, 30, 40, 50, 60]
```

```
for i in range(1, 5):  
    val = random.randint(0, 3)  
    print(List1[val], end="#")
```

SECTION D 16 Marks — 4 Marks Each

Q32. Write a Python program using binary files (pickle module) to perform the following operations:

(i) A function add_record() to accept roll_no, name, and marks from the user and append them as a dictionary into a binary file student.dat.

(ii) A function search_student(rno) that searches for a given roll_no in student.dat and displays the student's name and marks if found. If not found, display an appropriate message.

OR

Write a Python function add_csv_record() to write employee records (containing EmpID, Name, and Salary) into a CSV file emp.csv using the csv module with header rows.

Q33. Write user-defined functions Push Book (BookStack, book) and Pop Book (BookStack) to implement a stack of book names using a list in Python, where each element is a dictionary containing BookID and Title. Include appropriate overflow and underflow checks.

Q34. Consider the following tables DEPT and EMPLOYEE:

Table: DEPT

DeptID	DeptName	Location
D01	Sales	Delhi
D02	Marketing	Mumbai
D03	IT	Bengaluru

Table: EMPLOYEE

EmpID	Name	Salary	DeptID
101	Aman	45000	D01
102	Priya	60000	D03
103	Rohan	50000	D02
104	Neha	75000	D03
105	Kabir	40000	D01

Write SQL queries for the following:

(i) To display the names of all employees whose salary is greater than 50000.

- (ii) To display the details of employees sorted in descending order of their salary.
- (iii) To display DeptName and the corresponding total number of employees working in each department.
- (iv) To display the Name of the employee along with their respective DeptName by joining both tables.

Q35. Write a Python script/code snippet to connect to a MySQL database named school (using mysql.connector), execute a query to display all records from a table named STUDENT, and fetch/display the records using fetchall ().

SECTION E 10 Marks — 5 Marks Each

Q36. Case Study / Programming Scenario:

A library management system stores book records in a binary file library.dat. Each record is stored as a list format:

[Book_ID, Title, Author, Price]

Write a complete Python program with a menu-driven option or individual user-defined functions to:

- (i) Write a function Write_Book() to append records into library.dat.
- (ii) Write a function Count_Books(author_name) that counts and returns the total number of books written by a specific author passed as an argument.

Q37. Case Study — Networking

“Apex Global Solutions” is setting up its new multi-campus office in Chennai. It has 3 blocks: Administrative (Admin), Development (Dev), and Sales.

The distance between the various blocks is as follows:

- **Admin to Dev:** 80 meters
- **Dev to Sales:** 120 meters
- **Admin to Sales:** 400 meters

Number of computers in each block:

- **Admin:** 120
- **Dev:** 250
- **Sales:** 80

Based on the above scenario, answer the following questions:

- (i)** Suggest the most appropriate block to house the Main Server, with valid justification.
- (ii)** Suggest the best cable layout (star topology / bus topology / direct connection) to connect all the blocks efficiently.
- (iii)** Which networking device should be placed in each block to connect all computers within that block locally?
- (iv)** The company wants high-speed data transfer between Admin and Dev blocks. Which transmission cable should be preferred?
- (v)** Suggest if a Repeater is required between Admin and Sales, and why?

GENERAL INSTRUCTIONS

1. All questions are compulsory.
2. Marks are indicated against each question.
3. Read all questions carefully before answering.
4. Internal choices are provided in some questions.
5. Answer the questions as per the marks allotted.

SECTION A – MACROECONOMICS (40 Marks)

Q.1. Nominal GDP is:

(1 Mark)

- (a) GDP at constant prices
- (b) GDP at current prices
- (c) NDP at FC
- (d) NNP at FC

Q.2. Which is a component of Money Supply M1?

(1 Mark)

- (a) Time Deposits
- (b) Currency held by public + Demand Deposits + Other Deposits with RBI
- (c) Post Office Savings
- (d) National Savings Certificate

Q.3. The main function of the Central Bank as a 'Lender of Last Resort' is:

(1 Mark)

- (a) To give loans to public
- (b) To give loans to commercial banks
- (c) To control inflation
- (d) To issue currency

Q.4. Revenue Deficit =

(1 Mark)

- (a) Total Expenditure - Total Receipts
- (b) Revenue Expenditure - Revenue Receipts
- (c) Fiscal Deficit - Interest Payment
- (d) Capital Expenditure - Capital Receipts

Q.5. If MPS = 0.2, the value of multiplier is:

(1 Mark)

- (a) 2
- (b) 5
- (c) 0.2
- (d) 10

Q.6. The equilibrium level of income is determined where:

(1 Mark)

- (a) $AD > AS$
- (b) $AD = AS$
- (c) $AD < AS$
- (d) $C = S$

Q.7. Depreciation of domestic currency means:

(1 Mark)

- (a) Value of domestic currency falls in terms of foreign currency

- (b) Value of domestic currency rises
- (c) RBI increases money supply
- (d) Inflation increases

Q.8. Which transaction is recorded in the Capital Account of BOP?

(1 Mark)

- (a) Export of goods
- (b) Import of services
- (c) Foreign Direct Investment
- (d) Unilateral transfer

Q.9. Autonomous Investment is independent of:

(1 Mark)

- (a) Income
- (b) Rate of interest
- (c) Both (a) and (b)
- (d) None of these

Q.10. Statutory Liquidity Ratio (SLR) is maintained:

(1 Mark)

- (a) With RBI in cash
- (b) By banks in liquid assets like gold, cash, govt. securities
- (c) By public in banks
- (d) By RBI with government

Q.11. Explain the concept of 'Value of Output' and 'Value Added' with an example.

(3 Marks)

Q.12. Distinguish between CRR and SLR.

(3 Marks)

Q.13. Calculate Value Added by Firm A:

(4 Marks)

Purchase of raw material from Firm B = Rs. 200

Purchase of raw material from Firm C = Rs. 100

Sales = Rs. 500

Closing Stock = Rs. 50

Opening Stock = Rs. 20

Q.14. Explain the working of the Monetary Policy to control inflation.

(4 Marks)

Q.15. What is Fiscal Deficit? Explain its implications on the economy.

(4 Marks)

Q.16. Explain the determination of equilibrium level of income using Saving-Investment approach.

Use a diagram.

(6 Marks)

OR

Explain the concept of Aggregate Demand and its components. Explain the role of the multiplier in increasing income.

(6 Marks)

Q.17. Explain the meaning and types of Disequilibrium in Balance of Payments. What measures can be taken to correct it?

(6 Marks)

OR

Distinguish between Fixed Exchange Rate and Flexible Exchange Rate. Which system is better for a developing economy like India?

(6 Marks)

SECTION B – INDIAN ECONOMIC DEVELOPMENT

Q.18. The main aim of the New Economic Policy 1991 was:

(1 Mark)

- (a) To increase license permit raj
- (b) To establish a competitive market economy

- (c) To increase public sector
- (d) To ban foreign investment

Q.19. Human Capital is:

(1 Mark)

- (a) Tangible
- (b) Intangible
- (c) Both tangible and intangible
- (d) None

Q.20. Which is a problem of Human Capital Formation in India?

(1 Mark)

- (a) Brain drain
- (b) Low expenditure on education
- (c) High population
- (d) All of these

Q.21. Rural Development includes:

(1 Mark)

- (a) Agricultural development only
- (b) Development of agriculture and non-farm activities
- (c) Industrial development only
- (d) Urban development

Q.22. Micro-credit programme was started by:

(1 Mark)

- (a) NABARD
- (b) Grameen Bank of Bangladesh
- (c) World Bank
- (d) RBI

Q.23. Casualisation of workforce means:

(1 Mark)

- (a) Increase in regular employment
- (b) Increase in self-employment and casual work
- (c) Decrease in workforce
- (d) Increase in formal sector

Q.24. Which source of energy is renewable?

(1 Mark)

- (a) Coal
- (b) Petroleum
- (c) Solar Energy
- (d) Natural Gas

Q.25. What is Globalisation?

(1 Mark)

- (a) Merging of domestic economy with world economy
- (b) Closing of borders
- (c) Increasing tariffs
- (d) Import substitution

Q.26. Environment vs Development debate is about:

(1 Mark)

- (a) Development destroys environment
- (b) Environment protection is necessary for sustainable development
- (c) No relation between environment and development
- (d) Development is impossible without pollution

Q.27. Poverty line in India is defined on the basis of:

(1 Mark)

- (a) Income
- (b) Consumption expenditure
- (c) Wealth
- (d) Occupation

Short Answer Type – I

Q.28. Explain the role of education in Human Capital Formation.

(3 Marks)

Q.29. What is meant by 'Rural Credit'? Why is it important for rural development?

(3 Marks)

Short Answer Type – II

- Q.30. Explain the problems faced by the Indian agricultural sector. (4 Marks)
- Q.31. Discuss the impact of Globalisation on the Indian economy. (4 Marks)
- Q.32. Explain the measures taken by the government to promote employment generation in India. (4 Marks)

Long Answer Type

- Q.33. Explain the main features of the Industrial Policy Resolution 1956. Why was it changed in 1991? (6 Marks)

OR

What is Privatisation? Explain the role of privatisation in Indian economic development. (6 Marks)

- Q.34. Explain the trends in population growth and occupational structure in India since 1951. (6 Marks)

OR

What is Sustainable Development? Explain any three strategies for sustainable development in India. (6 Marks)

General Instructions

1. This question paper contains 13 questions. All questions are compulsory.
2. The paper has three sections: A—Reading Skills (22 marks), B—Creative Writing Skills (18 marks), and C—Literature (40 marks).
3. Follow the instructions and word limits given with each question.

SECTION A — READING SKILLS (22 Marks)

1. Read the following passage carefully and answer the questions that follow. (12 Marks)

Learning through everyday experiences

Learning is not limited to the classroom. A visit to a market can help students understand mathematics, economics and communication, while caring for a garden can introduce ecology and responsibility. Such activities are most effective when students know their purpose and reflect on what they have observed. Without reflection, an activity may remain entertaining but teach little. Technology can extend learning through virtual tours and simulations, yet information must be examined thoughtfully rather than accepted automatically. Group projects also develop listening, cooperation and problem-solving. Schools can assess these skills through presentations, journals and portfolios alongside tests. Clear criteria are important so that learners understand what successful work looks like. When practical experience is connected with formal teaching, students are more likely to see how knowledge applies to everyday life.

(i) Which statement best expresses the central idea? (1)

- | | |
|---|---|
| A. Classroom learning is unnecessary. | C. Technology always improves learning. |
| B. Experience can deepen formal learning. | D. Tests should be abolished. |

(ii) Why is reflection important after an activity? (1)

(iii) Find a word from the passage meaning 'to make something longer or wider in scope'. (1)

(iv) Complete: Information should be examined thoughtfully rather than _____. (1)

(v) Name one skill that group projects can develop. (1)

(vi) The tone of the passage is best described as: (1)

- | | |
|--------------------------------|-----------------|
| A. informative and encouraging | C. hostile |
| B. sarcastic | D. pessimistic. |

(vii) Explain why an activity without reflection may have limited educational value. (2)

(viii) Why might a portfolio reveal skills that a single test does not? (2)

(ix) Give one example of learning beyond the classroom mentioned in the passage. (1)

(x) Suggest a suitable title for the passage. (1)

2. Read the following case-based passage and answer the questions that follow. (10 Marks)

A survey of 500 students in Classes XI and XII asked each student to select one main revision method. The results are summarised below. The survey suggests that students use a mixture of traditional and digital approaches. Each method can serve a different purpose: recorded lessons can be replayed, group study can expose students to

alternative explanations, and practice tests can reveal gaps under timed conditions. The results should therefore guide support rather than be treated as proof that one method suits everyone.

Response	Students	Percentage
Printed notes/textbooks	180	36.0%
Recorded lessons	125	25.0%
Group study	90	18.0%
Practice tests	70	14.0%
Flashcards/digital quizzes	35	7.0%
Total	500	100%

- (i) How many students participated in the survey? (1)
 A. 350 B. 500 C. 625 D. 180.
- (ii) Which method was selected by the fewest students? (1)
- (iii) How many more students chose printed notes than group study? (1)
- (iv) What percentage chose recorded lessons? (1)
- (v) Which statement is supported by the data? (1)
 A. Digital quizzes were most popular. C. Practice tests were second.
 B. Printed material was the most popular option. D. Every student preferred group study.
- (vi) State one benefit of recorded lessons. (1)
- (vii) Why should teachers avoid assuming that one revision method is best for all learners? (2)
- (viii) Suggest one way a teacher could use these results to support students. (2)

SECTION B — CREATIVE WRITING SKILLS (18 Marks)

3. Attempt ANY ONE of the following in about 50 words. (1 × 4 = 4 Marks)

A. You are Aditi Sharma, Secretary of the Literary Club of Sunrise Senior Secondary School, Lucknow. Draft a notice for Classes XI–XII about an inter-house debate on “Artificial Intelligence: Opportunity or Challenge”. Include date, venue, eligibility and registration details. Put the notice in a box.

OR

B. You are Dev Malhotra, Secretary of the Eco Club. Draft a notice announcing a campus e-waste collection drive. Include dates, accepted items and participation instructions.

4. Attempt ANY ONE of the following in about 50 words. (1 × 4 = 4 Marks)

A. You are the Cultural Secretary of your school. Draft a formal invitation to a local author to inaugurate the annual book fair and interact with students.

OR

B. You have been invited to judge a school elocution competition but cannot attend due to a prior commitment. Write a polite formal reply declining the invitation.

5. Attempt ANY ONE of the following in 120–150 words. (1 × 5 = 5 Marks)

A. Write a letter to the Editor of a national daily expressing concern about the increasing use of single-use plastic in local markets. Suggest practical measures involving shopkeepers, residents and municipal authorities.

OR

B. You saw an advertisement for the post of Assistant Content Writer at BrightPath Learning. Write an application highlighting your communication skills and interest in educational content. Include a concise bio-data.

6. Attempt ANY ONE of the following in 120–150 words. (1 × 5 = 5 Marks)

A. Write an article on “The Importance of Sleep and Balanced Routines for Students”, discussing concentration, emotional well-being and practical habits.

OR

B. Write a report for your school magazine on a recently organised community cleanliness drive. Include purpose, participation, activities, outcomes and future plans.

SECTION C — LITERATUR (40 Marks)

7. Read the following adapted thematic extract based on a prescribed poem and answer the questions.

(1 × 6 = 6 Marks)

Based on “Keeping Quiet”

A brief pause in the rush of daily life can help people look inward and recognise their shared humanity. The pause is not a call for permanent inactivity, but an invitation to reflect before acting.

(i) The pause is intended mainly to encourage _____. (1)

(ii) Why is the pause not equivalent to complete inactivity? (1)

(iii) The idea of shared stillness can help people recognise: (1)

A. common humanity

C. wealth

B. social rank

D. competition.

(iv) Identify one theme reflected in the extract. (1)

(v) How can silence lead to understanding? (1)

(vi) What is the relationship between reflection and action here? (1)

8. Read the following adapted thematic extract based on a prescribed prose text and answer the questions.

(1 × 4 = 4 Marks)

Based on “The Third Level”

Charley’s discovery of an unusual railway platform seems to offer an escape from the anxieties of modern life. Whether real or imagined, it reflects a longing for a simpler and more secure world.

(i) Charley’s attraction to the third level is driven mainly by: (1)

A. nostalgia and escapism

B. wealth

C. technology.

(ii) What does the third level represent psychologically? (1)

(iii) Which contrast is central to the story? (1)

A. past and present

B. science and medicine

C. youth and age.

(iv) Why is the story more than a mystery about a railway station? (1)

9. Read the following adapted thematic extract based on a prescribed prose text and answer the questions.

(1 × 6 = 6 Marks)

Based on “Lost Spring”

Children in impoverished communities may work in unsafe conditions instead of attending school. Their labour can help families survive, but it also limits their choices and perpetuates deprivation.

(i) The situation highlights the denial of: (1)

A. childhood and education

B. recreation only

C. cultural identity.

(ii) Why can poverty be described as a cycle? (1)

(iii) What does the contrast between survival and schooling reveal? (1)

(iv) Identify one social factor that sustains child labour. (1)

(v) How does the text encourage readers to look beyond individual blame? (1)

(vi) Which concern is reflected? (1)

A. glamour of city life

B. systemic exploitation

C. competition.

10. Answer ANY FIVE of the following six questions, in 40–50 words each.

(5 × 2 = 10 Marks)

- (i)** From “The Last Lesson”: How does Franz’s attitude towards school and the French language change by the end of the lesson?
- (ii)** From “Deep Water”: How does Douglas’s experience show that courage can be developed through sustained effort?
- (iii)** From “Indigo”: Why was Gandhi’s response to the Champaran peasants significant beyond the immediate issue of compensation?
- (iv)** From “My Mother at Sixty-Six”: How does the poet use contrast to express her fear of separation from her mother?
- (v)** From “A Roadside Stand”: What does the poem reveal about the unequal relationship between rural people and city dwellers?
- (vi)** From “Poets and Pancakes”: How does the narrator use humour to reveal hierarchy and confusion within the film studio?

11. Answer ANY TWO of the following three questions, in 40–50 words each.

(2 × 2 = 4 Marks)

- (i)** From “On the Face of It”: How does Mr Lamb help Derry question his negative view of himself?
- (ii)** From “Journey to the End of the Earth”: Why is Antarctica important for understanding the planet’s past and future?
- (iii)** From “Memories of Childhood”: How do Zitkala-Sa and Bama respond to experiences of discrimination?

12. Answer ANY ONE of the following, in 120–150 words.

(1 × 5 = 5 Marks)

A. “The Last Lesson” and “The Interview” explore language, identity and the public gaze in different ways. Discuss how the two texts show that communication shapes how individuals and communities are understood.

OR

B. “Going Places” portrays the gap between fantasy and reality, while “A Thing of Beauty” celebrates the sustaining power of beauty. Compare how the texts present imagination in human life.

13. Answer ANY ONE of the following, in 120–150 words.

(1 × 5 = 5 Marks)

A. In “The Tiger King”, satire exposes the arrogance of power and the absurdity of trying to control fate. Discuss how humour and irony communicate the story’s message.

OR

B. “On the Face of It” and “The Enemy” show characters who must look beyond social labels and immediate prejudice. Compare how Mr Lamb and Dr Sadao respond to people judged by appearance or identity.

सामान्य निर्देश:-

निम्नलिखित निर्देशों को बहुत सावधानी से पढ़िए और उनका सख्ती से अनुपालन कीजिए।

1. इस प्रश्नपत्र में प्रश्नों की संख्या 12 है। सभी प्रश्न अनिवार्य हैं।
2. इस प्रश्नपत्र में तीन खंड हैं—खंड क, ख और ग।
3. खंड 'ग' में वर्णनात्मक प्रश्न पूछे गए हैं। इनमें आंतरिक विकल्प भी दिए गए हैं।
4. प्रश्नों के उत्तर दिए गए निर्देशों का पालन करते हुए लिखिए।
5. यथासंभव सभी प्रश्नों के उत्तर क्रमवार लिखिए।

खंड - 'क' (अपठित बोध)

प्रश्न 1. निम्नलिखित गद्यांश को ध्यानपूर्वक पढ़कर उस पर आधारित दिए गए प्रश्नों के सर्वाधिक उपयुक्त उत्तर लिखिए। (10×1=10)

मनुष्य के जीवन में परिश्रम का विशेष महत्त्व है। संसार में जितने भी महान व्यक्ति हुए हैं, उनकी सफलता के पीछे निरंतर परिश्रम, लगन और आत्मविश्वास का योगदान रहा है। केवल इच्छा करने से कोई लक्ष्य प्राप्त नहीं होता। लक्ष्य की प्राप्ति के लिए योजनाबद्ध ढंग से कार्य करना और कठिनाइयों का साहसपूर्वक सामना करना आवश्यक है। जो व्यक्ति असफलताओं से घबराकर अपना प्रयास छोड़ देते हैं, वे जीवन में आगे नहीं बढ़ पाते। इसके विपरीत, धैर्यवान व्यक्ति असफलताओं से सीख लेते हैं और अपने प्रयासों को निरंतर जारी रखते हैं।

आज के समय में अनेक लोग शीघ्र सफलता प्राप्त करना चाहते हैं। वे परिश्रम की अपेक्षा भाग्य और साधनों पर अधिक भरोसा करते हैं। ऐसी सोच व्यक्ति की प्रगति में बाधा बनती है। वास्तविक सफलता वही है, जो ईमानदारी और परिश्रम से प्राप्त की जाए। परिश्रमी व्यक्ति न केवल अपना जीवन बेहतर बनाता है, बल्कि समाज के विकास में भी योगदान देता है। विद्यार्थियों के लिए परिश्रम का महत्त्व और भी अधिक है, क्योंकि विद्यार्थी जीवन में विकसित की गई अच्छी आदतें भविष्य की सफलता का आधार बनती हैं। अतः प्रत्येक व्यक्ति को अपने लक्ष्य के प्रति समर्पित रहना चाहिए और निरंतर प्रयास करते रहना चाहिए।

(क) महान व्यक्तियों की सफलता के पीछे किसका योगदान रहा है?

- | | |
|-------------------|-------------------------------------|
| (i) केवल भाग्य का | (ii) परिश्रम, लगन और आत्मविश्वास का |
| (iii) केवल धन का | (iv) दूसरों की सहायता का |

(ख) कथन (A) तथा कारण (R) को ध्यानपूर्वक पढ़कर सही विकल्प चुनिए।

कथन (A): असफलताओं से घबराकर प्रयास छोड़ देने वाले व्यक्ति आगे नहीं बढ़ पाते हैं।

कारण (R): असफलताओं से सीख लेकर निरंतर प्रयास करने से सफलता की संभावना बढ़ती है।

- (i) कथन (A) तथा कारण (R) दोनों गलत हैं।
- (ii) कथन (A) सही है, किंतु कारण (R) गलत है।
- (iii) कथन (A) तथा कारण (R) दोनों सही हैं और कारण (R), कथन (A) की सही व्याख्या करता है।
- (iv) कथन (A) गलत है, किंतु कारण (R) सही है।

(ग) वास्तविक सफलता किसे कहा गया है?

- (i) बिना परिश्रम के प्राप्त उपलब्धि को
- (ii) भाग्य के सहारे मिली सफलता को
- (iii) ईमानदारी और परिश्रम से प्राप्त सफलता को
- (iv) दूसरों को पीछे छोड़ने को

(घ) विद्यार्थी जीवन में विकसित की गई अच्छी आदतें किसका आधार बनती हैं?

(ङ) लोग शीघ्र सफलता प्राप्त करने के लिए किस प्रकार की सोच अपनाते हैं?

(च) परिश्रमी व्यक्ति अपने जीवन के साथ-साथ समाज के विकास में किस प्रकार योगदान देता है?

(छ) गद्यांश के आधार पर स्पष्ट कीजिए कि असफलता को सफलता की सीढ़ी क्यों कहा जा सकता है।

प्रश्न 2. निम्नलिखित पद्यांश को ध्यानपूर्वक पढ़कर उस पर आधारित दिए गए प्रश्नों के सर्वाधिक उपयुक्त उत्तर लिखिए। (8×1=8)

जीवन एक निरंतर यात्रा,
चलते जाना काम तुम्हारा।
राह कठिन हो, धूप कड़ी हो,
हिम्मत रखना सदा तुम्हारा।
मेहनत से ही फूल खिलेंगे,
सपनों के संसार मिलेंगे।
जो विपदा से नहीं घबराते,
वे ही मंजिल तक पहुँचेंगे।
ज्ञान का दीप जलाते चलना,
सच्चाई की राह पर चलना।
अपने कर्मों से जग में तुम,
नई रोशनी फैलाते चलना।

(क) कवि के अनुसार जीवन क्या है?

- | | |
|------------------------|-----------------|
| (i) एक खेल | (ii) एक विश्राम |
| (iii) एक निरंतर यात्रा | (iv) एक सपना |

(ख) मंजिल तक कौन पहुँचते हैं?

- | | |
|------------------------------------|--------------------------------------|
| (i) जो कठिनाइयों से घबराते हैं | (ii) जो विपदाओं से नहीं घबराते |
| (iii) जो प्रयास करना छोड़ देते हैं | (iv) जो केवल भाग्य पर भरोसा करते हैं |

(ग) कथन (A) तथा कारण (R) पर विचार करके सही विकल्प चुनिए।

कथन (A): जीवन में सफलता प्राप्त करने के लिए परिश्रम आवश्यक है।

कारण (R): परिश्रम से ही सपनों को साकार करने का अवसर मिलता है।

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|--|
| (i) कथन (A) तथा कारण (R) दोनों गलत हैं। |
| (ii) कथन (A) सही है, किंतु कारण (R) गलत है। |
| (iii) कथन (A) तथा कारण (R) दोनों सही हैं और कारण (R), कथन (A) की सही व्याख्या करता है। |
| (iv) कथन (A) गलत है, किंतु कारण (R) सही है। |

(घ) 'ज्ञान का दीप जलाना' से क्या आशय है?

(ङ) कवि मनुष्य को कठिन परिस्थितियों में किस प्रकार व्यवहार करने की प्रेरणा देता है?

(च) पद्यांश के आधार पर जीवन में सच्चाई और अच्छे कर्मों का महत्त्व स्पष्ट कीजिए।

खंड - 'ख'

(अभिव्यक्ति और माध्यम पुस्तक पर आधारित प्रश्न)

प्रश्न 3. दिए गए तीन अप्रत्याशित विषयों में से किसी एक विषय पर लगभग 120 शब्दों में रचनात्मक लेखन कीजिए। (6×1=6)

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|--|
| (i) विद्यार्थी जीवन में अनुशासन का महत्त्व |
| (ii) बदलती जीवनशैली और स्वास्थ्य |
| (iii) जल संरक्षण : समय की आवश्यकता |

प्रश्न :- 4 अधोलिखित अतिलघुत्तरीय प्रश्नों के उत्तर लगभग 40 शब्दों में लिखिए। (2×4=8)

- | |
|---|
| (i) मुद्रित माध्यमों की प्रमुख विशेषताओं का उल्लेख कीजिए। |
| (ii) फीचर लेखन से आप क्या समझते हैं? इसकी दो विशेषताएँ लिखिए। |
| (iii) समाचार लेखन में 'छह ककार' का क्या महत्त्व है? |
| (iv) 'विद्यार्थियों में बढ़ता मोबाइल का उपयोग' विषय पर एक संक्षिप्त आलेख लिखिए। |

प्रश्न 5. निम्नलिखित प्रश्नों के उत्तर लगभग 80 शब्दों में विस्तारपूर्वक लिखिए। (4×2=8)

- | |
|---|
| (i) पत्रकारिता में 'बीट' से क्या अभिप्राय है? बीट रिपोर्टर के लिए संबंधित क्षेत्र की जानकारी क्यों आवश्यक है? |
| (ii) रेडियो नाटक में संवाद, ध्वनि और संगीत का क्या महत्त्व है? स्पष्ट कीजिए। |

खंड - 'ग'

(आरोह भाग-2 एवं वितान भाग-2 पाठ्यपुस्तकों के आधार पर)

प्रश्न 6. निम्नलिखित काव्यांश को ध्यानपूर्वक पढ़कर उस पर आधारित दिए गए प्रश्नों के सर्वाधिक उपयुक्त उत्तर वाले विकल्प चुनकर लिखिए। (5×1=5)

रुद्ध कोष है, क्षुब्ध तोष अंगना-अंग से लिपटे भी
आतंक अंक पर काँप रहे हैं। धनी, वज्र-गर्जन से बादल !
त्रस्त-नयन मुख ढाँप रहे हैं। जीर्ण बाहु, है शीर्ण शरीर,
तुझे बुलाता कृषक अधीर,
ऐ विप्लव के वीर !
चूस लिया है उसका सार, हाड़-मात्र ही है आधार,
ऐ जीवन के पारावार !

(i) बादलों की गर्जना का धनी वर्ग पर क्या प्रभाव दिखाई देता है?

(क) धनी वर्ग उत्साहित होता है

(ग) धनी वर्ग भयभीत होता है

(ख) धनी वर्ग आंदोलित होता है

(घ) धनी वर्ग सामान्य बना रहता है

(ii) कवि ने कृषक वर्ग की क्या स्थिति बताई है?

(क) उनका शरीर जर्जर हो गया है

(ग) उनके शरीर में हड्डियों का ढाँचा मात्र रह गया है

(ख) वह व्याकुलता से बादल की प्रतीक्षा कर रहे हैं

(घ) उपर्युक्त सभी

(iii) कृषक वर्ग की स्थिति के लिए किसे जिम्मेदार ठहराया गया है?

(क) शोषक वर्ग को

(ग) मध्यवर्ग को

(ख) स्वयं कृषक को

(घ) प्राकृतिक प्रकोप को

(iv) मुख ढाँपना किस प्रवृत्ति का घोटक है?

(क) भयभीत मानसिकता का

(ग) शुद्ध मानसिकता का

(ख) स्वच्छ मानसिकता का

(घ) रूढ़िवादी मानसिकता का

(v) पूंजीपति वर्ग के लोग क्यों काँप रहे हैं?

(क) भूकंप के डर से

(ग) बिजली को गर्जना से

(ख) क्रांति के डर में

(घ) चोर डाकू के डर से

प्रश्न 7. काव्य खंड पर आधारित निम्नलिखित तीन प्रश्नों को ध्यानपूर्वक पढ़कर किन्हीं दो प्रश्नों के उत्तर लगभग 60 शब्दों में लिखिए।

(3×2=6)

(क) 'आत्म-परिचय' कविता के आधार पर स्पष्ट कीजिए कि कवि के जीवन में प्रेम और संसार के प्रति आकर्षण के साथ-साथ विरक्ति का भाव किस प्रकार उपस्थित है?

(ख) 'पतंग' कविता में बच्चों के उत्साह, उमंग और साहस का चित्रण किस प्रकार किया गया है?

(ग) 'बादल राग' कविता में बादलों के आगमन से समाज के किन वर्गों में आशा का संचार होता है? स्पष्ट कीजिए।

प्रश्न 8. काव्य खंड पर आधारित निम्नलिखित तीन प्रश्नों को ध्यानपूर्वक पढ़कर किन्हीं दो प्रश्नों के उत्तर लगभग 40 शब्दों में लिखिए।

(2×2=4)

(क) 'उषा' कविता में कवि ने प्रातःकालीन आकाश की सुंदरता को किस प्रकार चित्रित किया है?

(ख) 'कविता के बहाने' कविता के आधार पर कविता की असीम संभावनाओं को स्पष्ट कीजिए।

(ग) 'बात सीधी थी पर' कविता में भाषा के साथ अनावश्यक प्रयोग करने से क्या समस्या उत्पन्न होती है?

प्रश्न 9. निम्नलिखित पठित गद्यांश को ध्यानपूर्वक पढ़कर उस पर आधारित दिए गए प्रश्नों के सर्वाधिक उपयुक्त उत्तर वाले विकल्प चुनकर लिखिए। (5×1=5)

बाजार में अनेक प्रकार की वस्तुएँ आकर्षक ढंग से सजाकर रखी जाती हैं। उनकी चमक-दमक और सुंदर प्रस्तुति ग्राहक को अपनी ओर खींचती है। व्यक्ति कई बार ऐसी वस्तुएँ भी खरीद लेता है, जिनकी उसे वास्तव में आवश्यकता नहीं होती। बाजार का यह आकर्षण मनुष्य की इच्छाओं को बढ़ाता है। यदि व्यक्ति अपनी आवश्यकताओं और इच्छाओं में अंतर नहीं कर पाता, तो वह अनावश्यक खर्च करने लगता है। दूसरी ओर, जो व्यक्ति अपनी जरूरतों को समझकर विवेकपूर्ण ढंग से खरीदारी करता है, वह बाजार के आकर्षण से बच सकता है।

(क) बाजार में वस्तुओं को आकर्षक ढंग से क्यों सजाया जाता है?

(i) ग्राहकों को आकर्षित करने के लिए

(ii) वस्तुओं को छिपाने के लिए

(iii) ग्राहकों को भ्रमित होने से बचाने के लिए

(iv) वस्तुओं की कीमत घटाने के लिए

(ख) व्यक्ति अनावश्यक वस्तुएँ कब खरीद लेता है?

(i) जब वह अपनी आवश्यकताओं को समझता है।

(iii) जब वह बाजार के आकर्षण में आ जाता है।

(ii) जब वह खरीदारी नहीं करना चाहता।

(iv) जब उसके पास कोई इच्छा नहीं होती।

(ग) बाजार के आकर्षण से बचने के लिए क्या आवश्यक है?

(i) हर वस्तु खरीदना

(iii) दूसरों की नकल करना

(ii) विवेकपूर्ण ढंग से खरीदारी करना

(iv) केवल महँगी वस्तुएँ खरीदना

(घ) गद्यांश के अनुसार बाजार का आकर्षण मनुष्य पर क्या प्रभाव डालता है?

(i) उसकी इच्छाएँ बढ़ाता है।

(iii) उसकी आवश्यकताएँ समाप्त करता है।

(ii) उसे परिश्रमी बनाता है।

(iv) उसे बाजार से दूर रखता है।

(ङ) गद्यांश का मुख्य संदेश क्या है?

(i) बाजार जाना अनुचित है।

(iii) केवल महँगी वस्तुएँ खरीदनी चाहिए।

(ii) खरीदारी करते समय विवेक का प्रयोग करना चाहिए।

(iv) बाजार में वस्तुएँ नहीं खरीदनी चाहिए।

प्रश्न 10. गद्य खंड पर आधारित निम्नलिखित तीन प्रश्नों को ध्यानपूर्वक पढ़कर किन्हीं दो प्रश्नों के उत्तर लगभग 60 शब्दों में लिखिए।

(3×2=6)

(क) 'शिरीष के फूल' पाठ के आधार पर शिरीष को 'कालजयी अवधूत' क्यों कहा गया है?

(ख) 'बाजार दर्शन' पाठ के आधार पर स्पष्ट कीजिए कि बाजार का जादू मनुष्य को किस प्रकार प्रभावित करता है।

(ग) 'पहलवान की ढोलक' पाठ के आधार पर स्पष्ट कीजिए कि लुट्टन पहलवान के जीवन में ढोलक की क्या भूमिका थी?

प्रश्न 11. गद्य खंड पर आधारित निम्नलिखित तीन प्रश्नों को ध्यानपूर्वक पढ़कर किन्हीं दो प्रश्नों के उत्तर लगभग 40 शब्दों में लिखिए।

(2×2=4)

(क) 'जाति-प्रथा और श्रम-विभाजन' पाठ के आधार पर जाति-प्रथा के दो प्रमुख दोषों का उल्लेख कीजिए।

(ख) 'भक्तिन' पाठ के आधार पर भक्तिन के स्वभाव की दो विशेषताएँ बताइए।

(ग) 'काले मेघा पानी दे' पाठ में इंदर सेना पर पानी फेंकने की परंपरा के पीछे कौन-सी लोकमान्यता थी?

वितान भाग-2 के पाठों पर आधारित

प्रश्न :-12 निम्नलिखित तीन प्रश्नों को ध्यानपूर्वक पढ़कर किन्हीं दो प्रश्नों के उत्तर लगभग 100 शब्दों में लिखिए। (5×2=10)

(क) 'सिल्वर वैडिंग' पाठ के आधार पर यशोधर बाबू और नई पीढ़ी के बीच विचारों के अंतर को स्पष्ट कीजिए।

(ख) 'जूझ' पाठ में लेखक की शिक्षा प्राप्त करने की इच्छा और संघर्ष का वर्णन कीजिए। दत्ताजी राव देसाई ने लेखक की किस प्रकार सहायता की?

(ग) 'अतीत में दबे पाँव' पाठ के आधार पर हड़प्पा सभ्यता की नगर-योजना, जल-निकासी व्यवस्था और कलात्मक उपलब्धियों का वर्णन कीजिए।

(SAMPLE PAPER– 2026-27) (SET–A)
CLASS - XII
SUBJECT – HISTORY (027)

TIME: 3 HOURS

M.M.: 80

GENERAL INSTRUCTIONS

1. The question paper contains five sections: A, B, C, D and E.
2. All questions are compulsory, subject to internal choices.
3. Section A contains 21 objective questions of 1 mark each.
4. Section B contains 6 short-answer questions of 3 marks each.
5. Section C contains 3 long-answer questions of 8 marks each.
6. Section D contains 3 source-based questions of 4 marks each.
7. Section E contains one map-based question of 5 marks.
8. Follow the word limits given in the questions.

SECTION A

MULTIPLE-CHOICE QUESTIONS

(21 × 1 = 21 Marks)

1. Which Harappan site is particularly associated with evidence of a dockyard?

- (a) Rakhigarhi
- (b) Lothal
- (c) Banawali
- (d) Dholavira

2. Which material was commonly used to manufacture Harappan seals?

- (a) Steatite
- (b) Marble
- (c) Iron
- (d) Granite

3. The Buddhist text *Sutta Pitaka* primarily contains:

- (a) Rules of land revenue
- (b) Teachings and discourses of the Buddha
- (c) Mughal administration
- (d) Mauryan army laws

4. Which was a major feature of Ashoka's Dhamma?

- (a) Religious intolerance
- (b) Ethical conduct and respect for different sects
- (c) Compulsory military service
- (d) Continuous warfare

5. The *Mahabharata* is an important source for studying:

- (a) European trading companies
- (b) Kinship, social norms and political conflicts
- (c) Industrial Revolution
- (d) British rule

6. Which inscription records the achievements of Samudragupta?

- (a) Hathigumpha
- (b) Allahabad Prashasti
- (c) Junagadh inscription of Rudradaman
- (d) Aihole inscription

7. The Virupaksha Temple is associated with:

- (a) Hampi
- (b) Sarnath
- (c) Taxila
- (d) Pataliputra

8. Which traveller visited India during Muhammad bin Tughlaq's reign?

- (a) François Bernier
- (b) Ibn Battuta
- (c) Abul Fazl
- (d) Al-Biruni

9. The term *zimmi* generally referred to:

- (a) Military commander
- (b) A non-Muslim subject protected under specific legal arrangements
- (c) Village accountant
- (d) Horse trader

10. Which teaching is associated with Guru Nanak?

- (a) Devotion to one God and ethical living
- (b) Mansabdari system
- (c) Permanent Settlement
- (d) *Ain-i-Akbari*

11. In Mughal administration, a *mansab* indicated:

- (a) Village boundary
- (b) An official's rank and position
- (c) Pilgrimage
- (d) Irrigation canal

12. Which source provides detailed information about Mughal revenue administration under Akbar?

- (a) Ain-i-Akbari
- (b) Rajatarangini
- (c) Harshacharita
- (d) Indica

13. The ryotwari system recognised which party as the direct payer of land revenue?

- (a) Individual cultivator
- (b) European factory owner
- (c) Village priest
- (d) Military officer

14. The annexation of Awadh in 1856 was justified by the British mainly on grounds of:

- (a) Doctrine of Lapse alone
- (b) Alleged maladministration
- (c) Alliance with France
- (d) Permanent Settlement

15. Who was proclaimed the symbolic emperor during the Revolt of 1857?

- (a) Nana Sahib
- (b) Bahadur Shah Zafar
- (c) Kunwar Singh
- (d) Tantia Tope

16. The Deccan Riots of 1875 were largely directed against:

- (a) Moneylenders
- (b) Buddhist monks
- (c) Portuguese sailors
- (d) Mughal nobles

17. Which event marked the beginning of the Civil Disobedience Movement in 1930?

- (a) Champaran Satyagraha
- (b) Dandi March
- (c) Quit India Movement
- (d) Home Rule Movement

18. The Simon Commission was opposed mainly because:

- (a) It proposed immediate independence
- (b) It had no Indian member
- (c) It abolished provincial governments

(d) It introduced universal adult franchise

19. The Cabinet Mission came to India in:

(a) 1935

(b) 1942

(c) 1946

(d) 1948

20. Which was a key feature of the Indian Constitution adopted in 1949?

(a) Universal adult franchise

(b) Separate electorates for every occupation

(c) Hereditary political offices

(d) Denial of fundamental rights

21. Assertion (A): The Permanent Settlement strengthened the position of zamindars in colonial Bengal.

Reason (R): The settlement recognised zamindars as landholders responsible for paying a fixed revenue demand to the colonial state.

(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.

SECTION B

SHORT-ANSWER QUESTIONS

(6 × 3 = 18 Marks)

Answer each question in approximately 60–80 words.

22. Explain three ways in which archaeologists study craft production in Harappan settlements.

23. Describe the importance of stupas in the development and spread of Buddhism.

24. Explain three features of the Amara-Nayaka system of Vijayanagara.

25. How did Bhakti and Sufi traditions encourage religious and social interaction? Explain three points.

26. Describe three major effects of colonial land revenue policies on Indian peasants.

27. Explain three important features of the Quit India Movement of 1942.

SECTION C

LONG-ANSWER QUESTIONS

(3 × 8 = 24 Marks)

Answer each question in approximately 300–350 words.

28. Explain how inscriptions, coins, literary works and archaeological remains help historians reconstruct the history of early Indian states.

OR

Discuss the political, social and economic features of the Mauryan Empire, with particular reference to Ashoka's policies.

29. Examine the changes introduced by British colonial rule in rural India. Discuss the impact of land revenue settlements, moneylenders and commercialisation of agriculture.

OR

Explain the causes, major events and consequences of the Revolt of 1857. Why did the rebellion fail to overthrow British rule?

30. Describe the role of Mahatma Gandhi in transforming the Indian national movement between 1917 and 1942. Refer to major movements and methods of protest.

OR

Discuss the major challenges faced by the Constituent Assembly while framing the Constitution of independent India. Explain how the debates reflected different visions of democracy and citizenship.

SECTION D

SOURCE-BASED QUESTIONS

(3 × 4 = 12 Marks)

31. The Mauryan Empire and Ashoka

Ashoka's inscriptions provide valuable information about his ideas on governance and public welfare. They communicate his concern for ethical behaviour, respect for elders, compassion towards living beings and tolerance

among religious communities. The inscriptions were placed in different parts of the empire, allowing the ruler's messages to reach a wide population. Historians also study their languages, scripts and geographical distribution to understand the reach of Mauryan authority.

31.1. Name one source through which Ashoka's policies are known. (1)

31.2. Mention one ethical principle promoted by Ashoka. (1)

31.3. Explain two ways in which Ashokan inscriptions help historians understand Mauryan administration. (2)

32. Colonial Agrarian Policies

British revenue settlements transformed relationships between cultivators, landholders and the colonial state.

Revenue demands often placed pressure on agricultural households, particularly when harvests were poor.

Peasants sometimes borrowed money to meet their obligations, increasing their dependence on moneylenders. In several regions, these pressures contributed to rural discontent and resistance against colonial policies.

32.1. What was the principal objective of colonial land revenue settlements? (1)

32.2. How could moneylenders increase the burden on cultivators? (1)

32.3. Explain two reasons why colonial agrarian policies generated peasant resistance. (2)

33. The Making of the Constitution

The Constituent Assembly debated the principles on which independent India should be governed. Its members discussed fundamental rights, minority protections, the distribution of powers and the meaning of equality.

Universal adult franchise represented a major commitment to political democracy because voting rights were not restricted by property, education or social status. The Constitution sought to establish democratic institutions while addressing inequalities inherited from colonial society.

33.1. What was the principal task of the Constituent Assembly? (1)

33.2. What is meant by universal adult franchise? (1)

33.3. Explain two ways in which the Constitution aimed to promote equality. (2)

SECTION E

MAP-BASED QUESTION

(1 × 5 = 5 Marks)

34. On an outline political map of India, locate and label the following places and identify their historical significance. (5 × 1 = 5)

(a) **Dholavira** – A major Harappan settlement.

(b) **Sanchi** – An important Buddhist stupa site.

(c) **Vijayanagara (Hampi)** – The capital of the Vijayanagara Empire.

(d) **Meerut** – An important centre of the Revolt of 1857.

(e) **Champaran** – Associated with Gandhi's early satyagraha in India.

- a) 13
c) 12
- b) 5
d) 7
9. $\int (x^2 \tan^{-1} x^3) / (1 + x^6) dx = ?$ [1]
a) $(1/6)(\tan^{-1} x^3)^2 + C$
b) $(1/3)(\tan^{-1} x^3) + C$
c) None of these
d) $\log |\tan^{-1} x^3| + C$
10. If A and B are two matrices such that $AB = A$ and $BA = B$, then B^2 is equal to [1]
a) 0
b) A
c) B
d) 1
11. The region represented by the inequation system $x, y \geq 0, y \leq 6, x + y \leq 3$ is [1]
a) unbounded in first and second quadrants
b) bounded in first quadrant
c) None of these
d) unbounded in first quadrant
12. If β is perpendicular to both α and γ , where $\alpha = \hat{k}$ and $\gamma = 2\hat{i} + 3\hat{j} + 4\hat{k}$, then what is β equal to? [1]
a) $-2\hat{i} + 3\hat{j}$
b) $3\hat{i} + 2\hat{j}$
c) $2\hat{i} - 3\hat{j}$
d) $-3\hat{i} + 2\hat{j}$
13. For what value of λ the following system of equations does not have a solution $x + y + z = 6, 4x + \lambda y - \lambda z = 0, 3x + 2y - 4z = -5$? [1]
a) 1
b) -3
c) 0
d) 3
14. Two men hit at a target with probabilities $1/2$ and $1/3$, respectively. What is the probability that exactly one of them hits the target? [1]
a) $1/6$
b) $1/2$
c) $1/3$
d) $2/3$
15. The general solution of the differential equation $(y dx - x dy)/y = 0$ is [1]
a) $y = Cx^2$
b) $x = Cy^2$
c) $y = Cx$
d) $xy = C$
16. Which one of the following is the unit vector perpendicular to both $\vec{a} = -\hat{i} + \hat{j} + \hat{k}$ and $\vec{b} = \hat{i} - \hat{j} + \hat{k}$? [1]
a) $(\hat{j} + \hat{k})/\sqrt{2}$
b) $\hat{k}$
c) $\pm(\hat{i} + \hat{j})/\sqrt{2}$
d) $(\hat{i} - \hat{j})/\sqrt{2}$
17. The function $f(x) = \{ (\sin x)/x + \cos x, \text{ if } x \neq 0; k, \text{ if } x = 0 \}$ is continuous at $x = 0$, then the value of k is [1]
a) 1
b) 3
c) 1.5
d) 2
18. The Cartesian equations of a line are $(x-2)/2 = (y+1)/3 = (z-3)/-2$. What is its vector equation? [1]
a) none of these
b) $\vec{r} = (2\hat{i} + 3\hat{j} - 2\hat{k}) + \lambda(2\hat{i} - \hat{j} + 3\hat{k})$
c) $\vec{r} = (2\hat{i} - \hat{j} + 3\hat{k}) + \lambda(2\hat{i} + 3\hat{j} - 2\hat{k})$
d) $\vec{r} = (2\hat{i} + 3\hat{j} - 2\hat{k})$
19. **Assertion (A):** $f(x) = \tan x - x$ always increases. [1]
Reason (R): Any function $y = f(x)$ is increasing if $dy/dx > 0$.
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.
20. **Assertion (A):** The relation R in the set $A = \{1, 2, 3, 4\}$ defined as $R = \{(x, y): y \text{ is divisible by } x\}$ is an equivalence relation. [1]
Reason (R): A relation R on the set A is equivalence if it is reflexive, symmetric and transitive.
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.

Section B

21. Evaluate: $\sin^{-1}(\sin(-600^\circ))$ [2]

OR

For the principal value, evaluate $\tan^{-1}\{2\cos(2\sin^{-1}(1/2))\}$.

22. Separate $[0, \pi/2]$ into subintervals in which $f(x) = \sin 3x$ is increasing or decreasing. [2]
23. Show that the function $f(x) = x^{100} + \sin x - 1$ is increasing on the interval $(\pi/2, \pi)$ [2]

OR

Water is running into an inverted cone at the rate of π cubic metres per minute. The height of the cone is 10 metres, and the radius of its base is 5 m. How fast the water level is rising when the water stands 7.5 m below the base.

24. Evaluate: $\int 1/(\sin x \cos^2 x) dx$ [2]
25. A man 2 metres high, walks at a uniform speed of 6 metres per minute away from a lamp post, 5 metres high. Find the rate at which the length of his shadow increases. [2]

Section C

26. Evaluate: $\int_0^{\pi/4} (\sin 2x)/(\cos^4 x + \sin^4 x) dx$ [3]
27. Three persons A, B and C apply for a job of Manager in a private company. Chances of their selection (A, B and C) are in the ratio 1:2:4. The probabilities that A, B and C can introduce changes to improve profits of the company are 0.8, 0.5 and 0.3, respectively. If the change does not take place, find the probability that it is due to the appointment of C. [3]
28. Evaluate: $\int_{-3}^3 x^4/(1 + e^x) dx$ [3]

OR

Evaluate: $\int_{1/e}^e |\log_e x| dx$

29. Solve the differential equation: $xy dy/dx = x^2 - y^2$ [3]
- OR
- Solve the initial value problem: $x dy/dx - y = \log x$, $y(1) = 0$
30. Minimise $Z = 13x - 15y$, subject to the constraints: $x + y \leq 7$, $2x - 3y + 6 \geq 0$, $x \geq 0$, $y \geq 0$. [3]

OR

Maximize $Z = 3x + 2y$

Subject to constraints

$$x + 2y \leq 10$$

$$3x + y \leq 15$$

$$x, y \geq 0$$

31. If $y = \log\{\sqrt{x-1} - \sqrt{x+1}\}$, show that $dy/dx = -1/(2\sqrt{x^2-1})$ [3]

Section D

32. Find the area bounded by the curves $y = x$ and $y = x^3$ [5]
33. Let $A = \mathbb{R} - \{3\}$ and $B = \mathbb{R} - \{1\}$. Consider the function $f: A \rightarrow B$ defined by $f(x) = ((x-2)/(x-3))$. Is f one-one and onto? Justify your answer. [5]

OR

Let n be a fixed positive integer. Define a relation R on $\mathbb{Z}$ as follows:

$(a, b) \in R \Leftrightarrow a - b$ is divisible by n . Show that R is an equivalence relation on $\mathbb{Z}$.

34. If $A =$

$$\begin{vmatrix} 2 & -1 & 1 \\ -1 & 2 & -1 \\ 1 & -1 & 2 \end{vmatrix}$$

verify that $A^3 - 6A^2 + 9A - 4I = 0$ and hence find A^{-1}

[5]

35. Find the shortest distance between the given lines. $\vec{r} = (\hat{i} + 2\hat{j} - 4\hat{k}) + \lambda(2\hat{i} + 3\hat{j} + 6\hat{k})$, $\vec{r} = (3\hat{i} + 3\hat{j} - 5\hat{k}) + \mu(-2\hat{i} + 3\hat{j} + 8\hat{k})$

[5]

OR

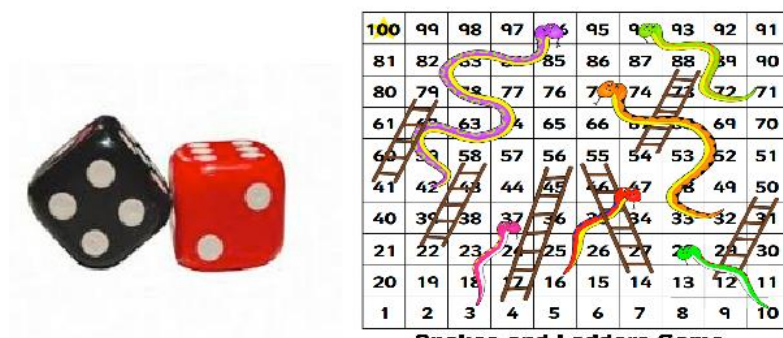
Find the vector equation of the line passing through the point $(1, 2, -4)$ and perpendicular to the two lines: $(x-8)/3 = (y+19)/-16 = (z-10)/7$ and $(x-15)/3 = (y-29)/8 = (z-5)/-5$.

Section E

36. Read the text carefully and answer the questions:

[4]

Akshat and his friend Aditya were playing the snake and ladder game. They had their own dice to play the game. Akshat was having red dice whereas Aditya had black dice. In the beginning, they were using their own dice to play the game. But then they decided to make it faster and started playing with two dice together.



Aditya rolled down both black and red die together.

First die is black and second is red.

- Find the conditional probability of obtaining a sum greater than 9, given that the black die resulted in a 5.
- Find the conditional probability of obtaining the sum 8, given that the red die resulted in a number less than 4.
- Find the conditional probability of obtaining the sum 10, given that the black die resulted in even number.

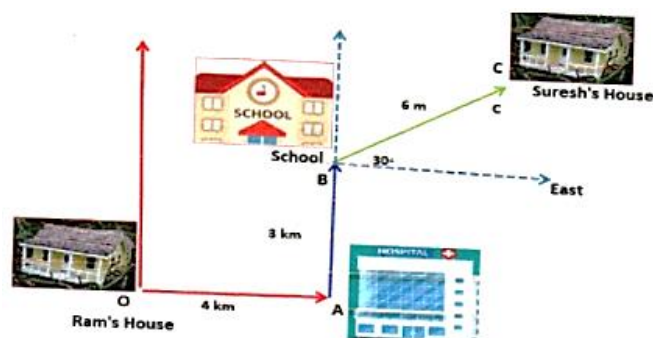
OR

Find the conditional probability of obtaining the doublet, given that the red die resulted in a number more than 4.

37. Read the text carefully and answer the questions:

[4]

Ram's house is situated at Gandhi Nagar at Point O, for going to school he first travels by bus in the east. Here at Point A, a hospital is situated. From Hospital Ram takes an auto and goes 3 km in the north direction, here at point B school is situated. Suresh's house is at 30° east, 6 km from point B.



- (i) Find the displacement between Ram's house and school.
- (ii) How many km Ram travels to reach school?
- (iii) What is the vector distance from school to Suresh's home?

OR

What is the displacement from Ram's house to Suresh house?

38. Read the text carefully and answer the questions:

[4]

The Government declare that farmers can get ₹300 per quintal for their onions on 1st July and after that, the price will be dropped by ₹3 per quintal per extra day. Govind's father has 80 quintals of onions in the field on 1st July and he estimates that the crop is increasing at the rate of 1 quintal per day.



- (i) If x is the number of days after 1st July, then express price and quantity of onion and the revenue as a function of x .
- (ii) Find the number of days after 1st July, when Govind's father attains maximum revenue.

GENERAL INSTRUCTIONS

1. **Section-A:** Attempt all questions. Each question carries **1 mark**.
2. **Section-B:** Attempt all questions. Each question carries **2 marks**.
3. **Section-C:** Attempt all questions. Each question carries **6 marks**.

SECTION – A

Objective Type Questions $8 \times 1 = 8$ Marks

Q.1. संगीत रत्नाकर की रचना कब हुई थी?

1. 8वीं
2. 13वीं
3. 15वीं
4. 17वीं

Q.2. संगीत पारिजात के लेखक हैं—

1. शारंगदेव
2. अहोबल
3. दोनों
4. इनमें से कोई नहीं

Q.3. राग मालकौंस में कौन से स्वर कोमल प्रयोग किए जाते हैं?

1. रे, प, सा
2. सा, म, प
3. रे, ध, नि
4. ग, ध, नि

Q.4. ग्राम के कितने प्रकार होते हैं?

1. 3
2. 4
3. 6
4. 8

Q.5. सही विकल्पों का चयन करें।

A. धमार ताल में 10 मात्राएँ होती हैं।

C. राग भैरव में रे और ध कोमल प्रयोग होते हैं।

B. संगीत रत्नाकर को सप्ताध्याय भी कहते हैं।

D. संगीत पारिजात के रचनाकार भरत मुनि हैं।

Choose the correct option:

1. A & B
2. B & C
3. A & C
4. B & D

Q.6. Match List I with List II.

List I	List II
A. गंभीरता पूर्वक स्वरों के उच्चारण को क्या कहते हैं?	i. खटका
B. गाते समय पीछे-आगे के स्वरों को स्पष्ट करना क्या कहलाता है?	ii. ग म
C. चार या चार से अधिक स्वरूप को एक गोली में बनाना कहलाता है।	iii. गमक
D. मिंड	iv. कंण

Choose the correct answer from the options given below:

1. A-I, B-II, C-III, D-IV
2. A-III, B-IV, C-I, D-II
3. A-II, B-III, C-I, D-IV
4. A-IV, B-III, C-I, D-II

Q.7. कथन-I: राग मालकौंस में रे-प स्वर वर्जित हैं।

कथन-II: राग भैरव और राग भैरवी प्रातःकालीन संधिप्रकाश राग हैं।

सही विकल्प चुनिए:

1. कथन-I और II दोनों सही हैं।
2. कथन-I और II दोनों गलत हैं।
3. कथन-I सही, किन्तु II गलत है।
4. कथन-I गलत, किन्तु II सही है।

Q.8. कथन-I: राग मालकोश का थाट भैरवी होता है।

कथन-II: संगीत रत्नाकर में आठ अध्याय हैं।

सही विकल्प चुनिए:

1. कथन-I और II दोनों सही हैं।
2. कथन-I और II दोनों गलत हैं।
3. कथन-I सही, किन्तु II गलत है।
4. कथन-I गलत, किन्तु II सही है।

SECTION - B

Short Answer Type Questions

5 × 2 = 10 Marks

Q.9. किन्हीं दो पर संक्षिप्त टिप्पणियाँ लिखें। उदाहरण अवश्य दें।

राग का स्वर विस्तार, आलाप, तान

अथवा

संगीत पारिजात का संक्षिप्त विवरण दीजिए।

Q.10. बड़े गुलाम अली खान के संगीत योगदानों का संक्षिप्त वर्णन करें।

अथवा

राग भैरव का परिचय लिखें और आरोह, अवरोह, पकड़ सहित लिखें।

Q.11. समय सिद्धांत को अपने शब्दों में लिखें।

अथवा

राग मालकोश का परिचय और आरोह, अवरोह, पकड़ सहित लिखें।

Q.12. संगीत रत्नाकर ग्रंथ के सभी अध्यायों पर संक्षिप्त वर्णन करें।

अथवा

राग बागेश्वरी का परिचय और आरोह, अवरोह, पकड़ सहित लिखें।

Q.13. किन्हीं दो को परिभाषित करें।

अलंकार, तान, गमक

अथवा

तानपुरा मिलने की विधि लिखें।

SECTION - C

Long Answer Type Questions

2 × 6 = 12 Marks

निम्नलिखित में से किन्हीं दो प्रश्नों का उत्तर दीजिए।

Q.14.(A) धमार ताल और झपताल का परिचय देते हुए ताल रूपक में तिगुन तथा झपताल में चौगुन लयकारी कीजिए।

अथवा

(B) राग बागेश्वरी एक प्रसिद्ध राग है। इसका वातावरण भक्ति रस युक्त गंभीरता से भरा हुआ है। यह काफी ठाट के अंतर्गत आता है। इस राग में ऋषभ और पंचम स्वर आरोह में प्रयोग नहीं होते। इसमें धैवत स्वर का बड़ा महत्व है। धैवत स्वर पर आंदोलन करते हुए रुकते हैं।

अब आप इस राग को पहचान ही गए होंगे। इसका सम्पूर्ण परिचय करें और आरोह-अवरोह, पकड़ सहित लिखें तथा बंदिश का बोल, दो आलाप 8 मात्रा के और दो तान 8 मात्रा के लिखें।

Q.15.(A) राग भैरव का संपूर्ण परिचय देते हुए बंदिश, बड़ा ख्याल, छोटा ख्याल, स्वरलिपि, तथा दो आलाप 16 मात्राओं के और दो तान 32 मात्राओं के लिखिए।

अथवा

(B) पाठ्यक्रम के राग भैरव, राग मालकोश तथा राग बागेश्वरी का 80-80 स्वरों का स्वर विस्तार करें।

(SAMPLE PAPER– 2026-27) (SET–A)
CLASS - XII
SUBJECT – PHYSICAL EDUCATION (048)

TIME: 3 HOURS

M.M.: 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 internal choice available.
6. Section E consists of Question 34-37 carrying 5 marks each and are short answer types and should not exceed 200-300 words. Attempt any 3.

Section A

1. Identify the asana: [1]



- a) Tadasana
b) Matsayasana
c) Pavanmuktasana
d) Katichakrasana

2. Which of this is not a function of sporting event management? [1]

- a) Creating a manager
b) Selection of Staff
c) Organising
d) Directing to members

3. Vitamins and minerals are required in small amounts and are called _____. [1]

- a) Fats
b) Macronutrient
c) Micronutrient
d) Nutrient

4. Which of the following is assessed by eight-foot up and go test? [1]

- a) Walking speed, Coordination and agility
b) Physiology fitness
c) Upper body strength
d) Lower body flexibility

5. **Assertion (A):** In ancient times Indian women had faced the negative attitude of society towards sports participation. [1]

Reason (R): We had a male dominating society.

- 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.

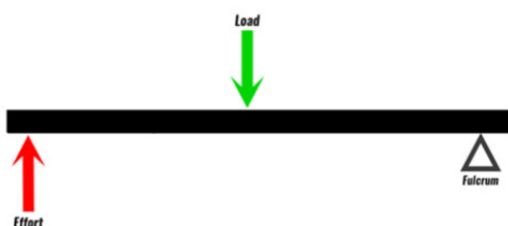
6. According to _____, personality is an attitude refers to a predisposition to behave in a certain manner. [1]

- a) Guilford
b) Cattell
c) Carl Jung
d) Allport

7. Weakening of bones due to loss of bone density and improper bone formation is [1]

- a) Amenorrhea
b) Lordosis
c) Anorexia Nervosa
d) Osteoporosis

8. Identify the picture below: [1]



- a) Third-class lever system
b) Forth-class lever system
c) First-class lever system
d) Second-class lever system

9. Match the following: [1]

(a) pre tournament responsibilities	(i) provide daily progress of tournament to media
(b) during tournament responsibilities	(ii) plan out transportation for teams
(c) single knock out tournament	(iii) every losing team gets a second chance
(d) double knock out tournament	(iv) every team losing once is eliminated

- a) (a) - (iii), (b) - (i), (c) - (iv), (d) - (ii) b) (a) - (ii), (b) - (iii), (c) - (iv), (d) - (i)
 c) (a) - (ii), (b) - (i), (c) - (iv), (d) - (iii) d) (a) - (ii), (b) - (iv), (c) - (i), (d) - (iii)

10. **Assertion (A):** league tournament is very time-consuming. [1]

Reason (R): Teams have to play with selected teams.

- 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.

11. A person having both traits of introvert and extrovert is known as? [1]

- a) Extrovert b) Ambivert
 c) Mesomorph d) Endomorph

12. Which of the following is a biological need of a person? [1]

- a) self-esteem b) safety
 c) hunger d) attitude

13. _____ can be defined as one which contains different types of foods in such quantities and proportions that the need for calories, minerals, vitamins and other nutrients is adequately met. [1]

- a) Diet b) Balanced diet
 c) Trace minerals d) Carbohydrate

14. The food component present in sugar is: [1]

- a) protein b) carbohydrate
 c) vitamin d) fats

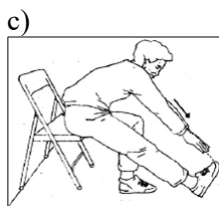
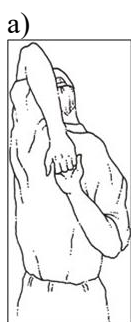
15. Total no. of matches for knock out tournament is decided? [1]

- a) $N(N + 1)$ b) $N(N - 1)$
 c) $(N^2 - 1)$ d) $(N - 1)$

16. The Committee responsible for liaison with Print media is the _____ Committee. [1]

- a) Marketing b) Logistics
 c) Technical d) Finance

17. In the given figure out the figure which depicts Back scratch test? [1]



18. What is main function of fluorine? [1]

- a) Prevent dental disease b) Protect from Anaemia
 c) Stimulates insulin activity d) Formation of RBC

Section B

Attempt any 5 questions

19. Which fitness component can be assessed by partial curl-up test? [2]

20. What is weight training? [2]

21. What is cardio-respiratory endurance? [2]
22. What do you mean by biochemical changes in muscles? [2]
23. Why is it important to assess the functional fitness of senior citizens (older adults)? [2]
24. Write any two benefits of Vajrasana in obesity. [2]

Section C

Attempt any 5 questions

25. Discuss two techniques used to avoid sports injuries. [3]
26. Write a short note on **Paralympic** Games. [3]
27. How does projectile motion affect sports? [3]
28. Comment on the concept of Talent Identification and Talent Development. [3]
29. Enlist various types of dislocations. And explain any two. [3]
30. Write a short note on how Paralympics started. [3]

Section D

31. **Read the following text carefully and answer the questions that follow:** [4]
 Shruti, a student of class XI is struggling with Obesity due to which she has low self esteem and low confidence. As a result she has started dieting to control her weight. But this dieting program is self designed and lacks knowledge about nutrition.



1. As a physical education student, what do you feel will be the pitfalls of this dieting plan?
 - a) Eating too little, more drinking than eating, skipping meals, intake of labeled foods, not doing exercises
 - b) Eating too much, less drinking than eating, regular meals, intake of labeled foods, doing exercises
 - c) Eating too much, less drinking than eating, regular meals, avoiding labeled foods, doing exercises
 - d) Eating too little, less drinking than eating, regular meals, avoiding labeled foods, not doing exercises
2. What will be your advice to Shruti to control her weight?
 - a) Follow a sedentary lifestyle, increase calories, eat junk foods, take an unbalanced diet, avoid physical exercises, and overeat
 - b) Follow an active lifestyle, cut down calories, avoid junk foods, take a balanced diet, do physical exercises, and avoid overeating
 - c) Follow a sedentary lifestyle, cut down calories, eat junk foods, take an unbalanced diet, do physical exercises, and overeat
 - d) Follow an active lifestyle, increase calories, eat junk foods, take a balanced diet, avoid physical exercises, and overeat
3. The meaning of the term Pitfalls of dieting is:
 - a) Benefits of dieting
 - b) Drawbacks of dieting
 - c) Advantages of dieting
 - d) Disadvantages of exercise
4. A major component of a pre-competition diet is:
 - a) Proteins
 - b) Fats
 - c) Carbohydrates
 - d) Vitamins

32. **Read the following text carefully and answer the questions that follow:** [4]

Pooja and Kavita were given the responsibility to conduct an Inter-school girls' football tournament in their school. 7 teams agreed to participate in the tournament. The committee responsible for making a fixture made a league fixture for 7 teams.

On the basis of the given fixture answer the following questions:

1-2						
1-3	2-3					
1-4	2-4	3-4				
1-5	2-5	3-5	4-5			
1-6	2-6	3-6	4-6	5-6		
1-7	2-7	3-7	4-7	5-7	6-7	

- What is a league tournament?
 - A tournament where each team plays a fixed number of matches
 - A tournament where each team plays every other team
 - A tournament where teams are eliminated after a single loss
 - A tournament where teams play in a circular format
- What type of league fixture is drawn?
 - Circular fixture
 - Ladder fixture or Staircase fixture
 - Cyclic fixture
 - Knockout fixture
- Write the formulae for finding the total number of matches in a single league tournament.
 - $N(N+1)/2$
 - $N(N-1)/2$
 - $N(N+1)$
 - $N(N-1)$
- If the tournament was a knock-out tournament, what would be the total number of matches for deciding the winner?
 - N
 - $N-1$
 - $N+1$
 - $N/2$

33. **Read the following text carefully and answer the questions that follow:** [4]

Tushar is an adolescent whose both the knees touch or overlap each other in normal standing position. Because of this deformity, he usually faces difficulties during walking and running.



- Tushar is suffering from which deformity?
 - Flat foot
 - Club foot
 - Bow leg
 - Knock knee
- Adolescent are the children in the age-group:
 - 13-18 years
 - 19-22 years
 - 23-25 years
 - 10-12 years
- What is/are the causes of Knock knee?
 - Improper walking and running
 - Wearing high heels
 - Weakness of bone and joints
 - Weakness of muscle and ligaments, Lack of vitamin D, and being Overweight
- Horse-riding is the best exercise for clearing ____ deformity.
 - Club foot
 - Flat foot
 - Knock knee
 - Bow leg

Section E

Attempt any 3 questions

- Discuss the procedure, benefits and contraindications of Trikonasana and Ardha Matsyendrasana. [5]
- Mention the Advantages of Physical Activities for children with special needs. [5]
- What do you mean by coordinative abilities and elaborate on the types of coordinative abilities? [5]
- Elucidate the big five personality theory. [5]

(SAMPLE PAPER– 2026-27) (SET–A)
CLASS - XII
SUBJECT – POLITICAL SCIENCE (028)

TIME: 3 HOURS

M.M.: 80

GENERAL INSTRUCTIONS

1. This question paper contains 30 questions divided into five sections: A, B, C, D and E.
2. All questions are compulsory, subject to the internal choices provided.
3. Section A contains 12 multiple-choice questions of 1 mark each.
4. Section B contains 6 questions of 2 marks each. Answers should generally be within 50–60 words.
5. Section C contains 5 questions of 4 marks each. Answers should generally be within 100–120 words.
6. Section D contains 3 source-based, map-based or passage-based questions of 4 marks each.
7. Section E contains 4 questions of 6 marks each. Answers should generally be within 170–180 words.
8. Attempt only one alternative wherever an internal choice is given.
9. Marks are indicated against each question.
10. For map work, use an outline political map of India wherever required.

SECTION A

MULTIPLE-CHOICE QUESTIONS

12 × 1 = 12 Marks

Q1. Which of the following developments symbolised the end of the Cold War bipolar order?

- | | |
|--|--------------------------------------|
| (A) Formation of NATO | (C) Establishment of the Warsaw Pact |
| (B) Disintegration of the Soviet Union | (D) Creation of the United Nations |

Q2. Which of the following is an important institution of the European Union?

- | | |
|-------------------------|------------------------------|
| (A) European Commission | (C) African Union Commission |
| (B) SAARC Secretariat | (D) ASEAN Regional Forum |

Q3. The main objective of the Association of Southeast Asian Nations (ASEAN) is to promote:

- (A) A single-party political system
- (B) Regional economic growth and cooperation
- (C) A common global military force
- (D) The dissolution of national governments

Q4. Which of the following countries is a permanent member of the UN Security Council?

- (A) India
- (B) Brazil
- (C) China
- (D) Japan

Q5. The principle of “common but differentiated responsibilities” is related to:

- (A) Environmental protection
- (B) Military alliances
- (C) Electoral reforms
- (D) Nuclear deterrence

Q6. Which of the following is a non-traditional security concern?

- (A) Foreign military invasion
- (B) Territorial occupation
- (C) Terrorism
- (D) Border warfare

Q7. Who played a leading role in the integration of princely states into the Indian Union?

- (A) Jawaharlal Nehru
- (B) Sardar Vallabhbhai Patel
- (C) B. R. Ambedkar
- (D) Lal Bahadur Shastri

Q8. The principal objective of the Non-Aligned Movement was to:

- (A) Join the American military alliance
- (B) Join the Soviet military alliance
- (C) Preserve independent judgement in international affairs
- (D) End diplomatic relations with all major powers

Q9. Which political development took place during the National Emergency of 1975–77?

- (A) Suspension of several civil liberties
- (B) Introduction of universal adult franchise
- (C) Establishment of the first elected government in India
- (D) Abolition of all state governments

Q10. The Mandal Commission was associated with:

- (A) Electoral reforms
- (B) Reservation for socially and educationally backward classes
- (C) Linguistic reorganisation of states
- (D) Foreign policy reforms

Q11. Assertion–Reason

Assertion (A): The Congress party dominated Indian politics during the first few general elections after independence.

Reason (R): The Congress had a broad social base and accommodated different ideological groups within the party.

Choose the correct option:

- (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.

Q12. Assertion–Reason

Assertion (A): Globalisation has influenced the economic, political and cultural life of societies.

Reason (R): Globalisation involves increasing cross-border flows of goods, capital, technology, ideas and people.

Choose the correct option:

- (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.

SECTION B

VERY SHORT-ANSWER QUESTIONS

6 × 2 = 12 Marks

- Q13.** State any two consequences of the disintegration of the Soviet Union. (2)
- Q14.** Mention any two objectives of the United Nations. (2)
- Q15.** What is meant by planned development? State one objective of India's planning strategy. (2)
- Q16.** Mention any two major challenges faced by India immediately after independence. (2)
- Q17.** What is a coalition government? State one reason for the emergence of coalition politics in India. (2)
- Q18.** Distinguish between traditional and non-traditional security threats on any two grounds. (2)

SECTION C

SHORT-ANSWER QUESTIONS

5 × 4 = 20 Marks

- Q19.** Explain any four major features of the Soviet political and economic system. (4)

OR

- Explain any four consequences of the disintegration of the Soviet Union for world politics. (4)
- Q20.** Explain any four factors responsible for the emergence of China as an important centre of power. (4)
- Q21.** Explain any four principles or features of India's policy of non-alignment. (4)
- Q22.** Explain the circumstances that led to the declaration of the National Emergency in India in 1975. Also mention two consequences of the Emergency. (4)
- Q23.** Explain any four major developments that transformed Indian politics after 1989. (4)

OR

Explain any four ways in which regional political parties have contributed to Indian democracy. (4)

SECTION D

SOURCE-BASED AND MAP-BASED QUESTIONS

3 × 4 = 12 Marks

Q24. Read the passage carefully and answer the questions that follow. (4)

The end of the Cold War transformed the international political system. The disintegration of the Soviet Union brought an end to the bipolar world order. Several countries expanded economic cooperation and strengthened regional organisations. At the same time, globalisation increased the movement of goods, capital, technology and ideas across national borders. These developments created new opportunities but also raised concerns about inequality, cultural identity and the unequal distribution of economic benefits.

- (a) Which major political development brought an end to the bipolar world order? (1)
- (b) Name one regional organisation that promotes economic cooperation. (1)
- (c) Explain any two challenges associated with globalisation. (2)

Q25. Map-Based Question (4)

On an outline political map of India, locate and label the following places or states:

- (a) The state where the Communist Party formed the first elected communist government in India in 1957. (1)
- (b) The state associated with the Anandpur Sahib Resolution. (1)
- (c) The state associated with the Naga political movement. (1)
- (d) The state where the Dravidian movement and anti-Hindi agitations became prominent. (1)

Q26. Read the passage carefully and answer the questions that follow. (4)

After independence, India adopted democratic methods to address regional and cultural differences. The reorganisation of states on linguistic lines helped accommodate the aspirations of different linguistic communities. However, demands for autonomy and greater political representation continued in several regions. Federal arrangements, negotiations and democratic participation played an important role in managing these aspirations, although some conflicts remained unresolved for long periods.

- (a) On what major basis were many Indian states reorganised in the 1950s? (1)
- (b) Name one region associated with demands for greater autonomy. (1)
- (c) Explain any two democratic methods through which regional aspirations can be addressed. (2)

SECTION E

LONG-ANSWER QUESTIONS

4 × 6 = 24 Marks

Q27. Explain the major reasons for the disintegration of the Soviet Union. Discuss any two consequences of this development for world politics. (6)

OR

Analyse the changing nature of the world order after the Cold War. Explain the roles of the United States, China and regional organisations in contemporary international politics. (6)

Q28. Describe the major challenges faced by India during nation-building after independence. Explain how the integration of princely states and the reorganisation of states contributed to national unity. (6)

OR

Explain the major features of India's strategy of planned development. Discuss the differences between the supporters of a public-sector-led model and those who favoured a greater role for the private sector. (6)

Q29. Explain the circumstances that led to the declaration of the National Emergency in 1975. Analyse its impact on democratic institutions, civil liberties and opposition politics. (6)

OR

Explain the major developments that led to the split in the Congress party in 1969 and the restoration of Congress dominance in the 1971 general election. (6)

Q30. Define globalisation. Analyse its economic, political and cultural consequences, giving suitable examples. (6)

OR

Explain the major environmental challenges facing the world. Discuss the principles of sustainable development and the importance of international cooperation in addressing these challenges. (6)

(SAMPLE PAPER– 2026-27) (SET–A)

CLASS - XII

SUBJECT – SOCIOLOGY (039)

TIME: 3 HOURS

M.M.: 80

GENERAL INSTRUCTIONS

1. The question paper is divided into four sections.
2. There are 35 questions in all. All questions are compulsory.
3. Section A includes Questions 1–16. These are MCQ-type questions carrying 1 mark each.
4. Section B includes Questions 17–25. These are very short-answer questions carrying 2 marks each. Answers should not exceed 30 words.
5. Section C includes Questions 26–32. These are short-answer questions carrying 4 marks each. Answers should not exceed 80 words.
6. Section D includes Questions 33–35. These are long-answer questions carrying 6 marks each. Answers should not exceed 200 words each.
7. Question 33 is to be answered with the help of the given graphic/data.

SECTION A – MULTIPLE CHOICE QUESTIONS (16 × 1 = 16)

1. Which of the following is a major source of demographic data in India?
(a) Census (b) Lok Sabha debate (c) Court judgement (d) School timetable
2. The term ‘demographic dividend’ refers mainly to:
(a) A larger working-age population (b) A rise in infant mortality
(c) A decline in literacy (d) An increase in old-age dependency only
3. Which institution regulates marriage and kinship through socially accepted norms?
(a) Family (b) Market (c) Factory (d) Media house
4. Untouchability is an example of:
(a) Social exclusion (b) Social mobility (c) Cultural diffusion (d) Secularisation
5. A society with many cultural communities and equal respect for diversity is associated with:
(a) Pluralism (b) Assimilation by force (c) Isolation (d) Ethnocentrism
6. The colonial transformation of Indian economy is an example of:
(a) Structural change (b) Biological change (c) Seasonal change (d) Personal change
7. The spread of modern education and rational ideas is commonly associated with:
(a) Modernisation (b) Sanskritisation only (c) Kinship (d) Jajmani system
8. Universal adult franchise is a feature of:
(a) Democracy (b) Monarchy (c) Colonial rule (d) Feudalism

9. The Green Revolution initially brought major changes in:

- (a) Agricultural production (b) Film industry (c) Air transport (d) Textile exports only

10. A worker hired for a fixed period without long-term security is often called:

- (a) Contract worker (b) Landlord (c) Sharecropper (d) Bonded owner

11. Globalisation has increased the movement of:

- (a) Goods, capital, ideas and people (b) Only village boundaries
(c) Only local rainfall (d) Only family rituals

12. Which medium is especially associated with rapid circulation of digital information?

- (a) Internet (b) Manuscript only (c) Oral folklore only (d) Notice board only

13. The Chipko movement is most closely associated with:

- (a) Forest conservation (b) Anti-colonial naval mutiny
(c) Language reorganisation (d) Factory privatisation

14. A movement that seeks to improve the position of a particular social group is generally a:

- (a) Reform movement (b) Weather event (c) Market transaction (d) Demographic census

15. The ratio of dependants to the working-age population is called:

- (a) Dependency ratio (b) Sex ratio (c) Literacy rate (d) Migration rate

16. When a dominant group treats its own culture as superior to others, it is called:

- (a) Ethnocentrism (b) Pluralism (c) Secularism (d) Socialisation

SECTION B – VERY SHORT ANSWER QUESTIONS (9 × 2 = 18)

17. What is meant by the sex ratio?

18. Define social stratification.

19. Mention two ways in which caste has changed in contemporary India.

20. What is cultural diversity?

21. State two consequences of migration from villages to cities.

22. What is meant by secularisation?

23. Define 'vote bank' in the context of Indian politics.

24. Mention two features of the informal sector.

25. What is meant by mass media?

SECTION C – SHORT ANSWER QUESTIONS (7 × 4 = 28)

26. Explain any four implications of India's changing age structure.

27. How do family and kinship systems show both continuity and change?

28. Explain how caste-based discrimination can lead to social exclusion.

29. Describe four ways in which the Constitution supports democratic participation.

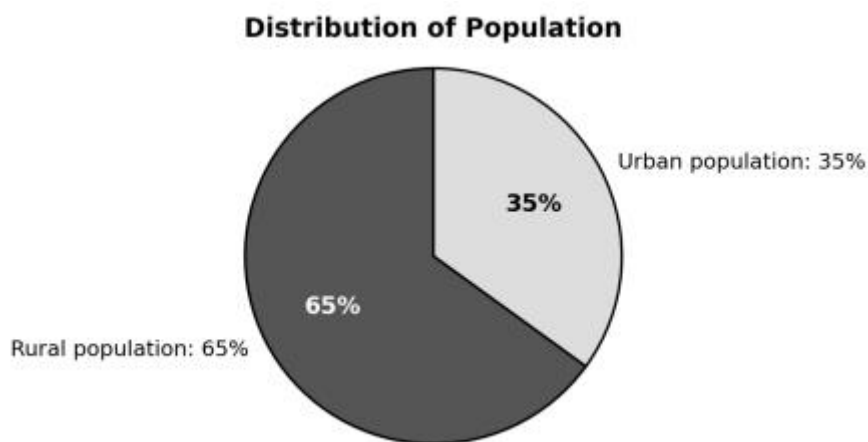
30. Explain the effects of the Green Revolution on rural society.

31. How has globalisation affected employment patterns in India?

32. Discuss the role of social movements in bringing environmental concerns into public debate.

SECTION D – LONG ANSWER QUESTIONS (3 × 6 = 18)

33. Study the following graphic and answer the questions:



(a) Which category forms the majority?

(b) What does the urban share suggest about urbanisation?

(c) Explain two challenges associated with rapid urban growth.

(d) Suggest one measure for inclusive urban development.

34. Explain the major changes brought about by colonialism in Indian society, with reference to law, education, administration and economy.

35. 'Social movements are an important means of democratic change.' Explain this statement with suitable examples from women's, tribal, Dalit or environmental movements.

(SAMPLE PAPER– 2026-27) (SET–A)
CLASS - XII
SUBJECT – ACCOUNTANCY (055)

TIME: 3 HOURS

M.M.: 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 (Accounting for Partnership Firms and Companies)
4. Part - B is. (i) Analysis of Financial Statements
5. Question 1 to 16 and 27 to 30 carries 1 mark each.
6. Questions 17 to 20, 31 and 32 carries 3 marks each.
7. Questions from 21, 22 and 33 carries 4 marks each
8. Questions from 23 to 26 and 34 carries 6 marks each
9. There is no overall choice. However, an internal choice has been provided in 7 questions of one mark, 2 questions of three marks, 1 question of four marks and 2 questions of six marks.-

Part - A is (Accounting for Partnership Firms and Companies)

Q1.(A) A and B are partners sharing 5:3. C is admitted for $\frac{3}{10}$ share which he acquires $\frac{2}{10}$ from A and $\frac{1}{10}$ from B. New ratio will be:

- a) 3:2:3
- b) 4:2:3
- c) 38:22:30
- d) 21:11:8

OR

(B) Interest on capital @10% p.a. is to be allowed on opening capital. A opening capital Rs.2,00,000, B opening Rs.1,00,000. A introduced Rs.50,000 on 1st Oct. Profit earned Rs.60,000 before interest. Interest will be:

- a) 25,000 & 10,000
- b) 20,000 & 10,000
- c) 22,500 & 10,000
- d) No interest as loss

Q2. **ASSERTION:** Fluctuating capital method, all adjustments are done in Capital Account.

REASON: In fixed capital method, Current Account balance may be debit.

- a) Both true, R explains A
- b) Both true, R not explains A
- c) A true R false
- d) A false R true

Q3. X and Y share 3:2. They decide to share future profits in ratio 5:3. At that time General Reserve Rs.60,000. Y sacrificed $\frac{1}{24}$. Entry will be:

- a) Y's Capital Dr 2,500 To X's Capital 2,500
- b) X's Capital Dr 2,500 To Y's Capital 2,500
- c) No entry, only shown in Balance Sheet
- d) Reserve distributed in old ratio

Q4. A,B,C share 2:2:1. D admitted for $\frac{1}{6}$. A sacrificed $\frac{1}{6}$, B sacrificed $\frac{1}{12}$, C sacrificed $\frac{1}{12}$ out of his share. New ratio will be:

- a) 2:2:1:1
- b) 11:19:5:5
- c) 7:7:3:3
- d) Cannot be calculated

Q. 5. A and B capitals Rs.1,00,000 & Rs.80,000. C brings Rs.70,000 as capital for $\frac{1}{4}$ share. Goodwill will be:

- a) Rs.30,000
- b) Rs.1,00,000
- c) Rs.40,000
- d) Rs.70,000

Q6. On admission, Workmen Compensation Reserve Rs.50,000, Claim Rs.30,000. Entry for balance:

- a) WCR A/c Dr 50,000 To Revaluation 20,000 To Old Capital 30,000 in old ratio
- b) WCR Dr 50,000 To Claim 30,000 To Old Capital 20,000
- c) WCR Dr 20,000 To Old Capital 20,000
- d) No treatment

OR

Q6. At admission, unrecorded computer of Rs.20,000 taken by B (old partner). Entry:

- a) B's Capital Dr 20,000 To Revaluation 20,000
- b) Revaluation Dr 20,000 To B's Capital 20,000
- c) Computer A/c Dr 20,000 To Revaluation 20,000
- d) No entry

Q.7A: At admission, if new partner brings goodwill in cash and old partners withdraw 50%, sacrificing ratio is used.

R: Withdrawal of goodwill is not an adjustment, it is cash transaction.

- a) Both true, R correct explanation b) Both true but R not correct c) A true R false d) A false R true

Q.8.A retires. Goodwill valued Rs.1,20,000. A,B,C share 3:2:1. New ratio of B and C is 3:2. Gaining ratio:

- a) 3:2 b) 2:1 c) 3:1 d) 7:3

OR

Q8. At retirement, Provision for Doubtful Debts Rs.10,000 no longer required. Treatment:

- a) Cr. Revaluation A/c
- b) Dr. Revaluation A/c
- c) Cr. Old Capital in old ratio
- d) Cr. Remaining Capital

Q9. A,B,C share 4:3:2. B retires, Goodwill valued Rs.90,000. B's share Rs.30,000 contributed by A and C in ratio 2:1.

Journal Entry:

- a) A's Capital Dr 20,000 C's Capital Dr 10,000 To B's 30,000
- b) A's Capital Dr 10,000 C's Capital Dr 20,000 To B's 30,000
- c) Goodwill A/c Dr 90,000 To All Capital
- d) No entry as per AS-26

Q10. Deceased partner's share of profit calculated on turnover basis. Last year profit Rs.2,00,000, Sales Rs.10,00,000. Current year sales till death Rs.3,00,000. Share 20%. Profit till death:

- a) Rs.12,000 b) Rs.60,000 c) Rs.40,000 d) Rs.15,000

Q11 Executor loan Rs.1,00,000 repaid in 2 equal instalments with 10% interest. First year interest:

- a) Rs.10,000
- b) Rs.5,000
- c) Rs.15,000
- d) Rs.0

OR

Q11. ASSERTION: On Dissolution Investment Fluctuation Fund credited to Partner's Capital Account

REASON: Investment Fluctuation Fund is Undisturbed Profit

- a) Both true, R correct
- b) Both true, R not correct
- c) A true R false

d) A false R true

Q12. On dissolution, Partner's loan Rs.50,000 transferred to Realisation A/c?

a) Yes

b) No, paid separately

c) Transferred to Capital

d) Adjusted with capital

Q13. On dissolution, Goodwill appearing in books Rs.20,000. Entry:

a) Realisation Dr 20,000 To Goodwill 20,000

b) Capital Dr 20,000 To Goodwill 20,000

c) No entry

d) Cash Dr 20,000 To Goodwill 20,000

Q14. 10,000 shares issued at Rs.100. Money Overdue: Allotment Rs.2 on 500 shares, First call Rs.3 on 1000 shares. Allotment and First call money received will be:

a) 4,99,000 & 2,97,000 b) 5,00,000 & 3,00,000 c) 5,00,000 & 2,97,000 d) 4,98,000 & 2,97,000

OR

Q14. Forfeited 100 shares Rs.10 each ₹ 8 called, ₹ .5 paid. On re-issue at ₹ .7, Capital Reserve:

a) Rs.200

b) Rs.300

c) Rs.500

d) Rs.0

Q15. Rohit Limited forfeited 500 shares of ₹ 10 each for non payment of first call ₹ 2 and final call ₹ 3. Out of these forfeited share 300 shares Re issued at ₹ 8 as full paid . Amenities transfer to Capital Reserve will be

a) .600

b) ₹ 800

c) ₹ 900

d) ₹ 500

Q16. Debentures issued at discount 10% redeemable at premium 5%. Loss on issue per debenture of Rs.100:

a) Rs.5

b) Rs.10

c) Rs.15

d) Rs.20

OR

Q16. Interest on debentures @10% on Rs.2,00,000 for 6 months.

3 MARKS

- a) 10,000
- b) ₹.9,000
- c) ₹.18,000
- d) ₹ 20,000

Q17. A,B,C share 3:2:1. Profit 2024-25 Rs.1,20,000 distributed in ratio 2:2:1 by mistake. Rectify via single journal entry. Capital are fluctuating.

Q18. A and B share 3:2. C admitted for 1/5. C brings Rs.1,00,000 but cannot bring goodwill. Goodwill valued at Rs.60,000 based on super profit method. Firm's capital Rs.3,00,000. Normal rate 10%, Average profit Rs.50,000. Pass entry for goodwill adjustment.

OR

Q18. A,B share 2:1. C admitted for 1/4 share. Total capital of new firm fixed at Rs.2,50,000 based on C's share. Old capitals after adjustments: A Rs.1,20,000, B Rs.60,000. C brings required capital. Calculate cash brought by C and surplus/deficit to be adjusted in A and B through cash.

Q19.X Ltd. forfeited 1,000 shares of Rs.10 each Rs.8 called up for non-payment of Rs.3 allotment (including premium Rs.1). Out of these 600 re-issued at Rs.7 as Rs.8 paid up. Show Forfeited Account and Capital Reserve.

OR

Q19. 10,000, 9% Debentures Rs.100 issued at 10% discount redeemable at 20% premium. Company has Securities Premium Rs.1,00,000. Pass entries for issue and show loss treatment.

Q20. Realisation A/c loss Rs.40,000. Creditors Rs.60,000. One creditor of Rs.20,000 took machinery Rs.25,000 (Book value Rs.20,000). Another creditor Rs.10,000 not to be paid as he is partner's brother. Pass entries. **4 MARKS**

Q. 21.A and B share profit 3:2. They admit C for 1/3 share. At admission, Balance Sheet shows Investment Rs.50,000, Investment Fluctuation Reserve Rs.10,000. Market value of Investment Rs.40,000. Pass entries. Also calculate new ratio if C acquires 2/9 from A and 1/9 from B.

Q. 22. Journalise:

i) Debentures issued at par Rs.1,00,000 as collateral to bank for loan Rs.80,000.

ii) Debentures of Rs.2,00,000 issued at premium 5% redeemable at premium 10% and company has no Securities Premium.

OR

Q22. A , B and C are partners in a firm in the Ratio of 5:3:2 . On 31st March 2026 there balance Sheet was as follows

Liabilities	Amount	Assets	Amount
Creditors	50,000	Cash	5,000
Workmen Compensation Reserve	20,000	Debtors	20,000
Outstanding Salary	10,000	Stock	25,000
Capitals		Investment	40,000
A	1,00,000	Machinery	80,000
B	60,000	Building	1,10,000

C	40,000		
	2,80,000		2,80,000

From 1st April, 2026 they decided to change their profit sharing Ratio for this they Revise the value of Assets and Liabilities as follows

- (a) Building will be Valued at ₹ 1,50,000
- (b) Outstanding Salary will be increased to ₹ 18,000
- (c) Market Value of Investment will be 50,000

Pass the necessary entry for Revaluation of Assets and liabilities.

6 Marks

Q23. A and B share 4:1. C admitted for 1/5 share. C brings Rs. 1,00,000 capital. Goodwill valued at 3 years purchase of super profit. Average profit Rs. 1,20,000, Normal profit Rs. 80,000. At admission: Building undervalued by Rs. 40,000, Stock overvalued Rs. 20,000, Provision @ 5% on Debtors Rs. 50,000 required, Unrecorded liability Rs. 10,000. Prepare Revaluation, Capital and Goodwill adjustment if C cannot bring goodwill.

OR

Q23. A, B, C share 3:2:1 they admitted D for 1/4 share which he acquires equally from A and B.

At the time of Admission balance sheet was as follows :

Balance Sheet

As in 1st April 2026

Liabilities	Amount	Assets	Amount
Capitals		Building	1,50,000
A	2,00,000	Furniture	60,000
B	3,00,000	Investment (Market Valued 1,20,000)	1,40,000
C	2,00,000	Debtor	1,20,000
General Reserve	80,000	Stock	2,50,000
Investment Fluctuation Fund	30,000	Cash	1,40,000
Creditors	50,000		
	8,60,000		8,60,000

- A. Create Provision for Bad and Doubtful Debts @ 5 %
- B. Building is Increased by 10 %
- C. Stock of ₹ 30,000 became obsolete

Prepare Revaluation account and partners Capital Account.

Q24. A, B, C share 3:2:1. Fixed Capitals: A Rs. 2,00,000, B Rs. 1,50,000, C Rs. 1,00,000. Current A/c: A Cr 20,000, B Dr 10,000, C Cr 15,000. Profit for year Rs. 90,000 before Interest on Capital @ 8%, Interest on Drawings: A Rs. 2,000, B Rs. 1,500, C Rs. 1,000. Prepare P&L Appropriation and Current A/cs.

Q25. A, B, C share 5:3:2. B retires on 1st April 2025. Balance Sheet shows General Reserve Rs. 60,000, WCR Rs. 30,000 (Claim Rs. 20,000), Profit & Loss Cr Rs. 20,000, Advertisement Suspense Rs. 30,000. Goodwill valued at 2 years purchase of Average profit of 3 years Rs. 1,50,000. B's Capital Rs. 2,00,000 after adjustments. B paid Rs. 50,000 immediately and balance transferred to loan payable in 3 equal installments with 12% interest. Prepare B's Capital and B's Loan A/c for 1st year.

Or

25.* P,Q,R share 2:2:1. Q died on 30th Sept 2025. Profit till death based on last year profit Rs.1,80,000 proportionate. Goodwill 2 years purchase of Average profit 3 years (1,20,000, 1,60,000, 2,00,000). Interest on capital @10% on Q's Capital Rs.1,00,000. Q's drawings till death Rs.10,000. Prepare Q's Capital A/c to be presented to executor.

Q26. X Ltd. issued 30,000 shares Rs.10 each at premium Rs.2. Applications for 40,000 shares. 5,000 rejected, 15,000 full allotment, 20,000 pro-rata (5,000 excess). Allotment Rs.5 (including premium), First call Rs.3, Final Rs.2. Allotment money on pro-rata adjusted. One shareholder holding 1,000 shares (pro-rata) failed to pay allotment and first call. His shares forfeited after first call and re-issued at Rs.7 fully paid. Pass journal entries with working.

OR

Q26. 20,000, 10% Debentures Rs.100 issued at 10% discount redeemable at 25% premium after 5 years. Pass journal entries at issue and writing off loss over 5 years with Securities Premium Rs.50,000 and Statement of P&L Rs.1,00,000 available.

Part - B is. (i) Analysis of Financial Statements

Q27. Window Dressing means:

- a) Showing better position than actual
- b) Showing worse
- c) No effect
- d) Manipulation allowed

Q28. Operating Ratio = 80%, Operating Profit Ratio = 20%, If Revenue from Operations Rs.10,00,000, Non-operating Exp Rs.50,000, Non-operating Income Rs.80,000. Net Profit before interest & tax will be:

- a) Rs.2,00,000 b) Rs.2,30,000 c) Rs.1,70,000 d) Rs.2,50,000

Q29. Cash from Operations Rs.2,00,000. Current Ratio 2.5. Working Capital Rs.1,50,000. If decrease in current liabilities Rs.20,000, increase in inventory Rs.30,000. What is Operating Profit before working capital changes?

- a) Rs.2,10,000 b) Rs.1,90,000 c) Rs.2,00,000 d) Rs.2,50,000

Q30. Debt Rs.4,00,000, Equity Rs.2,00,000, Non-current Liabilities Rs.2,00,000. Debt includes both long term debt and short term debt. Long term debt is:

- a) Rs.2,00,000 b) Rs.4,00,000 c) Rs.6,00,000 d) Cannot calculate

Q31. Show the Heading and Sub heading of following for Balance sheet as per Companies Act

- (A) Unclaimed Dividend
- (B) Bills Receivables
- (C) Calls in arrear

Q32. Calculate Trade Receivables Turnover Ratio if Cost of Revenue from Operations Rs.4,00,000, Gross Profit 25% on Cost, Cash Sales 20% of Total Sales, Opening Debtors Rs.80,000, Closing Debtors Rs.1,20,000.

Q33. Interest Coverage Ratio 6 times, Profit before Interest & Tax Rs.6,00,000, Tax Rate 40%. Profit after Tax will be? If interest is on Long term Debt Rs.10,00,000, find rate of interest.

Q. 34. Prepare Common Size statement form following information

Particulars	Amount 31 st March 2025	Amount 31 st March, 2026
Share Capital	10,00,000	12,00,000

Reserve and surplus	1,00,000	2,00,000
Debentures	4,00,000	6,00,000
Creditors	1,00,000	2,00,000
Building	4,00,000	7,00,000
Goodwill	3,00,000	4,00,000
Investment	6,00,000	5,00,000
Stock	3,00,000	6,00,000

OR

Q34.Prepare Comparative statement from the following information

Particulars	Amount 31 st March 2025	Amount 31 st March,2026
Share Capital	15,00,000	12,0000
Reserve and surplus	4,00,000	2,00,000
Debentures	4,00,000	6,00,000
Creditors	2,00,000	2,00,000
Building	4,00,000	7,00,000
Goodwill	3,00,000	4,00,000
Investment	6,00,000	5,00,000
Stock	3,00,000	6,00,000

Q35.*Prepare Cash Flow from Investing & Financing from:

Plant purchased Rs.2,00,000 (Book value of old plant sold Rs.30,000 sold at loss Rs.5,000), Debentures redeemed Rs.1,00,000 at premium 5%, Dividend paid Rs.40,000, Interest on debentures paid Rs.10,000, Issue of Equity shares Rs.1,50,000.

(SAMPLE PAPER– 2026-27) (SET–A)

CLASS - XII

SUBJECT – PANTTING (049)

TIME: 2 HOURS

M.M.: 30

GENERAL INSTRUCTIONS / सामान्य निर्देश

1. This paper follows the question-paper design and structure of the official CBSE Class XII Painting (049) Sample Question Paper for 2026–27.

यह प्रश्नपत्र CBSE कक्षा XII Painting (049) के 2026–27 के आधिकारिक नमूना प्रश्नपत्र की संरचना पर आधारित है।

2. There are 9 questions with internal choice. / कुल 9 प्रश्न हैं, जिनमें आंतरिक विकल्प दिए गए हैं।

3. Section A: all 8 MCQs are compulsory (1 mark each). / खंड A के सभी 8 बहुविकल्पीय प्रश्न अनिवार्य हैं (प्रत्येक 1 अंक)।

4. Section B: answer all five questions, choosing one option where OR is given. Answers should be about 100 words. / खंड B में पाँचों प्रश्नों के उत्तर दें। जहाँ OR दिया गया है, वहाँ एक विकल्प चुनें। उत्तर लगभग 100 शब्दों में हों।

5. Section C: attempt any two questions. Answers should be about 200 words. / खंड C में किसी भी दो प्रश्नों के उत्तर दें। उत्तर लगभग 200 शब्दों में हों।

SECTION A — MULTIPLE CHOICE QUESTIONS | खंड A — बहुविकल्पीय प्रश्न (8 × 1 = 8)

1. The expression primarily expressed in Radha (Bani Thani) is:

राधा (बनी-ठनी) चित्र में मुख्य रूप से कौन-सा भाव व्यक्त हुआ है?

- A. Motherly love / मातृ-स्नेह
- B. Pride in grace / सौंदर्य एवं गरिमा का गर्व
- C. Sorrow for migration / प्रवास का दुःख
- D. Celebration of harvest / फसल का उत्सव

2. The famous sculpture 'Triumph of Labour' was created by:

'ट्रायम्फ ऑफ लेबर' मूर्ति के शिल्पकार कौन हैं?

- A. Ramkinkar Baij / रामकिंकर बैज
- B. D. P. Roy Chowdhury / डी. पी. रॉय चौधरी
- C. Amarnath Sehgal / अमरनाथ सहगल
- D. P. V. Janakiram / पी. वी. जानकीराम

3. Which Rajasthan miniature school preserved its core visual originality for the longest period?

राजस्थान की किस लघुचित्र शैली ने अपनी मूल दृश्य-विशिष्टता को सबसे लंबे समय तक बनाए रखा?

- A. Mewar / मेवाड़
- B. Kishangarh / किशनगढ़
- C. Jaipur / जयपुर
- D. Bundi / बूंदी

4. Assertion (A): Mughal paintings used decorative borders to enhance their beauty.

कथन (A): मुगल चित्रों में सौंदर्य बढ़ाने के लिए सजावटी सीमाएँ बनाई जाती थीं।

Reason (R): Floral motifs and gold were used to create a royal and grand appearance.

कारण (R): शाही भव्यता के लिए पुष्प आकृतियों और सोने का प्रयोग किया जाता था।

- A. Both A and R are true, and R explains A / A और R दोनों सत्य हैं तथा R, A की सही व्याख्या करता है।
- B. Both true, but R does not explain A / दोनों सत्य हैं, लेकिन R, A की सही व्याख्या नहीं करता।
- C. A true, R false / A सत्य है, R असत्य है।
- D. A false, R true / A असत्य है, R सत्य है।

5. Which painting was painted by M. A. R. Chughtai?

एम. ए. आर. चुगताई द्वारा कौन-सा चित्र बनाया गया था?

- A. Raslila / रासलीला
- B. Meghdoot / मेघदूत
- C. Radhika / राधिका
- D. Shiva and Sati / शिव और सती

6. In which miniature painting is Krishna shown as a symbol of protection, leadership and selfless service?

किस लघुचित्र में कृष्ण को रक्षा, नेतृत्व और निःस्वार्थ सेवा के प्रतीक के रूप में दिखाया गया है?

- A. Krishna on Swing / झूले पर कृष्ण
- B. Krishna Lifting Mount Govardhan / गोवर्धन पर्वत उठाते कृष्ण
- C. Krishna and Gopis / कृष्ण और गोपियाँ
- D. Nand, Yashoda and Krishna with Kinsmen / नंद, यशोदा और कृष्ण परिजनों सहित

7. Which painting has an inscription translated as 'beautiful maidens on horseback, playing'?

किस चित्र में ऊपर लिखे वाक्य का अर्थ 'घोड़ों पर सवार सुंदर युवतियाँ खेलती हुई' है?

- A. Radha Bani Thani / राधा बनी-ठनी

- B. Maru Ragini / मारू रागिनी
C. Chand Bibi Playing Polo / चाँद बीबी पोलो खेलती हुई
D. Chaughan Players / चौगान खिलाड़ी

8. Assertion (A): Pahari miniatures often depict romantic themes from texts such as Gita Govinda.

कथन (A): पहाड़ी लघुचित्रों में गीत गोविंद जैसे ग्रंथों के प्रेम-विषय प्रायः मिलते हैं।

Reason (R): Their cultural background was deeply influenced by Vaishnav devotional literature and music.

कारण (R): उनकी सांस्कृतिक पृष्ठभूमि वैष्णव भक्ति-साहित्य और संगीत से प्रभावित थी।

A. Both A and R are true, and R explains A / A और R दोनों सत्य हैं तथा R, A की सही व्याख्या करता है।

B. Both true, but R does not explain A / दोनों सत्य हैं, लेकिन R, A की सही व्याख्या नहीं करता।

C. A true, R false / A सत्य है, R असत्य है।

D. A false, R true / A असत्य है, R सत्य है।

SECTION B — SHORT ANSWER QUESTIONS | खंड B — लघु उत्तरीय प्रश्न (5 × 2 = 10)

Answer in about 100 words. Choose either (A) or (B) for each question.

लगभग 100 शब्दों में उत्तर दें। प्रत्येक प्रश्न में (A) या (B) में से एक विकल्प चुनें।

2(A). Maru Ragini (1628 A.D.) is a Rajasthani miniature of the Mewar School. Evaluate its aesthetic grandeur and visual majesty.

‘मारू रागिनी’ (1628 ई.) मेवाड़ शैली का राजस्थानी लघुचित्र है। इसकी सौंदर्यात्मक भव्यता और दृश्य प्रभाव का वर्णन कीजिए।

OR / अथवा

2(B). Write a descriptive note on Chand Bibi Playing Polo, explaining its subject, style, composition and key visual features.

‘चाँद बीबी पोलो खेलती हुई’ चित्र के विषय, शैली, रचना-विन्यास और प्रमुख दृश्य विशेषताओं का वर्णन कीजिए।

3(A). Explain the historical origin and development of any two Pahari schools of miniature painting. Give one artist and artwork example for each school.

पहाड़ी लघुचित्रकला की किन्हीं दो उपशैलियों की ऐतिहासिक उत्पत्ति और विकास समझाइए। प्रत्येक शैली के एक कलाकार और चित्र का उदाहरण दीजिए।

OR / अथवा

3(B). Identify the Deccan painting showing a spiritual garden scene in which a disciple plays a musical instrument for his master. Name its sub-school and explain the guru-disciple relationship.

दक्कनी चित्रकला के उस चित्र की पहचान कीजिए जिसमें बगीचे में शिष्य अपने गुरु के लिए वाद्य बजा रहा है। उपशैली का नाम बताकर गुरु-शिष्य संबंध समझाइए।

4(A). How successfully does the painting Nand, Yashoda and Krishna with Kinsmen Going to Vrindavana depict emotions, movement and people from different walks of life?

‘नंद, यशोदा और कृष्ण का परिजनों सहित वृंदावन जाना’ चित्र भावनाओं, गति और विभिन्न जन-समूहों को किस प्रकार दर्शाता है?

OR / अथवा

4(B). Bikaner became an important centre of Rajasthani painting in the 17th century. Identify a course-prescribed painting and its artist, then describe its composition.

17वीं शताब्दी में बीकानेर राजस्थानी चित्रकला का महत्वपूर्ण केंद्र बना। पाठ्यक्रम में दिए गए किसी चित्र और उसके कलाकार की पहचान करके रचना-विन्यास बताइए।

5(A). Appreciate the dominant emotions in Raja Ravi Varma's artworks, with special reference to colour and technique.

राजा रवि वर्मा की कला में प्रमुख भावों की व्याख्या कीजिए। रंगों और तकनीक के प्रयोग पर विशेष टिप्पणी कीजिए।

OR / अथवा

5(B). Discuss the depiction of rural life, colour and emotion in Amrita Sher-Gil's art.

अमृता शेरगिल की कला में ग्रामीण जीवन, रंगों और भाव-अभिव्यक्ति का वर्णन कीजिए।

6(A). Explain the symbolic significance of the icons and colours used in the Indian National Flag.

भारतीय राष्ट्रीय ध्वज में प्रयुक्त रंगों और अशोक चक्र के प्रतीकात्मक अर्थ समझाइए।

OR / अथवा

6(B). Write about the graphic print in your course that represents the pain and agony of a woman left alone and surrounded by poverty. Mention the artist, medium and technique.

पाठ्यक्रम में शामिल उस ग्राफिक प्रिंट का वर्णन कीजिए जिसमें अकेली और गरीबी से घिरी स्त्री की पीड़ा दिखाई गई है। कलाकार, माध्यम और तकनीक भी लिखिए।

SECTION C — LONG ANSWER QUESTIONS | खंड C — दीर्घ उत्तरीय प्रश्न (Attempt any 2 × 6 = 12)

Answer in about 200 words each. / प्रत्येक उत्तर लगभग 200 शब्दों में लिखिए।

7. Discuss the key characteristics of any two Mughal miniature paintings made during two different rulers. Include: (i) artist and title, (ii) medium and technique, and (iii) compositional arrangement.

दो अलग-अलग मुगल शासकों के काल में बने किन्हीं दो मुगल लघुचित्रों की प्रमुख विशेषताओं की चर्चा कीजिए। उत्तर में (i) कलाकार और शीर्षक, (ii) माध्यम और तकनीक, तथा (iii) रचना-विन्यास शामिल करें।

8. Discuss the contribution of Indian art to the freedom struggle. Refer to artists, images, symbols or visual ideas that helped develop national consciousness.

स्वतंत्रता आंदोलन में भारतीय कला के योगदान की चर्चा कीजिए। ऐसे कलाकारों, चित्रों, प्रतीकों या दृश्य-विचारों का उल्लेख करें जिन्होंने राष्ट्रीय चेतना के विकास में योगदान दिया।

9. Picture-based appreciation: Examine the painting shown below.

(i) Name the artist, title, medium and technique.

(ii) Explain how the subject is arranged in the composition.

(iii) Analyse how colour, forms and emotional expression convey the essence of Kalidasa's poem and reflect the Bengal School.

चित्र-संदर्भ: नीचे दिए गए चित्र का विश्लेषण कीजिए।

- (i) कलाकार, शीर्षक, माध्यम और तकनीक लिखिए।
- (ii) विषय-वस्तु के रचना-विन्यास को समझाइए।
- (iii) रंगों, आकृतियों और भाव-अभिव्यक्ति के माध्यम से कालिदास के काव्य का सार तथा बंगाल शैली की विशेषताएँ स्पष्ट कीजिए।

PICTURE REFERENCE / चित्र-संदर्भ

MEGHDOOT / मेघदूत

