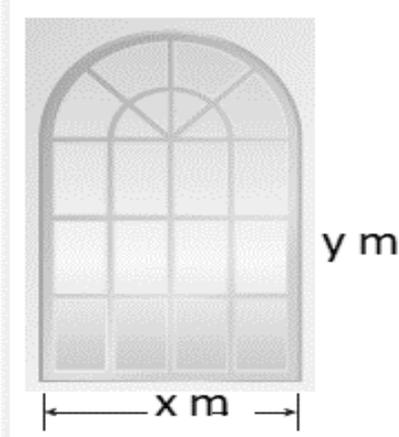


8.	Direction cosines of the line $\frac{x-1}{2} = \frac{1-y}{3} = \frac{2z-1}{12}$ are (a) $\frac{2}{7}, \frac{3}{7}, \frac{6}{7}$ (b) $\frac{2}{\sqrt{157}}, -\frac{3}{\sqrt{157}}, \frac{12}{\sqrt{157}}$ (c) $\frac{2}{7}, -\frac{3}{7}, -\frac{6}{7}$ (d) $\frac{2}{7}, -\frac{3}{7}, \frac{6}{7}$
9.	If two vectors \vec{a} and \vec{b} are such that $ \vec{a} = 2, \vec{b} = 5, \vec{a} \cdot \vec{b} = 8$ then the value of $ \vec{a} - \vec{b} $ is (a) $\sqrt{13}$ (b) 13 (c) 169 (d) 3
10.	The function $f(x) = \sin^{-1}\left(\frac{2x}{1+x^2}\right)$ then $f'(1)$ is? (a) 1 (b) 0 (c) -1 (d) $\frac{1}{2}$
11.	If $P(A) = \frac{4}{5}$ and $P(A \cap B) = \frac{7}{10}$, then $P\left(\frac{B}{A}\right)$ is equal to (a) $\frac{1}{10}$ (b) $\frac{1}{8}$ (c) $\frac{7}{8}$ (d) $\frac{17}{20}$
12.	The degree of the differential equation is $\left(1 + \left(\frac{dy}{dx}\right)^2\right)^3 = \left(\frac{d^2y}{dx^2}\right)^4$ is (a) 2 (b) 3 (c) 6 (d) 4
13.	If A is a square matrix of order 3 has $ A =4$, then the value of $ A \text{ adj } A $ is equals to a) 32 (b) 16 (c) 64 (d) None of these
14.	The integrated factor of the differential equation: $(1+x^2)\frac{dy}{dx} + y = e^{\tan^{-1}x}$ is $\frac{1}{e^{\tan^{-1}x}}$ (b) $2e^{\tan^{-1}x}$ (c) $3e^{\tan^{-1}x}$ (d) $e^{\tan^{-1}x}$
15.	Direction cosines of the vector \vec{AB} joining the point $A(-1, -2, 3)$ and $B(1, 2, -1)$ is a) $\left\langle \frac{1}{3}, \frac{2}{3}, \frac{-2}{3} \right\rangle$ (b) $\langle 2, 4, -4 \rangle$ (c) $\left\langle \frac{2}{\sqrt{6}}, \frac{4}{\sqrt{6}}, \frac{-4}{\sqrt{6}} \right\rangle$ (d) $\left\langle \frac{-1}{\sqrt{3}}, \frac{-2}{3}, \frac{1}{3} \right\rangle$
16.	Find the projection of the vector $\hat{i} - \hat{j} + 3\hat{k}$ on the vector $\hat{i} - 2\hat{j} + 5\hat{k}$ (a) $\frac{18}{\sqrt{30}}$ (b) $\frac{14}{30}$ (c) $\frac{7}{15}$ (d) $\frac{14}{\sqrt{30}}$
17.	The value of the integral $\int_{-\pi}^{\pi} \sin^{-1}x dx$ is a) π (b) $-\pi$ (c) 0 (d) 2π
18.	The position vectors of two points A and B are respectively $6\vec{a} + 2\vec{b}$ and $\vec{a} - 3\vec{b}$. If the point C divides AB internally in the ratio 3: 2 then the position vector of C is ? a) $3\vec{a} - \vec{b}$ (b) $3\vec{a} + \vec{b}$ (c) $\vec{a} + \vec{b}$ (d) $\vec{a} - \vec{b}$
QUESTION19 & 20 BASED ON REASONING AND ASSERTION	
In the following questions a statement of Assertion (A) is followed by a statement of Reason(R). Pick 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 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	
19.	Assertion (A): Let N be the set of all natural numbers and R be a relation in N defined by $R = \{(a,b): a \text{ is a multiple of } b\}$. Then R is reflexive and transitive but not symmetric. Reason (R): A relation R is an equivalence relation if R is reflexive and symmetric only.
20.	Assertion (A): A balloon, which always remains spherical, has a variable radius. The rate, at which its volume is increasing with the radius when the radius is 10 cm, is $400\pi \text{ cm}^3 / \text{cm}$.

	<p>Reason (R): Rate of change of volume (v) of balloon with respect of radius (r) is</p> $\frac{dv}{dr} = \left(\frac{4}{3}\pi\right) \cdot 3r^2$
SECTION B (10 MARKS)	
21.	<p>Find the value of $\cot^{-1}(-1) + \operatorname{cosec}^{-1}(-\sqrt{2})$.</p> <p style="text-align: center;">OR</p> <p>Find the value of $\cos^{-1}\left(\cos\frac{13\pi}{6}\right)$.</p>
22.	Show that $f(x) = (x - 1)e^x + 1$ is a strictly increasing function for all $x > 0$.
23.	<p>Find the maximum profit that a company can make, if the profit function is given by $p(x) = 41 + 72x - x^2$ where x is the number of units and p(x) is the profit in rupees.</p> <p style="text-align: center;">OR</p> <p>The volume of a cube is increasing at a constant rate .Prove that the increase in surface area varies inversely as the length of the edge of the cube.</p>
24.	Evaluate: $\int_0^{\frac{\pi}{2}} x \cos x \, dx$.
25.	At what points in the interval $[0, 2\pi]$, does the function $\sin 2x$ attain its maximum value?
SECTION C (18 MARKS)	
26.	Find : $\int \frac{3x+1}{(x-2)^2(x+2)} dx$
27.	<p>The probabilities of a specific problem being solved independently by A and B are $\frac{1}{2}$ and $\frac{1}{3}$ respectively. If both try to solve the problem independently, find the probability that</p> <p>(i) The problem is solved</p> <p>(ii) Exactly one of them solves the problem.</p>
28.	<p>Evaluate: $\int_{\frac{\pi}{6}}^{\frac{\pi}{3}} \frac{dx}{1+\sqrt{\cot x}}$</p> <p style="text-align: center;">OR</p> <p>Evaluate: $\int x \tan^{-1} x \, dx$</p>
29.	<p>Solve the differential equation: $(1 + x^2) \frac{dy}{dx} + y = e^{\tan^{-1} x}$</p> <p style="text-align: center;">OR</p> <p>Solve the differential equation $x \, dy - y \, dx = \sqrt{x^2 + y^2} \, dx$</p>
30.	<p>Solve the following Linear Programming Problem graphically:</p> <p>Maximize: $Z = 100x + 120y$</p> <p style="text-align: center;">Subject to : $5x + 8y \leq 200, 5x + 4y \leq 120, x, y \geq 0$</p> <p style="text-align: center;">OR</p> <p>Solve the following Linear Programming Problem graphically:</p> <p>Minimise : $z = 4x + 6y$</p> <p>subject to the constraints</p> <p style="text-align: center;">$x + 2y \geq 80, \quad 3x + y \geq 75, \quad x \geq 0, y \geq 0$</p>
31.	If $x = 3\sin t - \sin 3t$ and $y = 3\cos t - \cos 3t$ find $\frac{d^2y}{dx^2}$ at $t = \frac{\pi}{3}$
SECTION D (20 MARKS)	
32.	Make a rough sketch of the region $\{(x, y): 0 \leq y \leq x^2 + 1, 0 \leq y \leq x + 1, 0 \leq x \leq 2\}$ and find the area of the region using integration.
33.	Let $A = \{1, 2, 3, 4, 5, 6, 7, 8, 9\}$ and R be a relation in $A \times A$, defined by $(a, b) R (c, d) \Leftrightarrow a+d = b+c$ for all (a, b) and $(c, d) \in A \times A$. Prove that R is an equivalence relation. Also

	<p>find the equivalence class of (2, 5).</p> <p style="text-align: center;">OR</p> <p>Consider $f: \mathbb{R}_+ \rightarrow [-9, \infty)$ given by $f(x) = 5x^2 + 6x - 9$. Prove that f is bijective.</p>
34.	<p>Using matrix method solve the following system of linear equations:</p> $\begin{aligned} x + 3y + 4z &= 8 \\ 2x + y + 2z &= 5 \\ 5x + y + z &= 7 \end{aligned}$
35.	<p>Find the shortest distance between the lines whose equations are given as:</p> $L_1: \vec{r} = \hat{i} + \hat{j} + \lambda(2\hat{i} - \hat{j} + \hat{k})$ $L_2: \vec{r} = 2\hat{i} + \hat{j} - \hat{k} + \mu(3\hat{i} - 5\hat{j} + 2\hat{k})$ <p style="text-align: center;">OR</p> <p>Show that the lines $\frac{x+1}{3} = \frac{y+3}{5} = \frac{z+5}{7}$ and $\frac{x-2}{1} = \frac{y-4}{3} = \frac{z-6}{5}$ intersect also find their point of intersection.</p>
<p>SECTION E (12 MARKS)</p> <p>This section comprises of 3 case –study/passage based questions of 4 marks each with sub-parts. The first two case study questions have three sub parts (i), (ii), (iii) of marks 1,1,2 respectively. The third case study question has two sub parts of 2 marks each.</p>	
36.	<p>Dr. Rohan residing in Delhi went to see an apartment of 3BHK in Noida. The window of the house in the form of a rectangle surrounded by a semicircular opening having a perimeter of the window 10 m as shown in the figure</p> <div style="text-align: center;">  </div> <p>(i) If x and y represents the length and breadth of the rectangular region, then what is the relation between the variables.</p> <p>(ii) Dr. Rohan is interested in maximize the area of the whole window. For this to happen what should be value of x?</p> <p style="text-align: center;">OR</p> <p>(ii) For maximum value of area, find the breadth of the rectangular part of the window.</p> <p>(iii) Find the maximum area of window.</p>
37.	<p>A particle is acted upon by constant forces $\vec{F}_1 = 4\hat{i} + \hat{j} - 3\hat{k}$ and $\vec{F}_2 = 3\hat{i} + \hat{j} - \hat{k}$ is displaced from the point $\vec{d}_1 = \hat{i} + 2\hat{j} + 3\hat{k}$ to the point $\vec{d}_2 = 5\hat{i} + 4\hat{j} + \hat{k}$. Now answer the following questions:</p>

	<p>(i) Find the magnitude of $\vec{F}_1 + \vec{F}_2$</p> <p>(ii) Find the scalar product of \vec{F}_2 with \vec{d}_1.</p> <p>(iii) Find the total work done by the forces.</p> <p style="text-align: center;">OR</p> <p>(iii) Find a unit vector perpendicular to the plane containing \vec{d}_1 and \vec{d}_2</p>
38.	<p>Mahindra Tractors is India's leading farm equipment manufacturer. It is the largest tractor selling factory in the world. This factory has two machine A and B. Past record shows that machine A produced 60% and machine B produced 40% of the output(tractors). Further 2% of the tractors produced by machine A and 1% produced by machine B were defective. All the tractors are put into one big store hall and one tractor is chosen at random.</p> <div style="text-align: center;">  </div> <p>(i) Find the total probability of chosen tractor (at random) is defective.</p> <p>(ii) If in random choosing, chosen tractor is defective, then find the probability that the chosen tractor is produced by machine 'A'</p>

KENDRIYA VIDYALAYA I.T.B.P. GAUCHAR
PRE-BOARD – I SESSION: 2025-26
SUBJECT: PHYSICAL ACTIVITY TRAINER (845)
CLASS-XII

TIME: 2 Hrs.

MM: 50

General Instructions:

1. Please read the instructions carefully.
2. This Question Paper consists of 21 questions in two sections: Section A & Section B.
3. Section A has Objective type questions whereas Section B contains Subjective type questions.
4. Out of the given (5 + 16 =) 21 questions, a candidate has to answer (5 + 10 =) 15 questions in the allotted (maximum) time of 2 hours.
5. All questions of a particular section must be attempted in the correct order.
6. **SECTION A - OBJECTIVE TYPE QUESTIONS (24 MARKS):**
 - i. This section has 05 questions.
 - ii. Marks allotted are mentioned against each question/part.
 - iii. There is no negative marking.
 - iv. Do as per the instructions given.
7. **SECTION B – SUBJECTIVE TYPE QUESTIONS (26 MARKS):**
 - i. This section has 16 questions.
 - ii. A candidate has to do 10 questions.
 - iii. Do as per the instructions given.
 - iv. Marks allotted are mentioned against each question/part.

SECTION A:OBJECTIVE TYPE QUESTIONS

Q1. Answer any 4 out of the given 6 questions.(1mark)

- i) The main purpose of student assessment in Physical education is:
 - a) To punish weak students
 - b) To evaluate student's progress and development
 - c) To check teacher's performance
 - d) To increase workload of students.
- ii) Summative assessment is generally conducted
 - a) at the beginning of a session
 - b) during teaching
 - c) at the end of a unit or term
 - d) every day in class
- iii) which of the following is a tool of assessment in Physical education?
 - a) Written test
 - b) Skill test
 - c) Observation
 - d) All of the above
- iv) continuous and comprehensive evaluation focuses on
 - a) only academic development
 - b) physical, mental, and emotional growth
 - c) only physical performance
 - d) only theoretical knowledge
- v) which of the following is not a principle of assessment?
 - a) Fairness
 - b) Reliability
 - c) Subjectivity
 - d) Validity
- vi) fitness testing in physical education is conducted mainly to:
 - a) Find the best athlete
 - b) Check physical fitness level of students
 - c) Punish unfit students
 - d) Increase competition fitness

Q2. Answer 5 out of the given 6 questions(1mark)

- i) Which of the following is not a stage of active listening?
 - a) Receiving
 - b) Understanding
 - c) Not responding
 - d) evaluating
- ii) "C" in the acronym "OCEAN" stands for

- a) Consciousness b) Countenance c) Courteous d) None of these
- iii) Which of the following is not a parameter to describe an individual's personality?
 - a) Self-confidence b) Openness c) Neuroticism d) Agreeableness
- iv) You can use the drag and drop method to.....
 - a) Copy cell contents b) move cell contents c) Add cell Contents d) Both A and B
- v) The ability to work with others is
 - a) Organisational skill b) Inter personal skill c) Initiative d) perseverance
- vi) "P" in the acronym 'NAPCC' stands for
 - a) Program b) Plan c) Progress d) Purpose

Q3. Answer any 5 out of the 6 questions(1mark)

- i) Which of the following is the first step in emergency management?
 - a) Rehabilitation b) Mitigation c) Preparedness d) Response
- ii) Which of the following is not a man- made disaster?
 - a) Earthquake b) Fire accident c) Terrorist attack d) Industrial accident
- iii) Which organization in India is primarily responsible for disaster management at the national level
 - a) WHO b) NDRF c) NDMA d) UNESCO
- iv) Which of the following is a part of the emergency response phase?
 - a) Mock drills b) Evacuation c) Risk assessment d) Policy making
- v) Which of the following is not an objective of emergency management?
 - a) saving lives b) ensuring quick recovery c) increasing risks d) reducing damage
- vi) Which one of the following is an advantage of free play?
 - a) May develop wrong technique b) Assessment cannot be done
 - c) May lead to conflict d) Encourage creativity

Q4. Answer any 5 out of the 6 questions(1mark)

- i) What is the recommended flooring in hygienic play area?
 - a) Rough concrete b) Clean, soft, non- slippery surface c) Mud surface d) Hard marble
- ii) Which disease is most likely to spread in a unhygienic play area?
 - a) Diabetes b) Asthma c) Diarrhoea and skin infections d) Hypertension
- iii) Which principle of training suggests gradually increasing the intensity of exercise?
 - a) Specificity b) Progression c) Overload d) Reversibility
- iv) Which of the following is not a skill-related component of fitness?
 - a) Power b) Coordination c) Flexibility d) Reaction time
- v) Which of the following exercises is best for improving cardiovascular endurance?
 - a) Push-ups b) Sprinting c) Swimming d) Weightlifting
- vi) How should you store lather props and equipment to prevent damage?
 - a) Expose them to direct sunlight b) Keep them in a damp place
 - c) Use a dry cloth for cleaning d) Store them in a well-ventilated place away from direct sunlight

Q5. Answer any 5 out of the given 6 questions(1mark)

- i) Choose the formula to calculate the Body Mass Index (BMI)
 - a) Weight (in Kg)/ Height meter square (in meter)
 - b) Height (in meter)/ Weight square (in Kg)
 - c) Weight square (in Kg) / Height (in meter)

- d) Height meter square (in meter)/ Weight (in Kg)
- ii) In which of the following physical activities, adult supervision is necessary to avoid injuries in school?
 a) For structured play b) For Un structured Play c) Both A and B d) For Video games
- iii) "The Golden Hour" in emergency Management refers to
 a) First 24 hours after an event b) First 12 hours after an event
 c) First 6 hours after an event d) First 01 hour after an injury
- iv) In case of fire what is the first action to be taken
 a) Inform Media b) Run without Informing
 c) Raise alarm & call for help d) wait for instructions
- v) Which of these is a health risk in an unclean play area ?
 a) Improved teamwork b) Spread of infectious disease
 c) Better physical development d) More participation
- vi) Hand hygiene before and after play is important because it
 a) Increases strength b) reduces risk of infections c) improve stamina d) helps in coordination

Answer any 3 out of the given 5 questions (2 marks)

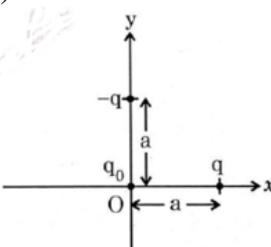
- Q.6. Identify the barriers to active listening.
- Q.7. Write two steps to overcome personality disorder.
- Q.8. Define spreadsheet.
- Q.9. Write any two characteristics of entrepreneurship.
- Q.10. What are 'Green Jobs'? give examples.

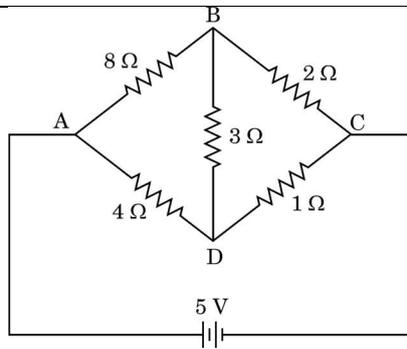
Answer any 4 out of given 6 questions. (2marks)

- Q11. What do you mean by quantitative assessment?
- Q12. What do you mean by check list as an assessment tool?
- Q13. Define sprain and strain.
- Q14. What do you mean by emergency response?
- Q15. What are allergies?
- Q16. What do you mean by players' health and hygiene?

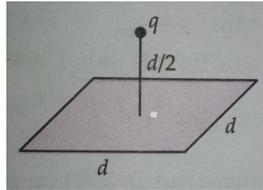
Answer any 3 out of the given 5 questions. (4 marks)

- Q17. What are the factors that influence assessments in school?
- Q18. Differentiate between assessment and evaluation.
- Q19. Explain how to deal with heat stroke.
- Q20. Explain the difference between low frequency inspections and high frequency inspections.
- Q21. Describe the hygiene and health in play area.

7.	The potential energy of an electron in the second excited state in hydrogen atom is: (a) -3.4 eV (b) -3.02 eV (c) -1.51 eV (d) -6.8 eV	1
8.	Three charges q , $-q$ and q_0 are placed as shown in figure. The magnitude of the net electrostatic force on charge q_0 at point O is: ($k = 1 / 4\pi\epsilon_0$) 	1
	(a) Zero (b) $2kqq_0 / a^2$ (c) $\sqrt{2}kqq_0 / a^2$ (d) $kqq_0 / \sqrt{2}a^2$	
9.	Whenever a magnet is moved either towards or away from a conducting coil, an emf is induced whose magnitude is independent of the: (a) number of turns in the coil (b) resistance of the coil (c) speed with which the magnet is moved (d) area of the coil	1
10.	The average value of voltage of 220 V ac mains during its positive half cycle will be: (a) 156 V (b) 198 V (c) 220 V (d) zero	1
11.	The radius of ${}_{13}\text{X}^{27}$ nucleus is R. The radius of ${}_{53}\text{Y}^{125}$ nucleus will be: (a) $5R / 3$ (b) $R(13 / 53)^{1/3}$ (c) $(5R / 3)^{1/3}$ (d) $(13R / 53)^{1/3}$	1
12.	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? (a) m and M (b) m and M/2 (c) m/2 and 2M (d) 2m and M/2	1
<p>For Questions 13 to 16, two statements are given one labelled Assertion (A) and other labelled Reason (R). Select the correct answer to these questions from the options as given below.</p> <p>(a) Both Assertion and Reason are true and Reason is the correct explanation of Assertion. (b) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion. (c) Assertion is true but Reason is false. (d) Both Assertion and Reason are false.</p>		
13.	Assertion (A): The image of an object placed between f and $2f$ from a convex lens can be seen on a screen. If the screen is removed, image is not formed. Reason (R): Rays from a given point on the object placed between f and $2f$, after passing through a convex lens, do not converge on a point in space.	1
14.	Assertion (A): The total energy of an electron in hydrogen atom is negative. Reason (R): The centripetal force is provided by electrostatic force.	1
15.	Assertion (A): In Young's double slit experiment all fringes are of equal width. Reason (R): The fringe width depends upon wavelength of light used, distance of screen from plane of slits and slit separation.	1
16.	Assertion (A): If there exists coulomb attraction between two bodies, both of them may not be charged. Reason (R): The coulomb attraction between two bodies varies linearly with distance.	1
<u>SECTION B</u>		
17.	Explain the following, giving proper reason: (a) During charging of a capacitor, displacement current exists in the capacitor. But there is no displacement current when it gets fully charged. (b) Infrared waves are also known as heat waves.	2
18.	The figure shows a network of resistors connected across a battery. Find the current supplied by the battery of emf 5 V and internal resistance $2/3 \Omega$.	2



19. A point charge 'q' is at a distance of $\frac{d}{2}$ directly above the centre of a square of side d, as shown in figure. Find the electric flux through the square. 2



If the point charge is now moved to a distance 'd' from the centre of the square and the side of the square is doubled, explain how the electric flux will be affected.

20. (1) Derive the expression for the force per unit length acting between two long straight parallel conductors carrying steady currents ' I_1 ' and ' I_2 ' are separated by a distance 'd'. Mention the nature of this force if currents in both the conductors are flowing in the same direction. 2

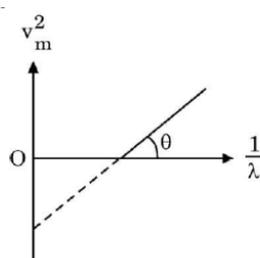
Or

(2) The susceptibility of a magnetic material is 0.9853. Identify the type of magnetic material. Draw the modification of the field pattern on keeping a piece of this material in a uniform magnetic field.

21. (1) Briefly explain Geiger-Marsden experiment. Show the variation of the number of particles scattered (N) with scattering angle (θ) in this experiment. What is the main conclusion that can be inferred from this plot? 2

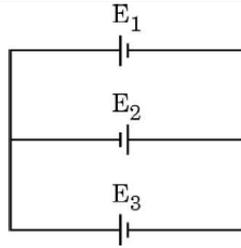
Or

(2) The figure shows v_m^2 versus $1/\lambda$ graph for photoelectrons emitted from a surface where v_m is the maximum speed of electrons and λ is the wavelength of incident radiation. Using this graph and Einstein's photoelectric equation, obtain the expression for Planck's constant and work function of the surface.



SECTION C

22. With the help of suitable diagram, explain briefly the two important processes involved in the formation of a p-n junction. Define the terms depletion region and potential barrier. 3
23. Three batteries E_1 , E_2 and E_3 of emfs and internal resistances (4 V, 2 Ω), (2 V, 4 Ω) and (6 V, 2 Ω) respectively are connected as shown in the figure. Find the values of the currents passing through batteries E_1 , E_2 and E_3 . 3



24.	<p>(a) Define the term 'mass defect'. (b) Draw the graph showing the variation of binding energy per nucleon with mass number A of nuclei ($2 < A < 170$). Use this graph to explain the release of energy in nuclear fission.</p>	3
25.	<p>Explain with the help of a suitable diagram, the phenomena on which an optical fibre works. Write any two uses of optical fibre.</p>	3
26.	<p>State Huygens principle of secondary wavelets. Use it to draw a diagram showing the passage of a plane wavefront from a denser into a rarer medium. Hence verify the Snell's law of refraction.</p>	3
27.	<p>(1) A galvanometer is converted into a voltmeter of range (0-V) volt using a resistor of 9900Ω. If a resistor of 4900Ω is used, the range becomes half, i.e. (0-V/2) volt. Calculate: (a) resistance of the galvanometer (b) resistance required to convert it into a voltmeter of range (0-2V) volt.</p> <p style="text-align: center;">Or</p> <p>(2) A solenoid has a core of material with relative permeability 200. The windings of the solenoid are insulated from the core and carry a current of 1A. If the number of turns is 2000 per metre, calculate: (a) magnetic intensity (b) magnetic field and (c) magnetisation</p>	3
28.	<p>Figure below shows a rectangular conductor PQRS in which the conductor PQ is free to move in a uniform magnetic field B perpendicular to plane of paper. The field extends from $x = 0$ to $x = b$ and is zero for $x > b$. Assume that only the arm PQ possess resistance r. When the arm PQ is pulled outwards from $x = 0$ to $x = 2b$, and then moved back to $x = 0$ with constant speed v, Find the expressions for the flux and the induced emf. Sketch the variation of these quantities with distance.</p>	3

SECTION D

29.	<p>The process of converting AC into DC is called rectification and the device used is called a rectifier. When AC signal is fed to a junction diode during positive half cycle, the diode is forward biased and current flows through it. During the negative half cycle, the diode is reverse biased and it does not conduct. Thus, the AC signal is rectified. The p-n junction diodes can be used as half-wave and full-wave rectifiers.</p> <p>(i) Which bulb / bulbs will glow in the given circuit?</p> <p>(a) B₁ only (b) B₂ only (c) Both B₁ and B₂ (d) Neither B₁ nor B₂</p>	4
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	<p>(ii) The output in a half-wave rectifier is: (a) unidirectional without ripple (b) steady and continuous (c) unidirectional with ripple (d) steady but discontinuous</p> <p>(iii) In a p-n junction diode, the majority charge carriers on p-side and on n-side are, respectively: (a) electrons, electrons (b) electrons, holes (c) holes, holes (d) holes, electrons</p> <p>(iv) If the frequency of the half-wave rectifier is 50 Hz, the frequency of full-wave rectifier is: (a) 25 Hz (b) 50 Hz (c) 100 Hz (d) 200 Hz</p>	
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30.	<p>The phenomena of ejection of the electrons from the surface of a metal when a radiation of suitable frequency is incident on it is called photoelectric effect. Figure shows the variation of photoelectric current measured in a photo cell circuit as a function of the potential difference between the plates of the photo cell when light beams A, B, C and D of different wavelengths are incident on the photo cell. Examine the given figure and answer the following questions:</p> <div style="text-align: center;"> </div> <p>(i) Which light beam has the highest frequency and why? (ii) Which light beam has the longest wavelength and why? (iii) What is the effect on threshold frequency and stopping potential on increasing the frequency of incident beam of light? Justify your answer.</p>	4
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SECTION E

31.	<p>(1) (a) Two large plane sheets P_1 and P_2 having charge densities $+\sigma$ and -3σ respectively are arranged parallel to each other as shown in figure. Find the net electric field (\mathbf{E}) at points A, B and C.</p> <div style="text-align: center;"> </div> <p>(b) An electric dipole of dipole moment $\mathbf{p} = (0.8 \mathbf{i} + 0.6 \mathbf{j}) 10^{-29}$ Cm is placed in an electric field $\mathbf{E} = 1.0 \times 10^7 \mathbf{k}$ V/m. Calculate the magnitude of the torque acting on it and the angle it makes with the X-axis, at this instant.</p> <p style="text-align: center;">Or</p> <p>(2) (a) A parallel plate capacitor A of capacitance C is charged by a battery to a potential 'V'. The battery is disconnected and an uncharged identical capacitor B is connected across it. Calculate for the capacitor A the new value of the: (i) charge (ii) potential difference (iii) energy stored Justify your answers. (b) Draw the equipotential surfaces for: (i) a point charge, and (ii) an electric dipole.</p>	5
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32.	<p>(1) (a) What are the two main considerations for designing the objective and eyepiece lenses of an astronomical telescope? Obtain the expression for magnifying power of the telescope when the final image is formed at infinity.</p>	5
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(b) A ray of light is incident at an angle of 45° at one face of an equilateral triangular prism and passes symmetrically through the prism. Calculate:

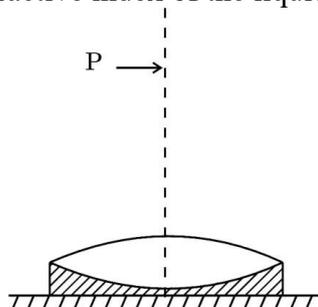
(i) the angle of deviation produced by the prism.

(ii) the refractive index of the material of the prism.

Or

(2) (a) Derive the lens maker's formula for a double convex lens.

(b) The figure below shows an equiconvex lens (of refractive index 1.50) in contact with a liquid layer on top of a plane mirror. A small needle with its tip on the principal axis is moved along the axis until its inverted image is found at the position of the needle. The distance of the needle from the lens is measured to be 45.0 cm. When the liquid is removed and the experiment is repeated, the new distance is 30.0 cm. Find the refractive index of the liquid.



33. (1) (a) (i) Draw a labelled diagram of a step-down transformer. State the principle of its working.
(ii) Express the turn ratio in terms of voltages.

(iii) Find ratio of primary and secondary currents in terms of turn ratio in an ideal transformer.

(b) How much current is drawn by the primary coil of a transformer connected to 220 V supply when it delivers power to a 110 V-550 W refrigerator?

Or

(2) (a) Write Biot-Savart's law in vector form. Use it to derive the expression for the magnetic field at a point on the axis of a current carrying circular loop of radius 'R'.

(b) Define the terms (i) current sensitivity and (ii) voltage sensitivity of a moving coil galvanometer. Why does increasing the current sensitivity not necessarily increase voltage sensitivity?

5

PRE-BOARD EXAMINATION – 2025-26 / पूर्व-परिषदीय परीक्षा - 2025-26

Class – XII / कक्षा - - XII

Subject – Economics (030) / विषय - अर्थशास्त्र (030)

Time : 3 hrs

MM – 80

समय - तीन घंटे

पूर्णांक - 80

General Instructions :

Read the following instructions carefully and strictly follow them :

- I. This question paper contains 34 questions. All questions are compulsory.**
- II. This question paper contains two sections : Section A – Macro Economics Section B – Indian Economic Development**
- III. This paper contains 20 Multiple Choice Questions Type questions of 1 mark each.**
- IV. This paper contains 4 Short Answer Questions Type -I questions of 3 marks each to be answered in 60 to 80 words.**
- V. This paper contains 6 Short Answer Questions Type -II questions of 4 marks each to be answered in 80 to 100 words.**
- VI. This paper contains 4 Long Answer Questions Type questions of 6 marks each to be answered in 100 to 150 words.**
- VII. Attempt all parts of a question together.**

सामान्य निर्देश :

निम्नलिखित निर्देशों को बहुत सावधानी से पढ़ें और उनका सख्ती से पालन कीजिये :

- I. इस प्रश्न पत्र में 34 प्रश्न हैं | सभी प्रश्न अनिवार्य हैं |**
- II. यह प्रश्न पत्र दो खण्डों में विभाजित है : खंड क - समष्टि अर्थशास्त्र , खंड ख - भारतीय आर्थिक विकास**
- III. इस प्रश्नपत्र में एक-एक अंक के 20 बहुविकल्पीय प्रश्न हैं |**
- IV. इस प्रश्नपत्र में तीन - तीन अंकों के 4 लघु उत्तरीय प्रकार-I के प्रश्न हैं जिनके उत्तर 60 से 80 शब्दों में लिखे जाने चाहिए |**
- V. इस प्रश्नपत्र में चार - चार अंकों के 6 लघु उत्तरीय प्रकार-II के प्रश्न हैं जिनके उत्तर 80 से 100 शब्दों में लिखे जाने चाहिए |**
- VI. इस प्रश्नपत्र में छ - छ अंकों के 4 दीर्घ उत्तरीय प्रकार के प्रश्न हैं जिनके उत्तर 100 से 150 शब्दों में लिखे जाने चाहिए |**
- VII. प्रत्येक प्रश्न के सभी भागों के उत्तर एक साथ लिखे जाने चाहिए**

o.	<p style="text-align: center;">Section A – Macro Economics खंड अ - समष्टि अर्थशास्त्र</p>	Marks
1	<p>Read the Statements clearly Statement 1 – Savings are leakages in the circular flow that enhance economic activities. Statement 2 – Savings are brought back to the circular flow by financial institutions. In light of the given statements, choose the correct option from the following: A. Statement 1 is true and Statement 2 is false. B. Statement 1 is false and Statement 2 is true. C. Both Statements 1 and 2 are true. D. Both Statements 1 and 2 are false</p> <p>कथनों को स्पष्ट रूप से पढ़िए कथन1 बचत परिपत्र प्रवाह में रिसाव है जो आर्थिक गतिविधियों को बढ़ाता है। कथन2 वित्तीय संस्थानों द्वारा बचत को चक्रीय प्रवाह में वापस लाया जाता है। दिए गए कथनों के आलोक में, निम्नलिखित में से सही विकल्प का चयन कीजिए: A. कथन 1 सत्य है, और कथन 2 असत्य है। B. कथन 1 असत्य है, और कथन 2 सत्य है। C. कथन 1 और 2 दोनों सत्य हैं। D. कथन 1 और 2 दोनों असत्य हैं।</p>	1
2	<p>Read the following statements: Assertion (A) and Reason (R). Choose the correct option from those given below: - Assertion - Managed Float is dirty float”. Reason - “The basic essence of free floating is reduced by controlling it withing range, by managed float system.”. Options: A. Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A). B. Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A). C. Assertion (A) is true, but Reason (R) is false. D. Assertion (A) is false, but Reason (R) is true.</p> <p>निम्नलिखित कथनों को पढ़िए: अभिकथन (A) और कारण (R)। चुनें नीचे दिए गए विकल्पों में से सही विकल्प: - अभिकथन - प्रबंधित तरलता गंदी तरलता है"। कारण - "स्वतंत्र तरलता का मूल सार, प्रबंधित तरलता सिस्टम द्वारा इसे नियंत्रित करने से कम हो जाता है, (A) दावा (ए) और कारण (आर) दोनों सत्य हैं और कारण (आर) दावे (ए) का सही स्पष्टीकरण है। (B) दावा (ए) और कारण (आर) दोनों सत्य हैं और कारण (आर) दावे (ए) का सही स्पष्टीकरण नहीं है। (C) दावा (ए) सत्य है लेकिन कारण (आर) गलत है। (D) दावा (ए) गलत है लेकिन कारण (आर) सच है। ।</p>	1
3	<p>Read the following statements: Assertion (A) and Reason (R). Choose the correct option from those given below: - Assertion - “At break even point savings become equal to investment.”</p>	1

	<p>Reason - "Break Even point is the level of income where entire income is consumed".</p> <p>Options:</p> <p>A. Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).</p> <p>B. Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A).</p> <p>C. Assertion (A) is true, but Reason (R) is false.</p> <p>D. Assertion (A) is false, but Reason (R) is true.</p> <p>अभिकथन - "ब्रेक ईवन पॉइंट पर बचत निवेश के बराबर हो जाती है। कारण - "ब्रेक ईवन प्वाइंट आय का वह स्तर है जहां पूरी आय का उपभोग किया जाता है"।</p> <p>(A) दावा (ए) और कारण (आर) दोनों सत्य हैं और कारण (आर) दावे (ए) का सही स्पष्टीकरण है।</p> <p>(B) दावा (ए) और कारण (आर) दोनों सत्य हैं और कारण (आर) दावे (ए) का सही स्पष्टीकरण नहीं है।</p> <p>(C) दावा (ए) सत्य है लेकिन कारण (आर) गलत है।</p> <p>(D) दावा (ए) गलत है लेकिन कारण (आर) सच है। ।</p>	
4.	<p>In a hypothetical economy, borrowings are Rs. 90,000 Cr, Revenue receipts are 80,000 Cr. Rs and Revenue Expenditure is Rs 120,000 (Including interest Rs 10,000 Cr). What should be the possible value of Primary deficit.</p> <p>(a) Can not be determined (b) 80,000 (c) 40,000 (d) 10,000</p> <p>एक काल्पनिक अर्थव्यवस्था में, उधार 90,000 करोड़ रुपये है, राजस्व प्राप्तियां 80,000 करोड़ रुपये हैं और राजस्व व्यय 120,000 करोड़ रुपये (10,000 करोड़ रुपये ब्याज सहित) है। प्राथमिक घाटे का संभावित मूल्य क्या होना चाहिए?</p> <p>(a) निर्धारित नहीं किया जा सकता (b) 80,000 (स) 40,000 (द) 10,000</p>	1
5.	<p>"Government of India is contemplating about increasing government expenditure as there is less liquidity in the economy". In the light of above statement which of the statement is true.</p> <p>(a) Govt. tries to control price rise by this step. (b) Govt tries to reallocate resources by this step. (c) Govt. tries to boost economic development by this step. (d) Govt. tries to control excess demand by this step</p> <p>'भारत सरकार सरकारी खर्च बढ़ाने पर विचार कर रही है क्योंकि अर्थव्यवस्था में अतिरिक्त नकदी है। उपरोक्त कथन के आलोक में कौन सा कथन सत्य है?</p> <p>(a) सरकार मूल्य वृद्धि को नियंत्रित करने का प्रयास करती है। (ख) सरकार संसाधनों का पुन आबंटन करने का प्रयास करती है। (c) सरकार आर्थिक विकास को बढ़ावा देने की कोशिश करती है।</p>	1

	(d) सरकार आधिमांग को नियंत्रित करने का प्रयास करती है।																																					
6.	<p>Read the following statements: Assertion (A) and Reason (R). Choose the correct option from those given below: -</p> <p>Assertion - “Govt collects GST on various goods. It is a Revenue receipts for govt.”.</p> <p>Reason - “GST is an indirect tax.”.</p> <p>Options:</p> <p>A. Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).</p> <p>B. Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A).</p> <p>C. Assertion (A) is true, but Reason (R) is false.</p> <p>D. Assertion (A) is false, but Reason (R) is true.</p> <p>अभिकथन - "सरकार विभिन्न वस्तुओं पर जीएसटी एकत्र करती है। यह सरकार के लिए राजस्व प्राप्तियां हैं। कारण - "जीएसटी एक अप्रत्यक्ष कर है। निम्नलिखित कथनों को पढ़िए: अभिकथन (A) और कारण (R)। चुनें नीचे दिए गए विकल्पों में से सही विकल्प: -</p> <p>(क) A और R दोनों सच हैं और R, A की सही व्याख्या है।</p> <p>(ख) A और R दोनों सत्य हैं, लेकिन R, A का सही स्पष्टीकरण नहीं है।</p> <p>(ग) A सही है, लेकिन R गलत है।</p> <p>(घ) A गलत है, लेकिन R सही है</p>	1																																				
7	<p>Observe the following image and answer the question given below it-</p> <p>CHART INDIA'S AGRICULTURAL TRADE</p> <p>Exports Imports (in \$ billion)</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Exports (\$ billion)</th> <th>Imports (\$ billion)</th> </tr> </thead> <tbody> <tr><td>2012-13</td><td>41.73</td><td>18.98</td></tr> <tr><td>2013-14</td><td>43.25</td><td>15.53</td></tr> <tr><td>2014-15</td><td>39.08</td><td>21.15</td></tr> <tr><td>2015-16</td><td>32.81</td><td>22.58</td></tr> <tr><td>2016-17</td><td>33.70</td><td>25.64</td></tr> <tr><td>2017-18</td><td>38.90</td><td>24.89</td></tr> <tr><td>2018-19</td><td>39.20</td><td>20.92</td></tr> <tr><td>2019-20</td><td>35.60</td><td>21.86</td></tr> <tr><td>2020-21</td><td>41.90</td><td>21.65</td></tr> <tr><td>2021-22</td><td>50.24</td><td>32.42</td></tr> <tr><td>2022-23</td><td>53.15</td><td>35.69</td></tr> </tbody> </table> <p>(source : TOI)</p> <p>Trade _____, in 2021-22 was _____ more than that of 2022-23.</p> <p>(a) Deficit, 23.12 (b) Surplus, 3.6</p> <p>(c) Surplus, 23.12 (d) Deficit, 12.79</p> <p>2021-22 में व्यापार _____ 2022-23 की तुलना में _____ अधिक था</p> <p>(अ) घाटा, 23.12 (ब) अधिशेष, 3.6</p> <p>(स) अधिशेष, 23.12 (द) घाटा, 12.79</p>	Year	Exports (\$ billion)	Imports (\$ billion)	2012-13	41.73	18.98	2013-14	43.25	15.53	2014-15	39.08	21.15	2015-16	32.81	22.58	2016-17	33.70	25.64	2017-18	38.90	24.89	2018-19	39.20	20.92	2019-20	35.60	21.86	2020-21	41.90	21.65	2021-22	50.24	32.42	2022-23	53.15	35.69	1
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<p>14 (a)</p>	<p>Consider the following information about a hypothetical economy– Autonomous Expenditure = 250 Crore Rs. Marginal propensity to Consume = 0.75 Find – a. Level of Equilibrium Income in the economy. b. Government wants to increase income by Rs. 2000, then what is the required change in Investment to solve this objective.</p> <p style="text-align: center;">OR</p> <p>14 (b)</p> <p>Given Consumption function $C= 20+0.8Y$, Find i. Break Even Point ii. APS at Break Even Point (Clearly show calculations)</p> <p>एक काल्पनिक अर्थव्यवस्था के बारे में निम्नलिखित जानकारी पर विचार करें- स्वायत्त व्यय = 250 करोड़ रु. उपभोग करने की सीमांत प्रवृत्ति = 0.75 खोज– a। अर्थव्यवस्था में संतुलन आय का स्तर। b. सरकार आय में 2000 रुपये की वृद्धि करना चाहती है, तो इस उद्देश्य को पूरा करने के लिए निवेश में क्या बदलाव करना आवश्यक है।</p> <p style="text-align: center;">अथवा</p> <p>दिया गया है उपभोग फलन $C= 20+0.8Y$, खोज i. ब्रेक ईवन प्वाइंट ii. ब्रेक ईवन प्वाइंट पर ए पी एस (स्पष्ट रूप से गणना दिखाएं)</p>	<p>2 2 2 2</p>																																
<p>15</p>	<p>If in the economy MPS is 0.5, then complete the following table showing the working of Investment Multiplier- (only up to 3 rounds and total value) यदि अर्थव्यवस्था में MPS 0.5 है, तो निवेश गुणक की कार्यप्रणाली को दर्शाने वाली निम्न तालिका को पूरा करें-</p> <table border="1"> <thead> <tr> <th>Rounds</th> <th>ΔI</th> <th>ΔY</th> <th>ΔC</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>500</td> <td>?</td> <td>?</td> </tr> <tr> <td>2</td> <td></td> <td>?</td> <td>?</td> </tr> <tr> <td>3</td> <td></td> <td>?</td> <td>?</td> </tr> <tr> <td></td> <td></td> <td>—</td> <td>—</td> </tr> <tr> <td></td> <td></td> <td>—</td> <td>—</td> </tr> <tr> <td></td> <td></td> <td>—</td> <td>—</td> </tr> <tr> <td>Total</td> <td></td> <td>?</td> <td>?</td> </tr> </tbody> </table>	Rounds	ΔI	ΔY	ΔC	1	500	?	?	2		?	?	3		?	?			—	—			—	—			—	—	Total		?	?	<p>$\frac{1}{2} \times 8 = 4$</p>
Rounds	ΔI	ΔY	ΔC																															
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Total		?	?																															
<p>16</p>	<p>(a) “Increased CRR will increase money supply” Justify with valid arguments? (b) “In a hypothetical economy, reserve ratios (LRR) is 40%, Primary deposits are of Rs. 20000 Cr”. Find out how much credit will be generated?</p> <p style="text-align: center;">OR</p>	<p>4 2</p>																																

	<table border="1"> <tr> <td>A</td> <td>चीन में एक सुधार</td> <td>1988</td> </tr> <tr> <td>B</td> <td>पाकिस्तान में सुधार</td> <td>1956</td> </tr> <tr> <td>C</td> <td>पाकिस्तान में पंचवर्षीय योजना की घोषणा</td> <td>1991</td> </tr> <tr> <td>D</td> <td>भारत में डी सुधार</td> <td>1978</td> </tr> </table>	A	चीन में एक सुधार	1988	B	पाकिस्तान में सुधार	1956	C	पाकिस्तान में पंचवर्षीय योजना की घोषणा	1991	D	भारत में डी सुधार	1978	
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	(a) A-3 (c) C-4	(b) B-1 (d) D-2												
20	<p>Read the following statements - Assertion (A) and Reason (R). Choose one of the correct alternatives given below:</p> <p>Assertion (A)- There was low population growth in China earlier Reason (R)- One child policy was adopted by China.</p> <p>a) Both assertion and reason are true. Reason is the correct explanation of assertion b) Both assertion and reason are true. Reason is not the correct explanation of assertion c) Assertion is true but reason is false d) Assertion is false but reason is true.</p> <p>अभिकथन (A)- पहले चीन में जनसंख्या वृद्धि कम थी कारण (R)- चीन द्वारा एक बच्चे की नीति अपनाई गई थी। A) दावा (ए) और कारण (आर) दोनों सत्य हैं और कारण (आर) दावे (ए) का सही स्पष्टीकरण है। (B) दावा (ए) और कारण (आर) दोनों सत्य हैं और कारण (आर) दावे (ए) का सही स्पष्टीकरण नहीं है। (C) दावा (ए) सत्य है लेकिन कारण (आर) गलत है। (D) दावा (ए) गलत है लेकिन कारण (आर) सच है।</p>	1												
21	<p>Read the following statements - Assertion (A) and Reason (R). Choose one of the correct alternatives given below:</p> <p>Assertion (A): FDI in China is lesser than in India or Pakistan. Reason(R): China is found to be more investment friendly destination.</p> <p>(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 and 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.</p> <p>अभिकथन (A): चीन में FDI भारत या पाकिस्तान की तुलना में कम है। कारण (R): चीन को अधिक निवेश के अनुकूल गंतव्य पाया जाता है। A) दावा (ए) और कारण (आर) दोनों सत्य हैं और कारण (आर) दावे (ए) का सही स्पष्टीकरण है। (B) दावा (ए) और कारण (आर) दोनों सत्य हैं और कारण (आर) दावे (ए) का सही स्पष्टीकरण नहीं है। (C) दावा (ए) सत्य है लेकिन कारण (आर) गलत है। (D) दावा (ए) गलत है लेकिन कारण (आर) सच है।</p>	1												

22	<p>_____ is regarded as architect of Indian Planning, responsible for formulating Five Years Plans.</p> <p>(a) Prashant Chandra Mahalanobis (b) J.C. Kumar Appa (c) Dada bhai Naaro ji (d) Amiya Kumar Bagchi</p> <p>_____ को भारतीय योजना का वास्तुकार माना जाता है, जो पंचवर्षीय योजनाओं को तैयार करने के लिए जिम्मेदार है।</p> <p>(क) प्रशांत चंद्र महालनोबिस (ख) जेसी कुमार अप्पा (स) दादा भाई नारो जी (द) अमिय कुमार बागची</p>	1
23	<p>Statement 1- China's growth is contributed by the manufacturing and service sector Statement 2- In all the three sectors, primary sector is emerging as a major contributor of development</p> <p>(a) Both are correct (b) Both are incorrect (c) Statement 1 is correct and statement 2 is incorrect (d) Statement 1 is incorrect and statement 2 is correct</p> <p>कथन 1- चीन के विकास में विनिर्माण और सेवा क्षेत्र का योगदान है। कथन 2 – तीनों क्षेत्रों में प्राथमिक क्षेत्र विकास के एक प्रमुख योगदानकर्ता के रूप में उभर रहा है।</p> <p>(a) दोनों सही हैं (b) दोनों गलत हैं (c) कथन 1 सही है और कथन 2 गलत है (d) कथन 1 गलत है और कथन 2 सही है</p>	1
24	<p>Assertion (A): Information technology plays an important role in achieving sustainable development and food security. Reason (R): It can also provide necessary information about the new techniques of production, prices and weather etc, to the farmers. Alternatives:</p> <p>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 and 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.</p> <p>अभिकथन (A): सूचना प्रौद्योगिकी सतत विकास और खाद्य सुरक्षा प्राप्त करने में महत्वपूर्ण भूमिका निभाती है। कारण (R): यह किसानों को उत्पादन, कीमतों और मौसम आदि की नई तकनीकों के बारे में आवश्यक जानकारी भी प्रदान कर सकता है।</p> <p>A) दावा (ए) और कारण (आर) दोनों सत्य हैं और कारण (आर) दावे (ए) का सही स्पष्टीकरण है। (B) दावा (ए) और कारण (आर) दोनों सत्य हैं और कारण (आर) दावे (ए) का सही स्पष्टीकरण नहीं है। (C) दावा (ए) सत्य है लेकिन कारण (आर) गलत है।</p>	1

	(D) दावा (ए) गलत है लेकिन कारण (आर) सच है।																															
25	<p>Identify the correct pair from the following Column I and Column II and choose the correct alternative:</p> <table border="1"> <thead> <tr> <th></th> <th>Column A</th> <th>Column B</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Land Development Banks</td> <td>(i) Main function is to cater micro-credit needs of rural people.</td> </tr> <tr> <td>B</td> <td>Self Help Groups</td> <td>(ii) These provide long-term loans on security of land.</td> </tr> <tr> <td>C</td> <td>Regional Rural Banks</td> <td>(iii) Set up under the NABARD Act 1980</td> </tr> <tr> <td>D</td> <td>NABARD</td> <td>(iv) It was established in 1982.</td> </tr> </tbody> </table> <p>(a) A-(i) (b) B-(ii) (c) C-(iii) (d) D-(iv)</p> <p>निम्नलिखित कॉलम 1 और कॉलम II में से सही जोड़ी की पहचान करें और सही विकल्प चुनें:</p> <table border="1"> <thead> <tr> <th></th> <th>Column A</th> <th>Column B</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>भूमि विकास बैंक</td> <td>(i) मुख्य कार्य ग्रामीण लोगों की सूक्ष्म ऋण आवश्यकताओं को पूरा करना है।</td> </tr> <tr> <td>B</td> <td>स्वयं सहायता समूह</td> <td>(ii) ये भूमि की सुरक्षा पर दीर्घावधि ऋण प्रदान करते हैं।</td> </tr> <tr> <td>C</td> <td>क्षेत्रीय ग्रामीण बैंक</td> <td>(iii) NABARD अधिनियम 1980 के तहत स्थापित</td> </tr> <tr> <td>D</td> <td>नाबार्ड</td> <td>(iv) इसकी स्थापना 1982 को हुई थी</td> </tr> </tbody> </table> <p>(a) A-(i) (b) B-(ii) (c) C-(iii) (d) D-(iv)</p>		Column A	Column B	A	Land Development Banks	(i) Main function is to cater micro-credit needs of rural people.	B	Self Help Groups	(ii) These provide long-term loans on security of land.	C	Regional Rural Banks	(iii) Set up under the NABARD Act 1980	D	NABARD	(iv) It was established in 1982.		Column A	Column B	A	भूमि विकास बैंक	(i) मुख्य कार्य ग्रामीण लोगों की सूक्ष्म ऋण आवश्यकताओं को पूरा करना है।	B	स्वयं सहायता समूह	(ii) ये भूमि की सुरक्षा पर दीर्घावधि ऋण प्रदान करते हैं।	C	क्षेत्रीय ग्रामीण बैंक	(iii) NABARD अधिनियम 1980 के तहत स्थापित	D	नाबार्ड	(iv) इसकी स्थापना 1982 को हुई थी	1
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26	<p>The stock of 'skill and expertise' of a nation at a point of time is known as:</p> <p>(a) Social infrastructure (b) human capital (c) physical capital (d) Capital Formation</p> <p>एक समय में किसी राष्ट्र के 'कौशल और विशेषज्ञता' के स्टॉक को किस रूप में जाना जाता है?</p> <p>(a) सामाजिक अवसंरचना (b) मानव पूंजी (c) भौतिक पूंजी (d) पूंजी निर्माण</p>	1																														
27	<p>----- Known as a year of great divide. ----- महान विभाजन के वर्ष के रूप में जाना जाता है।</p> <p>(a) 1920 (b) 1921 (c) 1923 (d) 1924.</p>	1																														
28	<p>Explain the contribution of Human Capital formation in economic growth? आर्थिक विकास में मानव पूंजी निर्माण के योगदान को स्पष्ट कीजिए?</p>	3																														
29 (a)	<p>“Outsourcing has fetched good number of jobs in India” considering the given</p>	3																														

29(b)	<p>statement, explain why India has become a preferred location for outsourcing?</p> <p style="text-align: center;">OR</p> <p>“Small scale industries are promoted by Government to promote equitable regional balance’ Justify the statement with valid reasons?</p> <p>"आउटसोर्सिंग ने भारत में अच्छी संख्या में नौकरियां प्राप्त की हैं" दिए गए कथन पर विचार करते हुए, बताएं कि भारत आउटसोर्सिंग के लिए एक पसंदीदा स्थान क्यों बन गया है?</p> <p style="text-align: center;">OR</p> <p>"सरकार द्वारा एसएसआई को समान क्षेत्रीय संतुलन को बढ़ावा देने के लिए बढ़ावा दिया जाता है" वैध कारणों के साथ कथन को सही ठहराएं?</p>	3																							
30	<p>“The recent policies adopted by difference countries for economic development has made natural disasters more frequent”. In the light of the above statement elaborate the ill effect of the Global Warming.</p> <p>"आर्थिक विकास के लिए विभिन्न देशों द्वारा अपनाई गई हालिया नीतियों ने प्राकृतिक आपदाओं को और अधिक बार बना दिया है" उपरोक्त कथन के आलोक में ग्लोबल वार्मिंग के दुष्प्रभाव को विस्तार से बताएं।</p>	4																							
31(a)	<p>Observe and explain the following image in relation with India China and Pakistan, –</p> <p>भारत, चीन और पाकिस्तान के संबंध में निम्नलिखित चित्र को देखिए और इसे स्पष्ट कीजिए</p> <p style="text-align: center;">Table - Sectoral contribution in GVA % in 2018-19</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th rowspan="2">Sector</th> <th colspan="3">Contribution to GVA</th> </tr> <tr> <th>India</th> <th>China</th> <th>Pakistan</th> </tr> </thead> <tbody> <tr> <td>Agriculture</td> <td>16</td> <td>7</td> <td>24</td> </tr> <tr> <td>Industry</td> <td>30</td> <td>41</td> <td>19</td> </tr> <tr> <td>Services</td> <td>54</td> <td>52</td> <td>57</td> </tr> <tr> <td>Total</td> <td>100</td> <td>100</td> <td>100</td> </tr> </tbody> </table> <p style="text-align: center;">Source - Source: Human Development Report 2019</p>	Sector	Contribution to GVA			India	China	Pakistan	Agriculture	16	7	24	Industry	30	41	19	Services	54	52	57	Total	100	100	100	4
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31 (b)	<p style="text-align: center;">OR</p> <p>Explain two demographic indicator that show that China is better condition than India?</p> <p>कोई दो जनसांख्यिकीय संकेतक बताएं जो दिखाते हैं कि चीन भारत से बेहतर स्थिति में है?</p>																								
32	<p>Interpret the following image regarding increased casualization of workforce in India.</p> <p>भारत में कार्यबल के बढ़ते आकस्मिककरण के संबंध में निम्नलिखित चित्र की व्याख्या कीजिए</p>	4																							



(Source : The wire, available at <https://cdn.thewire.in/wpcontent/uploads/2018/04/27222112>)

<p>33 (a)</p>	<p>(i) “Disinvestment has brought efficiency in PSUs” you agree with this statement? Give reasons? (ii) “Inward looking policy adopted by the government has paved the way for the financial/BOP crisis of 1990” Justify the above statement with valid arguments. (i) "विनिवेश से सार्वजनिक क्षेत्र के उपक्रमों में दक्षता आई है" आप इस कथन से सहमत हैं? कारण बताएं? (ii) सरकार द्वारा अपनाई गई अंतर्मुखी नीति ने 1990 के वित्तीय/बीओपी संकट का मार्ग प्रशस्त किया है।</p> <p style="text-align: center;">OR</p> <p>(i) “Green Revolution has helped immensely, the Self Sufficiency objective of planning in India” Do you agree with this statement? Give reasons? (ii) “During British Rule, all the workforce was engaged in agriculture sector only” Do you agree with this statement? Give reasons? (i) हरित क्रांति ने भारत में योजना बनाने के आत्मनिर्भरता उद्देश्य में अत्यधिक सहायता की है। कारण बताएं? (ii) "ब्रिटिश शासन के दौरान, सभी कार्यबल केवल कृषि क्षेत्र में लगे हुए थे" क्या आप इस कथन से सहमत हैं? कारण बताएं?</p>	<p>3 3</p>
<p>34</p>	<p>Read the following passage carefully and answer the questions given below –</p> <p>Prior to independence, farmers, while selling their produce to traders, suffered from faulty weighing and manipulation of accounts. Farmers who did not have the required information on prices prevailing in markets were often forced to sell at low prices. They also did not have proper storage facilities to keep back their produce for selling later at a better price. Do you know that even today, more than 10 per cent of goods produced in farms are wasted due to lack of storage? Therefore, government intervention became necessary to regulate the activities of the private traders.</p> <p style="text-align: center;">(Source- NCERT)</p> <p>(a) Explain the term Rural Marketing? (b) Explain any two measures taken by Government to improve the condition of rural marketing in India.</p> <p>निम्नलिखित गद्यांश को ध्यानपूर्वक पढ़िए और नीचे दिए गए प्रश्नों के उत्तर दीजिए –</p>	<p>2 4</p>

<p>आजादी से पहले, किसान, व्यापारियों को अपनी उपज बेचते समय, दोषपूर्ण वजन और खातों में हेरफेर का सामना करते थे। जिन किसानों के पास बाजारों में प्रचलित कीमतों के बारे में आवश्यक जानकारी नहीं थी, वे अक्सर कम कीमतों पर बेचने के लिए मजबूर थे। उनके पास अपनी उपज को बाद में बेहतर कीमत पर बेचने के लिए वापस रखने के लिए उचित भंडारण सुविधाएं भी नहीं थीं। क्या आप जानते हैं कि आज भी खेतों में पैदा होने वाला 10 प्रतिशत से अधिक सामान भंडारण की कमी के कारण बर्बाद हो जाता है? इसलिए, निजी व्यापारियों की गतिविधियों को विनियमित करने के लिए सरकारी हस्तक्षेप आवश्यक हो गया। (स्रोत- एनसीईआरटी)</p> <p>(क) ग्रामीण विपणन शब्द की व्याख्या कीजिए?</p> <p>(ख) भारत में ग्रामीण विपणन की स्थिति में सुधार लाने के लिए सरकार द्वारा किए गए किन्हीं दो उपायों की व्याख्या कीजिए।</p>	
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केंद्रीय विद्यालय संगठन, देहरादून संभाग
KENDRIYA VIDYALAYA SANGATHAN, DEHRADUN REGION

पूर्व-परिषदीय परीक्षा: 2025-26
PRE-BOARD EXAMINATION: 2025-26

SET-II

कक्षा : बारहवीं

विषय : हिंदी आधार (302) निर्धारित

समय : 03 घंटे

अधिकतम अंक : 80

सामान्य निर्देश / GENERAL INSTRUCTIONS:

1. निम्नलिखित प्रश्नों को सावधानी से पढ़िए और उनका पालन कीजिए :-
2. यह प्रश्न पत्र तीन खंडों में विभाजित है
3. खंड-क में अपठित बोध पर आधारित प्रश्न पूछे गए हैं। सभी प्रश्नों के उत्तर देना अनिवार्य है।
4. खंड-ख में पाठ्यपुस्तक अभिव्यक्ति और माध्यम से प्रश्न पूछे गए हैं। प्रश्नों में आंतरिक विकल्प दिए गए हैं।
5. खंड-ग में पाठ्यपुस्तक आरोह तथा वितान से प्रश्न पूछे गए हैं। प्रश्नों में आंतरिक विकल्प दिए गए हैं।
6. तीनों खण्डों के प्रश्नों के उत्तर देना अनिवार्य है।
7. यथासंभव तीनों खण्डों के प्रश्नों के उत्तर क्रमशः लिखिए ।

प्रश्न सं.	खंड -क (अपठित बोध)	अंक 18
1.	निम्नलिखित अपठित गद्यांश को ध्यानपूर्वक पढ़कर पूछे गए प्रश्नों के उत्तर लिखिए।	10
	<p>कवियों, शायरों तथा आम आदमी को सम्मोहित करने वाला 'पलाश' आज संकट में है। वैज्ञानिकों ने चेतावनी दी है कि यदि इसी प्रकार पलाश का विनाश जारी रहा. तो यह 'ढाक के तीन पात' वाली कहावत में ही बचेगा अरावली और सतपुड़ा पर्वत श्रृंखलाओं में जब वृक्ष चैत (वसंत) में फूलता था, तो लगता था कि वन में आग लग गई हो अथवा अग्निदेव फूलों के रूप में खिल उठे हों। पलाश पर एक-दो दिन में ही संकट नहीं आ गया है। पिछले तीस-चालीस वर्षों में दोना-पतल बनाने वाले कारखाने बढ़ने, गाँव-गाँव में चकबंदी होने तथा वन माफियाओं द्वारा अंधाधुंध कटाई करने के कारण उत्तर प्रदेश, मध्य प्रदेश, बिहार, पश्चिम बंगाल, पंजाब, हरियाणा, राजस्थान, कर्नाटक, महाराष्ट्र आदि प्रांतों में पलाश के वन घटकर 10% से भी कम रह गए हैं। वैज्ञानिकों ने पलाश वनों को बचाने के लिए ऊतक संवर्धन (टिशू कल्चर) द्वारा परखनली में पलाश के पौधों को विकसित कर एक अभियान चलाकर पलाश वन रोपने की योजना प्रस्तुत की है। हरियाणा तथा पुणे में ऐसी दो प्रयोगशालाएँ भी खोली गई हैं। एक समय था जब बंगाल का पलाशी का मैदान तथा अरावली की पर्वत मालाएँ टेसू के फूलों के लिए दुनियाभर में मशहूर थी। विदेशों से लोग पलाश के रक्तिम वर्ण के फूल देखने आते थे। बुंदेलखंडी, राजस्थानी, हरियाणवी, पंजाबी लोक गीतों में पलाश के गुण गाए गए हैं।</p> <p>कबीर ने तो 'खांखर भया पलाश' कहकर पलाश की तुलना एक ऐसे सुंदर-सजीले नवयुवक से की है, जो अपनी जवानी में तो सबको आकर्षित कर लेता है, किंतु बुढ़ापे में अकेला रह जाता है। वसंत व ग्रीष्म ऋतु में जब तक टेसू में फूल व हरे-भरे पत्ते रहते हैं. उसे सभी निहारते हैं, किंतु शेष आठ महीने वह पतझड़ का शिकार होकर झाड़-झंखाड़ की तरह रह जाता है। पर्यावरण के लिए प्लास्टिक-पॉलिथीन पर रोक लगने के बाद पलाश की उपयोगिता महसूस की गई, जिसके पत्ते दोने, थैले, पतल, थाली, गिलास सहित न जाने कितने उपयोग में आ सकते हैं। पिछले तीस-चालीस वर्षों में 90% वन नष्ट कर दिए गए। बिना पानी के बंजर, ऊसर तक में उग आने वाले इस पेड़ की नई पीढ़ी तैयार नहीं हुई। यदि यही स्थिति रही और समाज जागरूक न हुआ, तो पलाश विलुप्त वृक्ष हो जाएगा।</p>	

क.	निम्नलिखित कथनों पर विचार कीजिए: कथन (I) कबीर ने पलाश की सुंदरता को जवानी में आकर्षित करने वाले युवक के समान बताया है। कथन (II) टेसू में फूल व हरे-भरे पत्ते पूरे वर्ष लगे रहते हैं। कथन (III) पलाश का उपयोग पत्ते, दोना, थाली, गिलास आदि बनाने में किया जाता है। उपर्युक्त कथनों में से कौन-सा/से सही है/हैं? (i) कथन (I) (ii) कथन (II) (iii) कथन (I) और कथन (III) (iv) कथन (II) और कथन (III)	1	
ख.	कथन (A): कबीर ने पलाश के बारे में 'खांखर भया पलाश' कहा है। कथन (R): टेसू के फूल व हरे-भरे पत्ते रहने पर यह सबके आकर्षण का केंद्र रहता है, परंतु पतझड़ में कोई इसकी ओर देखता तक नहीं है। (i) कथन (A) और कारण (R) दोनों सही हैं तथा कारण (R) कथन (A) की सही व्याख्या करता है (ii) कथन (A) गलत है, किन्तु कारण (R) सही है। (iii) कथन (A) तथा कारण (R) दोनों गलत हैं। (iv) कथन (A) सही है, परंतु कारण (R) उसकी गलत व्याख्या करता है।	1	
ग.	गद्यांश में लेखक की चिंता का क्या कारण है? (i) पलाश के वृक्षों का घटता स्तर (ii) उतक संवर्धन की कमी (iii) पर्यावरण की सुरक्षा (iv) वन में आग लगना	1	
घ.	पलाश की उपयोगिता कब महसूस की गई ?	1	
ङ.	वैज्ञानिकों ने पलाश के वृक्षों को बचाने के लिए क्या किया है?	2	
च.	पलाश के वनों में कमी आने के क्या कारण हैं?	2	
छ.	पलाश की क्या उपयोगिता है ?	2	
2.	दिए गए पद्यांश पर आधारित पूछे गए प्रश्नों के उत्तर दीजिए :-	1*5=5	
	अकेलेपन से जो लोग दुखी हैं वृत्तियाँ उनकी निश्चय ही बहिर्मुखी हैं। सृष्टि में बाँधने वाला तार उनका टूट गया है, असली आनंद का आधार छूट गया है। उद्गम से छूटी हुई नदियों में ज्वार कहाँ ? जड़ कटे पौधों में जीवन की धार कहाँ ? तब भी, जड़ कटे पौधों के ही समान रोते हैं ये उखड़े हुए लोग बेचारे	जीना चाहते हैं भीड़-भंभड के सहारे । भीड़ , मगर टूटा हुआ तार और तोड़ती है. कटे हुए पौधों की जड़ नहीं जोड़ती है। बाहरी तरंगों पर जितना ही फूलते हैं: हम अपने को उतना ही भूलते हैं। जड़ जमाना चाहते हो'तो एकांत में जाओ। अगम अज्ञात में अपनी सोरे फैलाओ अकेलापन है राह. अपने आप की पाने की जहाँ से तुम निकल चुके हो उस घर में वापस जाने की।	
(क)	वृत्तियाँ उनकी निश्चय ही बहिर्मुखी हैं, पंक्ति के सन्दर्भ में 'वृत्ति' का अर्थ है - (i) व्यापार (II) स्वभाव (III) कर्तव्य (IV) स्मरण शक्ति	1	
(ख)	'उद्गम से छूटी हुई नदियों में ज्वार कहाँ?' - पंक्ति का अभिप्राय है - (I) पर्वतों से अलग होने के बाद नदियों में प्रवाह नहीं रहता । (II) नदियों का अस्तित्व समाप्त हो जाता है। (III) मूल स्थान से अलग होने पर जीवन का सौन्दर्य नहीं रह जाता । (IV) विकल्प II और III सही हैं।	1	

	(ग)	भीड़ का स्वभाव क्या है? (i) लोगों की आलोचना करना (II) पौधों को जड़ से काटना (III) दुखी को और दुखी करना (IV) अपने काम से काम रखना	1
	(घ)	हम अपने आप को कब भूल जाते हैं।	1
	(ङ)	कविता में कैसे लोगों की व्यथा का चित्रण हुआ है, स्पष्ट करें ?	2
	(च)	काव्य पंक्तियों के आधार पर भीड़ की विशेषताएँ लिखिए	2
प्रश्न सं		खंड-ख (अभिव्यक्ति और माध्यम पर आधारित प्रश्न)	अंक-22
3.		दिए गए विषयों पर किसी एक विषय पर लगभग 120 शब्दों में रचनात्मक लेख लिखें। (1) रेल की खिड़की से बाहर का दृश्य (2) कृत्रिम बुद्धि (आर्टिफिशियल इंटेलीजेंस) (3) इंटरनेट के बिना दुनिया	1X6=6
4.		निम्नलिखित प्रश्नों को ध्यान से पढ़कर किन्हीं चार प्रश्नों के लगभग 40 शब्दों में उत्तर दीजिए।	4x2=8
	(क)	पढ़ी हुई कहानी की तुलना में, परदे पर देखी कहानी को लोग ज्यादा देर तक क्यों याद रखते हैं?	
	(ख)	रेडियो नाटक में सबसे प्रमुख तत्व क्या है, स्पष्ट करें।	
	(ग)	अंशकालिक पत्रकार किन्हीं कहते हैं?	
	(घ)	जनसंचार की चार विशेषताएँ लिखिए।	
	(ङ)	फीचर और आलेख में अंतर स्पष्ट करें।	
5.		निम्नलिखित प्रश्नों को ध्यानपूर्वक पढ़कर किन्हीं दो प्रश्नों के उत्तर लगभग 80 शब्दों में दीजिए।	2x4=8
	(क)	विशेष रिपोर्ट से क्या आशय है? विशेष रिपोर्ट के विविध प्रकारों का सोदाहरण उल्लेख कीजिए।	
	(ख)	संपादकीय लेख कौन लिखता है और इसका महत्व क्या है ?	
	(ग)	कहानी और नाटक में समानताएँ और असमानताएँ लिखिए।	
		खंड-ग (पाठ्य पुस्तक आरोह तथा वितान पर आधारित प्रश्न)	अंक40
6.		निम्नलिखित काव्यांश पर आधारित पूछे गए प्रश्नों के सर्वाधिक उपयुक्त उत्तर वाले विकल्प पुनः लिखिए।	5x1=5
		बात सीधी थी पर एक बार आषा के चक्कर में जरा टेढ़ी फंस गई। उसे पाने की कोशिश में आषा को उल्टा पल्टा, तोड़ा मरोड़ा घुमाया फिराया कि बात या तो बने या फिर भाषा से बाहर आए - लेकिन इससे भाषा के साथ-साथ बात और भी पेचीदा होती चली गई सारी मुश्किल को धैर्य से समझे बिना में पैच को खोलने की बजाय बेतरह कसता चला गया	

	क्योंकि इस करतब पर मुझे सुनाई दे रही थी तमाशबीनों की शाबासी और वाह-वाह । आखिरकार वही हुआ, जिसका मुझे डर था। जोर जबरदस्ती से बात की चूड़ी मर गई और वह भाषा में बेकार घूमने लगी	
(क)	सीधी बात किस के चक्कर में टेढ़ी फँस गई? (i) तर्कशास्त्र के (II) विज्ञान के (III) भाषा के (IV) उपर्युक्त सभी के	1
(ख)	कवि क्या करने का प्रयास कर रहा था? (i) दीवार में कील ठोक रहा था (II) बात सुलझाने की कोशिश कर रहा था (III) दीवार में पेंच कस रहा था (IV) काव्य रचना कर रहा था	1
(ग)	भाषा को उलटने-पलटने, तोड़ने-मरोड़ने और घुमाने-फिराने से बात कैसी हो जाती है? (i) सरल (II) स्पष्ट (III) पेचीदा (IV) प्रभावकारी	1
(घ)	कथन (A): बात को सुलझाने में सबसे ज्यादा आवश्यकता धैर्य की होती है- कारण (R): आसपास एकत्र भीड़ इसमें सहायक होती है। (i) कथन A सही है और कारण R भी सही है। (II) कथन A सही है और कारण R उसकी सही व्याख्या नहीं करता है। (III) कथन A सही है और कारण R उसकी सही व्याख्या करता है। (IV) कथन A गलत है और कारण R भी गलत है	1
(ङ)	'बात की चूड़ी मर जाना' से कवि का तात्पर्य है- (i) बात का प्रभावहीन हो जाना (II) बात का सहज और स्पष्ट हो जाना (III) बात में कसावट आ जाना (IV) उपर्युक्त में से कोई नहीं	1
7.	निम्नलिखित प्रश्नों को ध्यानपूर्वक पढ़कर किन्हीं 02 प्रश्नों के उत्तर लगभग 60 शब्दों में लिखें।	2x3=6
(क)	तुलसीदास ने कवितावली के छंदों के माध्यम से आजीविका विहीन समाज का चित्रण किस प्रकार किया है?	3
(ख)	'बादल राग' कविता के आधार पर लिखें कि बादलों के आने से प्रकृति में क्या-क्या परिवर्तन हुए।	3
(ग)	'आत्मपरिचय' कविता के आधार पर कवि की भावनागत और समाजगत विशेषताओं का चित्रण कीजिए।	3
8.	निम्नलिखित प्रश्नों को ध्यानपूर्वक पढ़कर किन्हीं 02 प्रश्नों के उत्तर लगभग 40 शब्दों में लिखें।	2x2=4
(क)	पतंग कविता में 'सबसे तेज बौछारें गई, भादों गया का भाव स्पष्ट करें।	2
(ख)	'कैमरे में बंद अपाहिज कविता' में संचालक अपने को सर्वशक्तिमान क्यों कहता है?	2
(ग)	'उषा' कविता में काली सिल पर पिसी केसर का साम्य किस प्रकार सुबह से किया गया है?	2
9.	निम्नलिखित गद्यांश पर आधारित पूछे गए प्रश्नों के उपयुक्त उत्तर वाले विकल्प चुनकर लिखिए।	5x1=5
	मैंने मन में कहा, ठीक। बाज़ार आमंत्रित करता है कि आओ मुझे लूटो और लूटो। सब भूल जाओ, मुझे देखो। मेरा रूप और किसके लिए है ? मैं तुम्हारे लिए है। नहीं कुछ चाहते हो, तो भी देखने में क्या हर्ज है। अजी आओ भी। इस आमंत्रण में यह खूबी है कि आग्रह नहीं है आग्रह तिरस्कार जगाता है लेकिन ऊँचे बाज़ार का आमंत्रण मूक होता है और उससे चाह जगती है। चाह मतलब अभाव। चौक बाज़ार में खड़े होकर आदमी को लगने लगता है कि उसके अपने पास काफ़ी नहीं है और चाहिए, और चाहिए। मेरे यहाँ कितना परिमित है और यहाँ कितना अतुलित है, ओह! कोई अपने को न जाने तो बाज़ार का यह चौक उसे कामना से विकल बना छोड़े। विकल क्यों, पागल। असंतोष, तृष्णा और ईर्ष्या से घायल करके मनुष्य को सदा के लिए यह बेकार बना डाल सकता है।	

(क)	गद्यांश में प्रयुक्त 'अतुलित' शब्द का समानार्थी शब्द हो सकता है- (i) अनंत (II) अथाह (III) अचानक (IV) सीमित	1								
(ख)	निम्नलिखित कथनों पर विचार करते हुए गद्यांश के अनुसार सही कथन को चयनित कर लिखिए। (i) जब मनुष्य बेचैन हो जाता है तब वह बाजार की ओर उन्मुख हो जाता है। (II) जब मनुष्य तुलना करने लगता है तब असंतोष तृष्णा और ईर्ष्या के भाव मनुष्य में उभरते (III) जब मनुष्य को बाज़ार आमंत्रित करता है तब मनुष्य सुख का अनुभव करता है। (IV) जब मनुष्य बाज़ार का तिरस्कार करता है तब वह इसका सही लाभ ले पाता है।	1								
(ग)	कॉलम 1-को कॉलम 2-से सुमेलित कीजिए और सही विकल्प चुनकर लिखिए। <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">कॉलम-1</th> <th style="width: 50%;">कॉलम-2</th> </tr> </thead> <tbody> <tr> <td>i. आग्रह तिरस्कार जगाता</td> <td>i. अपनी तृष्णा को रोकना</td> </tr> <tr> <td>ii. बड़े बाज़ार का जादू</td> <td>II. मौन रहकर कार्य करना</td> </tr> <tr> <td>iii. बाज़ार के जादू से बचने का उपाय</td> <td>iii. उपेक्षा की भावना</td> </tr> </tbody> </table> (क)-1 (iii), 2-(ii), 3-(I) (ख)-1 (I), 2-(iii), 3-(II) (ग) 1 (ii), 2-(I), 3-(iii) (घ) 1 (ii), 2-(i), 3-(iii)	कॉलम-1	कॉलम-2	i. आग्रह तिरस्कार जगाता	i. अपनी तृष्णा को रोकना	ii. बड़े बाज़ार का जादू	II. मौन रहकर कार्य करना	iii. बाज़ार के जादू से बचने का उपाय	iii. उपेक्षा की भावना	1
कॉलम-1	कॉलम-2									
i. आग्रह तिरस्कार जगाता	i. अपनी तृष्णा को रोकना									
ii. बड़े बाज़ार का जादू	II. मौन रहकर कार्य करना									
iii. बाज़ार के जादू से बचने का उपाय	iii. उपेक्षा की भावना									
(घ)	गद्यांश का केंद्रीय भाव है- (I) बाज़ार के प्रकार बताना (II) बाज़ार न जाने की सलाह (III) मनुष्य की तृष्णा को इंगित करना (IV) मनुष्य पर बाजार के जादू का असर	1								
(ङ)	बाज़ार का आमंत्रण कि, आओ मुझे लूटो 'से क्या भाव प्रकट है? I-बाज़ार में सेल लगी है। II-बाज़ार केवल खुद का रूप दिखाना चाहता है III-बाज़ार के पास वस्तुएँ बहुत ज्यादा है IV-बाजार लुटने की बजाय हमें लूट रहा है।	1								
10.	निम्नलिखित प्रश्नों को ध्यानपूर्वक पढ़कर किन्हीं दो प्रश्नों के उत्तर लगभग लगभग 60 शब्दों में लिखें	2x3=6								
(क)	जाति प्रथा भारतीय समाज में बेरोजगारी व भुखमरी का भी एक कारण कैसे बन रही है? क्या यह स्थिति आज भी है?	3								
(ख)	द्विवेदी जी ने शिरीष की किन विशेषताओं के आधार पर उसे 'अद्भुत अवधूत' कहा है, लिखिए।	3								
(ग)	लुट्टन के जीवन में आने वाले महत्वपूर्ण मोड़ / परिवर्तन क्या थे, वर्णन करें।	3								
11.	निम्नलिखित प्रश्नों को ध्यानपूर्वक पढ़कर किन्हीं दो प्रश्नों के उत्तर लगभग 40 शब्दों में लिखें	2x2=4								
(क)	भक्तिन के आ जाने से महादेवी वर्मा अधिक देहाती कैसे हो गई?	2								
(ख)	'काले मेघा पानी दे' पाठ में लेखन किन ऊहापोहों से गुजर रहा है, पाठ के आधार पर लिखे	2								
(ग)	आधुनिक बाजार में भगत जी जैसे ग्राहक उपयोगी हैं या नहीं, अपने विचार स्पष्ट करें।	2								
12.	निम्नलिखित प्रश्नों को ध्यानपूर्वक पढ़कर किन्हीं 02 प्रश्नों के उत्तर लगभग 100 शब्दों में लिखें	2x5=10								
(क)	सिल्वर वेडिंग कहानी में यशोधर बाबू बहुत सारी चीजों को 'समहाऊ इम्प्रापर' कहते और उन्हें पूरी तरीके से छोड़ भी नहीं पाते, यह कैसे व्यक्तित्व को दर्शाता है ?	5								
(ख)	जूझ कहानी का शीर्षक वर्ण्य-विषय को कितना सार्थकता प्रदान करता है स्पष्ट करें।	5								
(ग)	पुरातत्व के किन चिहनों के आधार पर आप यह कह सकते हैं कि "सिंधु-सभ्यता ताकत से शासित होने की अपेक्षा समझ से अनुशासित सभ्यता थी।"	5								

प्री-बोर्ड परीक्षा २०२५-२६/PRE-BOARD EXAMINATION 2025-26
व्यावसायिक अध्ययन) ०५४ / (BUSINESS STUDIES (054)

MM: 80

TIME: 03 HRS

General Instructions:

- 1. This question paper contains 34 questions.**
- 2. Marks are indicated against each question.**
- 3. Answers should be brief and to the point.**
- 4. Answers to the question carrying 3 marks may be from 50 to 75 words.**
- 5. Answers to the question carrying 4 marks may be about 150 words.**
- 6. Answers to the question carrying 6 marks may be about 200 words.**
- 7. Attempt all parts of questions together**

Q.No.	Questions	Marks
1.	<p>Rajiv joined marketing firm as Sales manager. On his first day in the company during the orientation program, the CEO of the company told Rajiv that he will have to simultaneously perform the functions of management (planning, organizing, staffing, directing and controlling) all the time. Which characteristic of management is the CEO referring to?</p> <p>a) Management is a continuous process. b) Management is all pervasive. c) Management is multidimensional. d) Management is goal oriented.</p> <p>राजीव ने विपणन फर्म में बिक्री प्रबंधक के रूप में काम करना शुरू किया। कंपनी में पहले दिन, ओरिएंटेशन परिचय कार्यक्रम के दौरान, कंपनी के मुख्य कार्यकारी अधिकारी ने राजीव को बताया कि उसे एक साथ हमेशा प्रबंधन (योजना बनाना, संगठित करना, स्टाफिंग, निर्देशन और नियंत्रण) के कार्य को करना होगा। मुख्य कार्यकारी अधिकारी प्रबंधन की किस विशेषता का उल्लेख कर रहे हैं?</p> <p>क) प्रबंधन एक निरंतर प्रक्रिया है। ख) प्रबंधन सर्वव्यापी है। ग) प्रबंधन बहुआयामी है। घ) प्रबंधन उद्देश्य पर केंद्रित है।</p>	1
2.	<p>Which of the following technique of scientific management is an extension of the principle of division of work and specialisation?</p> <p>a) Time study b) Fatigue study c) Functional foremanship d) Standardisation and simplification of work</p> <p>वैज्ञानिक प्रबंधन की निम्नलिखित तकनीक में से कौन सा काम के विभाजन और विशेषज्ञता के सिद्धांत का विस्तार है?</p> <p>क) समय अध्ययन ख) थकान अध्ययन ग)) कार्यात्मक अधीक्षण</p>	1

	ग) ब्रांडिंग	घ) मूल्य	
8.	Identify the correct order in which following steps of controlling process follows: 1. Analysing deviations 2. Setting performance standards 3. Comparison of actual performance with standards 4. Measurement of actual performance a) 4-3-2-1 b) 1-2-3-4 c) 1-4-3-2 d) 2-4-3-1		1
	नियंत्रण प्रक्रिया के निम्नलिखित चरणों के लिए सही क्रम पहचानें: 1. विचलनों का विश्लेषण करना 2. प्रदर्शन मानकों को तय करना 3. वास्तविक प्रदर्शन की मानकों से तुलना करना 4. वास्तविक प्रदर्शन का माप लेना क) 4-3-2-1 ख) 1-2-3-4 ग) 1-4-3-2 घ) 2-4-3-1		
9.	 <p>Using internal sources of recruitment for filling vacant positions leads to: i) It simplifies the process of selection and promotion. ii) It motivates the employees to improve their performance. iii) It encourages induction of fresh talent iv) It is an expensive process. Choose the correct option from the following: a) i) and iv) b) ii) and iii) c) i) and ii) d) ii) and iv)</p> <p>खाली पदों को भरने के लिए आंतरिक भर्ती के स्रोतों का उपयोग करना, सहायक होता है :</p> <p>i) यह चयन और पदोन्नति की प्रक्रिया को सरल बनाता है। ii) यह कर्मचारियों को उनके प्रदर्शन में सुधार करने के लिए प्रेरित करता है। iii) यह नए प्रतिभा के शामिल होने को प्रोत्साहित करता है। iv) यह एक महंगी प्रक्रिया है। निम्नलिखित में से सही विकल्प चुनें: क) i) और iv) ख) ii) और iii) ग) i) और ii) घ) ii) और iv)</p>		1
10.	Out of the following which one depicts the correct sequence of process of motivation? a) Tension → Unsatisfied need → Drives → Search behaviour → Reduction of tension → Satisfied need b) Unsatisfied need → Tension → Satisfied need → Drive → Search		1

	<p>behaviour → Reduction of tension c) Unsatisfied need → Tension → Drive → Search behaviour → Satisfied need → Reduction of tension d) Drives → Search behaviour → Unsatisfied need → Tension → Satisfied need → Reduction of tension</p> <p>निम्नलिखित में से कौन सा प्रेरणा की प्रक्रिया का सही अनुक्रम दर्शाता है? क) तनाव → असंतुष्ट आवश्यकता → प्रेरणाएँ → खोज व्यवहार → तनाव की समाप्ति → संतुष्ट आवश्यकता ख) असंतुष्ट आवश्यकता → तनाव → संतुष्ट आवश्यकता → प्रेरणा → खोज व्यवहार → तनाव की समाप्ति ग) असंतुष्ट आवश्यकता → तनाव → प्रेरणा → खोज व्यवहार → संतुष्ट आवश्यकता → तनाव की समाप्ति घ) प्रेरणाएँ → खोज व्यवहार → असंतुष्ट आवश्यकता → तनाव → संतुष्ट आवश्यकता → तनाव की समाप्ति</p>	
<p>11.</p>	<p>Which of the following statement is incorrect? a) Providing liquidity to securities is one of the functions of stock exchange. b) Process of holding the shares in electronic form is known as Dematerialisation. c) SEBI performs the regulatory function of insider trading and imposing penalties for such practices. d) Capital market primarily deals with short-term funds and working capital requirements.</p> <p>निम्नलिखित में से कौन सा कथन गलत है? क) प्रतिभूतियों को तरलता प्रदान करना स्टॉक एक्सचेंज के कार्यों में से एक है। ख) शेयरों को इलेक्ट्रॉनिक रूप में रखने की प्रक्रिया को अमूर्तिकरण (Dematerialisation) कहा जाता है। ग) SEBI अंदरूनी व्यापार के नियामक कार्यों का संचालन करता है और ऐसे प्रथाओं के लिए दंड लागू करता है। घ) पूंजी बाजार मुख्य रूप से अल्पकालिक निधियों और कार्यशील पूंजी आवश्यकताओं से संबंधित होता है।</p>	<p>1</p>
<p>12.</p>	<p>When COVID vaccination started, the Central Government capped the prices of the vaccines for private hospitals with Health Ministry notifying that appropriate action would be taken for overcharging. State government were told to ensure that prices charged by various private hospitals do not exceed the ceiling. The factor affecting price determination discussed above is: a) Product cost b) Utility and demand c) Government and legal regulations d) Extent of competition in the market</p> <p>जब COVID का टीकाकरण शुरू हुआ, तो केंद्रीय सरकार ने निजी अस्पतालों के लिए टीकों की कीमतों पर एक सीमा निर्धारित की, स्वास्थ्य मंत्रालय ने सूचित किया कि अधिक शुल्क लेने के लिए उचित कार्रवाई की जाएगी। राज्य सरकारों को बताया गया था कि विभिन्न निजी अस्पतालों द्वारा वसूली गई कीमतें सीमा से अधिक नहीं होनी चाहिए। उपरोक्त चर्चा में मूल्य निर्धारण को प्रभावित करने वाले कारक हैं:</p>	<p>1</p>

	<p>c) Intelligence test</p> <p>.....परीक्षा एक व्यक्ति की नई कौशल सीखने की क्षमता का माप है।</p> <p>क)व्यक्तित्व परीक्षण</p> <p>ग)बुद्धिमत्ता परीक्षण</p>	<p>d)Interest test</p> <p>ख)क्षमता परीक्षण</p> <p>घ)रुचि परीक्षण</p>	
16.	<p>Financial leverage is called favourable if:</p> <p>a) ROI= Cost of Debt</p> <p>c) ROI < Cost of Debt</p> <p>वित्तीय उत्तोलन को अनुकूल कहा जाता है, यदि:</p> <p>क) निवेश पर वापसी = ऋण की लागत</p> <p>b) निवेश पर वापसी > ऋण की लागत</p> <p>ग) निवेश पर वापसी < ऋण की लागत</p> <p>घ) इनमें से कोई नहीं</p>	<p>b) ROI > Cost of Debt</p> <p>d) None of these</p>	1
17.	<p>.....is a number assigned to each transaction by stock exchange and is printed on the contract note.</p> <p>a) Client code number</p> <p>c) PAN</p> <p>.....को प्रत्येक लेन-देन के लिए स्टॉक एक्सचेंज द्वारा असाइन किया गया एक नंबर कहा जाता है और इसे अनुबंध नोट पर मुद्रित किया जाता है।</p> <p>क) ग्राहक कोड न.</p> <p>ग) पैन नंबर</p>	<p>b) Unique order code</p> <p>d) Depository participant number</p> <p>ख) अद्वितीय ऑर्डर कोड</p> <p>घ) डिपॉजिटरी प्रतिभागी नंबर</p>	1
18.	<p>'Temptations' is a food joint in Ellante Mall in Chandigarh. It is becoming popular among the students and working people due to healthy, on-the-go dishes on its menu like 'Paneer wrap' 'Chickpeas Salad' 'Grilled Sandwiches' etc. It has now decided to open two new branches in other parts of Chandigarh. Which financial decision has been discussed in the given case?</p> <p>a) Long term Investment decision</p> <p>b) Short term Investment decision</p> <p>c) Dividend decision</p> <p>d) Financing decision</p> <p>'टेम्पटेशनस' चंडीगढ़ के एल्लांटे मॉल में एक खाद्य स्थान है। छात्रों और कामकाजी लोगों के बीच यह काफी लोकप्रिय होता जा रहा है क्योंकि इसके मेनू में 'पनीर रैप', 'चना सलाद', 'ग्रिल्ड सैंडविच' जैसी स्वस्थ, तुरंत उपलब्ध व्यंजन हैं। अब इसने चंडीगढ़ के अन्य हिस्सों में दो नई शाखाएं खोलने का निर्णय लिया है। दिए गए मामले में किस वित्तीय निर्णय पर चर्चा की गई है?</p> <p>क) दीर्घकालिक निवेश निर्णय</p> <p>ग) लाभांश निर्णय</p>	<p>ख) अल्पकालिक निवेश निर्णय</p> <p>घ) वित्तपोषण निर्णय</p>	1
19.	<p>Gold Ltd. Took a loan from Mystique Finance company. This later has imposed certain restrictions on Gold Ltd. on payment of dividends in future. Which factor affecting dividend decision is being highlighted in the given case?</p> <p>a) Growth opportunities</p> <p>c) Contractual constraints</p> <p>गोल्ड लिमिटेड ने मिस्टिक फाइनेंस कंपनी से ऋण लिया। इस कंपनी ने गोल्ड लिमिटेड पर भविष्य में लाभांश के भुगतान पर कुछ प्रतिबंध लगाए हैं। दिए गए मामले में लाभांश निर्णय को प्रभावित करने वाला कौन सा कारक उजागर किया</p>	<p>b) Legal constraints</p> <p>d) Stock market reactions</p>	1

	<p>गया है? क) विकास के अवसर ख) कानूनी बाधाएँ ग)संविदात्मक बाधाएँ घ) स्टॉक मार्केट की प्रतिक्रियाएँ</p>	
20.	<p>Read the following statements carefully: Statement I: Financial planning has a wider scope as compared to financial management. Statement II: Financial planning is the preparation of a financial blue print of an organisation's future operations. In the light of given statements, choose the correct alternative from the following: a) Statement I is correct and Statement II is wrong. b) Statement II is correct and Statement I is wrong. c) Both the statements are correct. d) Both the statements are wrong.</p> <p>निम्नलिखित बयानों को ध्यान से पढ़ें: कथन I: वित्तीय योजना का दायरा वित्तीय प्रबंधन की तुलना में अधिक व्यापक है। कथन II: वित्तीय योजना एक संगठन के भविष्य के संचालन का वित्तीय ब्लूप्रिंट बनाने की प्रक्रिया है। दिए गए बयानों के आलोक में, निम्नलिखित में से सही विकल्प चुनें: क) कथन I सही है और कथन II गलत है। ख) कथन II सही है और कथन I गलत है। ग) दोनों कथन सही हैं। घ) दोनों कथन गलत हैं।</p>	1
21.	<p>Upvan is engaged in the business of manufacturing water geysers. The business has been doing well and he intends to expand the business by diversifying into Bluetooth speakers and power adaptors. For this, Upvan adopts an organisational structure in which various divisions are created for each major product. Each division looks after production, finance, purchase etc. of the particular product line. i)Which management function is highlighted in the given case? ii)Which type of structure is followed by Upvan? State, when this kind of structure is suitable.</p> <p style="text-align: center;">OR</p> <p>Distinguish between Formal organisation and Informal organisation on the basis of following- a) Origin/Formation b) Flow of communication c) Purpose</p> <p>'उपवन' जल गीज़र बनाने के व्यवसाय में लगा हुआ है। व्यवसाय अच्छा कर रहा है और वह ब्लूटूथ स्पीकर और पावर एडाप्टर्स में विविधता लाकर व्यवसाय का विस्तार करने का इरादा रखता है। इसके लिए, 'उपवन' एक संगठनात्मक संरचना अपनाता है जिसमें प्रत्येक प्रमुख उत्पाद के लिए विभिन्न विभाग बनाए जाते हैं। प्रत्येक विभाग विशेष उत्पाद श्रेणी के उत्पादन, वित्त, खरीद आदि की देखभाल करता है। i)इस दिए गए मामले में कौन सी प्रबंधन कार्यप्रणाली को उजागर किया गया है? ii) 'उपवन' द्वारा कौन सी प्रकार की संरचना का पालन किया गया है? इस तरह की संरचना का उपयोग कब किया जाता है?</p>	3

	या	
	<p>औपचारिक संगठन और अनौपचारिक संगठन के बीच निम्नलिखित के आधार पर अंतर करें –</p> <p>क) उत्पत्ति/निर्माण ख) संचार का प्रवाह ग) उद्देश्य</p>	
22.	<p>Vedic Ayurved Ltd. A new and leading manufacturer of herbal and ayurvedic medicines and grocery products has captured a large share of market in a short span of time. The Research and Development (R&D) department of the company spends considerable time and effort in developing eco friendly, chemical-free and healthy alternatives for variety of products of daily use, from toothpaste to biscuits, instant noodles to soaps, shampoos and detergents etc. Their business orientation differs from competitors who are short sighted and want to maximize sales. Instead, Vedic Ayurved Ltd considers maximization of profits by understanding needs and wants of consumers.</p> <p>Identify and explain the marketing management philosophy adopted by Vedic Ayurved Ltd.</p> <p>वैदिक आयुर्वेद लिमिटेड, एक नया और प्रमुख निर्माता जो हर्बल और आयुर्वेदिक औषधियों और किराने के उत्पादों का निर्माण करता है, उसने थोड़े समय में बाजार का एक बड़ा हिस्सा अपने कब्जे में ले लिया है। कंपनी का अनुसंधान और विकास (आर एंड डी) विभाग दैनिक उपयोग के विभिन्न उत्पादों के लिए, जैसे टूथपेस्ट से लेकर बिस्कुट, इंस्टेंट नूडल्स से लेकर साबुन, शैम्पू और डिटर्जेंट आदि, पर्यावरण के अनुकूल, रासायनिक मुक्त और स्वस्थ विकल्प विकसित करने में अत्यधिक समय और प्रयास लगाता है। उनका व्यापारिक रुख उन प्रतियोगियों से भिन्न है जो अपूर्ण दृष्टि वाले हैं और बिक्री को अधिकतम करना चाहते हैं। इसके बजाय, वैदिक आयुर्वेद लिमिटेड उपभोक्ताओं की आवश्यकताओं और इच्छाओं को समझकर लाभ के अधिकतमकरण पर विचार करता है। वैदिक आयुर्वेद लिमिटेड द्वारा अपनाई गई विपणन प्रबंधन की दर्शनशास्त्र को पहचानें और समझाएं।</p>	3
23.	<p>Distinguish between Primary Market and Secondary Market on the basis of-</p> <p>a) Nature of securities b) Capital formation c) Determination of prices</p> <p style="text-align: center;">OR</p> <p>Give any three functions performed by any stock exchange.</p> <p>प्राथमिक बाजार और माध्यमिक बाजार के बीच निम्न आधार पर अंतर स्पष्ट करें –</p> <p>क) प्रतिभूतियों की प्रकृति ख) पूंजी गठन ग)) मूल्यों का निर्धारण</p> <p style="text-align: center;">या</p> <p>किसी भी स्टॉक एक्सचेंज द्वारा किए जाने वाले तीन कार्य बताएं।</p>	3

24.



Riyansh: Sir, we achieved the target production on time but at a higher cost.



Shreyansh: Sir, we used the resources in the most efficient manner, but we missed the target production.

The above two pictures highlight two concepts of management. Identify the concepts and briefly explain them.

रियांश : सर, हमने समय पर लक्षित उत्पादन हासिल किया लेकिन अधिक लागत पर।

श्रेयान्श : सर, हमने संसाधनों का सबसे कुशल तरीके से उपयोग किया, लेकिन हम लक्षित उत्पादन को पूरा नहीं कर सके।

उपरोक्त दो चित्र प्रबंधन के दो सिद्धांतों को उजागर करते हैं। सिद्धांतों की पहचान करें और संक्षेप में समझाएँ।

3

25.

A company launched a new brand of washing machines. To increase sales, it offered a free mixer-grinder with every purchase of the washing machine for a limited period. Along with this, the company appointed trained sales representatives who personally explained the unique features of the washing machine to prospective customers and convinced them to buy it.

In the light of the above situation, identify and explain the two elements of promotion mix used by the company.

OR

A company recently launched a new herbal energy drink in the market. To create awareness, it gave wide coverage through television and social media highlighting its benefits. At the same time, the company organised a free health camp in schools and colleges where doctors explained the advantages of healthy drinks and interacted with students.

In the light of the above situation, identify and explain the two elements of promotion mix used by the company.

एक कंपनी ने वॉशिंग मशीन का नया ब्रांड लॉन्च किया। बिक्री बढ़ाने के लिए उसने सीमित समय के लिए प्रत्येक वॉशिंग मशीन की खरीद पर एक मिक्सर-ग्राइंडर

4

	<p>मुफ्त देने की पेशकश की। साथ ही, कंपनी ने प्रशिक्षित विक्रय प्रतिनिधियों की नियुक्ति की, जिन्होंने संभावित ग्राहकों को वॉशिंग मशीन की विशिष्ट विशेषताओं के बारे में व्यक्तिगत रूप से बताया और उन्हें खरीदने के लिए प्रेरित किया।</p> <p>उपरोक्त स्थिति के संदर्भ में, कंपनी द्वारा उपयोग किए गए प्रमोशन मिक्स के दो तत्वों की पहचान कीजिए और उनका वर्णन कीजिए।</p> <p style="text-align: center;">या</p> <p>एक कंपनी ने हाल ही में बाज़ार में हर्बल एनर्जी ड्रिंक का नया ब्रांड लॉन्च किया। जागरूकता बढ़ाने के लिए उसने टेलीविज़न और सोशल मीडिया के माध्यम से इसके लाभों का व्यापक प्रचार-प्रसार किया। साथ ही, कंपनी ने स्कूलों और कॉलेजों में निःशुल्क स्वास्थ्य शिविर आयोजित किया, जहाँ डॉक्टरों ने छात्रों को स्वस्थ पेयों के लाभ बताए और उनसे संवाद किया।</p> <p>उपरोक्त स्थिति के संदर्भ में, कंपनी द्वारा उपयोग किए गए प्रमोशन मिक्स के दो तत्वों की पहचान कीजिए और उनका वर्णन कीजिए।</p>	
<p>26.</p>	<p>Explain the following importance of Planning:</p> <p>a. Planning reduces the risks of uncertainty b. Planning establishes standards for controlling</p> <p style="text-align: center;">OR</p> <p>Which type of plan is highlighted in each of the following statements?</p> <p>a. It facilitates compariso of actual results with the planned ones. b. These are the ends which the management seeks to achieve through its operations c. Alcohol is not permitted within the factory premises d. Company follows the practice of hiring employees who are above 18 years of age.</p> <p>योजनाओं के निम्नलिखित महत्व को समझाएँ:</p> <p>क) योजना अनिश्चितता के खतरों को कम करती है ख) योजना नियंत्रण के लिए मानक स्थापित करती है</p> <p style="text-align: center;">या</p> <p>निम्नलिखित बयानों में हर प्रकार की योजना को उजागर किया गया है?</p> <p>क) यह वास्तविक परिणामों की योजना के साथ तुलना करने में सहायता करता है। ख) ये लक्ष्य हैं जिन्हें प्रबंधन अपने संचालन के माध्यम से प्राप्त करने की कोशिश करता है ग) फैक्ट्री परिसर में शराब की अनुमति नहीं है घ) कंपनी उन कर्मचारियों को नियुक्त करने की प्रथा का पालन करती है जो 18 वर्ष से अधिक आयु के हैं।</p>	<p>4</p>
<p>27.</p>	<p>In an environment of rising petroleum prices and a large middle class population in India, Ketan Ltd. recognized the need for small cars in India. It created a product far superior than their competitors not only in terms of quality but also in terms of overall driving experience. It soon became the leader in small car market. As the Indian government was encouraging foreign investment, MNCs having a big name in car manufacturing entered the Indian market. Ketan Ltd further expanded its</p>	<p>4</p>

	<p>services network and quality, creating an entry barrier for the competitors. It depicted strength through various brand building activities. As a result, the market share of Ketan Ltd is refusing to go down in spite of all major automakers as its competitors. Quoting the lines, explain any two points of importance of Business Environment being highlighted in the given case.</p> <p>तेल की कीमतों में वृद्धि और भारत की बड़ी मध्यवर्गीय जनसंख्या के माहौल में, केतन लिमिटेड ने भारत में छोटी कारों की आवश्यकता को पहचाना। इसने गुणवत्ता के मामले में ही नहीं, बल्कि समग्र ड्राइविंग अनुभव के मामले में भी अपने प्रतिस्पर्धियों से कहीं बेहतर उत्पाद बनाया। यह जल्द ही छोटी कार बाजार में नेता बन गया। जैसे ही भारतीय सरकार ने विदेशी निवेश को प्रोत्साहित किया, कार निर्माण में बड़े नाम वाली बहुराष्ट्रीय कंपनियों ने भारतीय बाजार में प्रवेश किया। केतन लिमिटेड ने अपनी सेवाओं के नेटवर्क और गुणवत्ता का और विस्तार किया, जिससे प्रतिस्पर्धियों के लिए एक प्रवेश बाधा का निर्माण हुआ। इसने विभिन्न ब्रांड निर्माण गतिविधियों के माध्यम से ताकत का प्रदर्शन किया। नतीजतन, केतन लिमिटेड का बाजार साझा सभी मुख्य ऑटोमेकरों के प्रतिस्पर्धियों के बावजूद नीचे जाने से मना कर रहा है। इस उद्घरण के माध्यम से, व्यापार वातावरण के महत्व पर दो बिंदुओं को उजागर किया गया है।</p>	
<p>28.</p>	<p>In a company, the manager continuously observes the work of employees and compares it with the planned targets. Whenever the performance is below expectation, he suggests corrective measures and motivates the employees to do better.</p> <p>In the light of the above situation, state any four ways in which this practice helps in achieving organisational objectives and improving employee morale.</p> <p>किसी कंपनी में प्रबंधक लगातार कर्मचारियों के कार्य पर नज़र रखते हैं और उसे नियोजित लक्ष्यों से मिलाते हैं। जब भी प्रदर्शन अपेक्षा से कम होता है, तो वह सुधारात्मक उपाय सुझाते हैं और कर्मचारियों को बेहतर करने के लिए प्रेरित करते हैं।</p> <p>उपरोक्त स्थिति के संदर्भ में, चार तरीके बताइए जिनसे यह प्रक्रिया संगठनात्मक उद्देश्यों की प्राप्ति और कर्मचारियों के मनोबल में वृद्धि करने में सहायक होती है।</p>	<p>4</p>
<p>29.</p>	<p>“Scientific Management means exactly what you want men to do and then seeing they do it in the best and the cheapest way” Talyor developed various techniques for application of Scientific Management principles and was able to achieve a three fold increase in productivity where he worked. The objective of one of the technique is to determine numbers of workers to be employed; frame suitable incentive schemes and determine labour costs. Another technique recognises those workers who are able to accomplish fair day’s work and is based on the premise that efficiency is the result of the joint efforts of the managers and the workers. Quoting the lines from the above paragraph, identify and explain the two techniques of Scientific Management.</p> <p>"वैज्ञानिक प्रबंधन का मतलब है कि आप चाहते हैं कि लोग क्या करें और फिर यह</p>	<p>4</p>

	<p>देखना कि वे इसे सबसे अच्छे और सस्ते तरीके से करें।" टेलर ने वैज्ञानिक प्रबंधन के सिद्धांतों के अनुप्रयोग के लिए विभिन्न तकनीकों का विकास किया और जहाँ उन्होंने काम किया, वहाँ उत्पादकता में तीन गुना वृद्धि करने में सफल रहे। एक तकनीक का उद्देश्य यह है कि कितने श्रमिकों को नियुक्त किया जाना है; उपयुक्त प्रोत्साहन योजनाएं तैयार करना और श्रम लागत निर्धारित करना। दूसरी तकनीक उन श्रमिकों की पहचान करती है जो उचित काम कर रहे हैं और यह मानती है कि कुशलता प्रबंधकों और श्रमिकों के संयुक्त प्रयासों का परिणाम है।</p> <p>उपरोक्त अनुच्छेद से उद्धरण देते हुए, वैज्ञानिक प्रबंधन की दो तकनीकों की पहचान करें और समझाएं।</p>	
30.	<p>Saraswati Public School has a vacancy of Maths teacher, They were looking for a smart and creative teacher having drive for excellence. An advertisement was given in all leading dailies. Since the response was huge, the school examined all the application forms and rejected the candidates who did not have the necessary qualifications. Thereafter, a test was conducted to measure the existing skills of the candidates. After that it was followed by a formal in depth conversation with the Principal of the school and a panel of Maths experts.</p> <p>a. Explain the steps that have been performed by Saraswati public School in the process of identifying and choosing the best candidate.</p> <p>b. Give the name and also the meaning of the test which was conducted by the school.</p> <p>सरस्वती पब्लिक स्कूल में गणित शिक्षक की एक रिक्ति है, वे एक स्मार्ट और रचनात्मक शिक्षक की तलाश कर रहे थे जिसमें उत्कृष्टता की भावना हो। सभी प्रमुख दैनिक समाचार पत्रों में एक विज्ञापन दिया गया। चूंकि प्रतिक्रिया बहुत बड़ी थी, स्कूल ने सभी आवेदन पत्रों की जांच की और उन उम्मीदवारों को अस्वीकृत कर दिया जिनके पास आवश्यक योग्यताएँ नहीं थीं। उसके बाद, प्रार्थियों की मौजूदा क्षमताओं को मापने के लिए एक परीक्षा आयोजित की गई। इसके बाद, स्कूल के प्रिंसिपल और गणित विशेषज्ञों के पैनल के साथ एक औपचारिक गहन बातचीत हुई।</p> <p>क) सरस्वती पब्लिक स्कूल ने सबसे अच्छे उम्मीदवार की पहचान और चयन की प्रक्रिया में किए गए कदमों को समझाएं।</p> <p>ख) उस परीक्षण का नाम और उसका अर्थ बताएं जो किया गया था।</p>	4
31.	<p>Lavnya Ltd; is a company manufacturing textiles. It has a share capital of ₹ 60 Lakhs. The earning per share (EPS) in the previous year was ₹ 0.50. For diversification, the company requires additional capital of ₹ 40 Lakhs. The company raised funds by issuing 10% debentures for the same.</p> <p>During the current year, the company earned profit of ₹ 8Lakhs on capital employed, It paid tax @40%</p> <p>a. State whether the shareholders gained or lost, in respect of earning per share on diversification. Show your calculations clearly.</p> <p>b. Also state any two factors that favour the issue of debentures by the company as part of its capital structure.</p> <p>लावण्या लिमिटेड; एक कपड़ा निर्माण करने वाली कंपनी है। इसकी शेयर पूंजी ₹ 60 लाख है। पिछले वर्ष में प्रति शेयर आय (EPS) ₹ 0.50 थी। विविधीकरण के लिए, कंपनी को अतिरिक्त पूंजी की आवश्यकता है ₹ 40 लाख। कंपनी ने इसी के</p>	6

	<p>लिए 10% डिबेंचर जारी करके धन जुटाया। इस वर्ष में, कंपनी ने उपयोग में लाए गए पूंजी पर ₹ 8 लाख का लाभ कमाया और इस पर 40% कर चुकाया।</p> <p>क) बताएं कि क्या शेयरधारकों को विविधीकरण के संदर्भ में प्रति शेयर आय पर लाभ हुआ या हानि। अपने कैल्कुलेशन स्पष्ट रूप से दिखाएं। ख) इसके अलावा, कंपनी की पूंजी संरचना के एक भाग के रूप में ऋणपत्र जारी करने के लिए कोई दो कारण भी बताएं जो इसके पक्ष में हैं।</p>	
32.	<p>Name the process of stimulating and inspiring people at work to accomplish desired objectives. Explain need hierarchy theory given by Maslow in this regard.</p> <p>काम पर लोगों को प्रेरित और उत्तेजित करने की प्रक्रिया का नाम बताएं ताकि इच्छित लक्ष्यों को प्राप्त किया जा सके।</p> <p>इस संबंध में मास्लो द्वारा दी गई आवश्यकता पिरामिड सिद्धांत को समझाएं।</p>	6
33.	<p>Mr. Ajay of M/S Status industries is overburdened with routine work and is unable to concentrate on core issues of the company. To overcome this problem, he entrusted some of his responsibility and authority to his immediate subordinate to share some of his routine work.</p> <p>a. Identify and briefly explain the concept used by Mr. Ajay in the above case which helped him in focusing on core objectives .</p> <p>b. Also, state any four points of importance of the concept identified in (a.) above.</p> <p>श्री अजय, एम/एस स्टेटस इंडस्ट्रीज के, नियमित कामों में अधिक व्यस्त हैं और कंपनी के अंतर्निहित मुद्दों पर ध्यान केंद्रित करने में असमर्थ हैं। इस समस्या को हल करने के लिए, उन्होंने अपने कुछ जिम्मेदारी और अधिकार अपने सीधे अधीनस्थ को सौंप दिए ताकि अपने नियमित कार्यों में से कुछ का बंटवारा कर सकें।</p> <p>क) उपर्युक्त मामले में श्री अजय द्वारा प्रयुक्त अवधारणा की पहचान करें और संक्षेप में समझाएं जिसने उन्हें मुख्य उद्देश्यों पर ध्यान केंद्रित करने में मदद की।</p> <p>ख) इसके अलावा, (क.) में पहचानी गई अवधारणा के महत्व के चार बिंदु भी बताएं।</p>	6
34.	<p>Non Government Organisations (NGO) perform several functions for the protection and promotion of interests of consumers. State any six functions performed by them.</p> <p style="text-align: center;">OR</p> <p>Define 'Consumer' as per Consumer Protection Act 2019. State any five Remedies/Reliefs that consumer court can grant to consumers in case of genuine complaints.</p> <p>गैर सरकारी संगठन (एनजीओ) उपभोक्ताओं के हितों की सुरक्षा और प्रचार के लिए कई कार्य करते हैं। उनके द्वारा किए गए छह कार्यों को बताएं।</p> <p style="text-align: center;">या</p> <p>2019 के उपभोक्ता संरक्षण अधिनियम के अनुसार 'उपभोक्ता' की परिभाषा दें। उपभोक्ता न्यायालय उपभोक्ताओं की वास्तविक शिकायतों पर कौन-कौन सी पाँच राहतें/उपचार प्रदान कर सकता है?</p>	6

Pre-Board Examination (2025-26)
Subject-Biology
Class-XII

MM: 70

Time: 3 hours

General Instructions:

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

Section -A

Q. No. 1 to 12 are multiple choice questions. Only one of the choices is correct. Select and write the correct choice as well as the answer to these questions.

Q. No.	Question	Marks
1.	The sequence of nitrogenous bases in a segment of a coding strand of DNA is - 5' – AATGCTAGGCAC – 3'. Choose the option that shows the correct sequence of nitrogenous bases in the mRNA transcribed by the DNA. A. 5' – UUACGAUCCGUG – 3' B. 5' – AAUGCUAGGCAC – 3' C. 5' – UUACGUACCGUG – 3' D. 5' – AACGUA GGCAGC – 3'	1
2.	How many pollen grains and ovules are likely to be formed in the anther and the ovary of an angiosperm bearing 50 microspore mother cells and 50 megaspore mother cells respectively? A. 100, 25 B. 200, 50 C. 50, 50 D. 200, 100	1
3.	The process of splicing in eukaryotes represents the dominance of the: A. DNA world B. RNA world C. Protein world D. Lipid world	1
4.	A characteristic property that distinguishes a malignant tumor from a benign tumor is:	1

	<p>A. Metamorphosis B. Metastasis C. Metabolism D. Metagenesis</p>																										
5.	<p>About 15 mya during human evolution, the primates which used to walk like gorillas and chimpanzees were:</p> <p>A. <i>Australopithecine</i> and <i>Neanderthal</i> B. <i>Dryopithecus</i> and <i>Ramapithecus</i> C. <i>Homo erectus</i> and <i>Homo sapiens</i> D. <i>Homo habilis</i> and <i>Homo erectus</i></p>	1																									
6.	<p>Which of the following statements related to HIV infection is incorrect?</p> <p>A. HIV infection leads to a progressive decrease in the number of CD4⁺ T-lymphocytes. B. The DNA formed by reverse transcriptase integrates into the host genome and directs viral replication. C. Antiretroviral therapy (ART) completely eliminates HIV from the body in the early stages of infection. D. Opportunistic infections in AIDS occur because of the suppression of the immune system.</p>	1																									
7.	<p>A man whose father was colour-blind marries a woman who had a colour-blind mother and normal father. What percentage of male children of this couple will be colour-blind?</p> <p>A. 25% B. 0% C. 50% D. 75%</p>	1																									
8.	<p>Which of the following evidences does not favour the Lamarckian concept of inheritance of acquired characters?</p> <p>A. Lack of pigment in cave-dwelling animals B. Melanisation in peppered moth C. Absence of limbs in snakes D. Presence of webbed toes in aquatic birds</p>	1																									
9.	<p>In angiosperms, the development of the female gametophyte occurs in a definite sequence. Identify the correct sequence.</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th></th> <th>I (Stage in ovule before meiosis)</th> <th>II (Product of meiosis)</th> <th>III (Surviving haploid spore)</th> <th>IV (Fusion of gametes)</th> </tr> </thead> <tbody> <tr> <td>A.</td> <td>Megaspore mother cell</td> <td>4 Megaspores</td> <td>Functional megaspore</td> <td>Embryo sac</td> </tr> <tr> <td>B.</td> <td>Megaspore mother cell</td> <td>Embryo sac</td> <td>Zygote</td> <td>Ovule</td> </tr> <tr> <td>C.</td> <td>Megaspore mother cell</td> <td>Megaspores</td> <td>Egg cell</td> <td>Endosperm</td> </tr> <tr> <td>D.</td> <td>Nucellus</td> <td>Megaspores</td> <td>Embryo sac</td> <td>Seed formation</td> </tr> </tbody> </table>		I (Stage in ovule before meiosis)	II (Product of meiosis)	III (Surviving haploid spore)	IV (Fusion of gametes)	A.	Megaspore mother cell	4 Megaspores	Functional megaspore	Embryo sac	B.	Megaspore mother cell	Embryo sac	Zygote	Ovule	C.	Megaspore mother cell	Megaspores	Egg cell	Endosperm	D.	Nucellus	Megaspores	Embryo sac	Seed formation	1
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10.	<p>Use the given information to select the amino acid attached to the 3' end of tRNA during the process of translation, if the coding strand of the structural gene being transcribed has the nucleotide sequence TAC. Codons for the amino acids:</p> <ul style="list-style-type: none"> • AUC – Isoleucine • AUG – Methionine • UAC – Tyrosine 	1																									

	<ul style="list-style-type: none"> GUA – Valine Options: A. Isoleucine B. Methionine C. Tyrosine D. Valine	
11.	The sequence that controls the copy number of the linked DNA in the vector, is termed A. Selectable marker B. Recognition site C. Palindromic sequence D. Ori site	1
12.	Seminal plasma in humans is rich in: A. fructose and calcium but has no enzymes B. glucose and certain enzymes but has no calcium C. fructose and certain enzymes but poor in calcium D. fructose, calcium and certain enzymes.	1
Question No. 13-16 consist of two statements - Assertion (A) and Reason (R). Answer these questions selecting the appropriate option given below: A. Both A and R are true and R is the correct explanation of A. B. Both A and R are true and R is not the correct explanation of A. C. A is true but R is false. D. A is false and R is true.		
13.	Assertion: Exine of a pollen grain is made up of sporopollenin which is resistant to high temperatures, strong acids or alkali as well as enzymatic degradation. Reason: Sporopollenin is absent in the region of germ pores.	1
14.	Assertion (A): Darwin's finches represent divergent evolution. Reason (R): They evolved from different ancestral species present on the Galápagos Islands.	1
15.	Assertion (A): In organ transplantation, donor and recipient should be genetically as close as possible. Reason (R): In immunosuppression, immune system rejects the transplanted organ.	1
16.	Assertion (A): Bt toxin kills insects by creating pores in their gut epithelium. Reason (R): The Bt toxin is active in plant cells and directly damages insect nervous tissue when eaten.	1

Section-B

Section-B		
17.	<p><u>Attempt either option A or B.</u></p> <p>A. Why are some seeds referred to as apomictic seeds? Mention one advantage and one disadvantage to a farmer who uses them.</p> <p style="text-align: center;">OR</p> <p>B. In many flowering plants, self-pollination is prevented to maintain genetic diversity. Explain how dioecy and self-incompatibility act as out breeding devices in such plants.</p>	2

18.	The length of DNA in a human diploid cell is about 2 metres, yet it fits inside a nucleus of only ~6 µm diameter. How is this extremely long DNA efficiently packaged within the nucleus?	2																												
19.	<p>The table below shows a hypothetical blood report of a patient suffering from frequent sneezing, watery eyes, and breathing difficulty.</p> <table border="1"> <thead> <tr> <th>Test description</th> <th>Observed value</th> <th>Unit</th> <th>Reference range</th> </tr> </thead> <tbody> <tr> <td>Total leukocyte count</td> <td>9000</td> <td>Per microliter</td> <td>4400–11,000</td> </tr> <tr> <td>Neutrophils</td> <td>58</td> <td>%</td> <td>55–70</td> </tr> <tr> <td>Lymphocytes</td> <td>30</td> <td>%</td> <td>20–40</td> </tr> <tr> <td>Eosinophils</td> <td>12</td> <td>%</td> <td>1–4</td> </tr> <tr> <td>Basophils</td> <td>2</td> <td>%</td> <td>0.5–1</td> </tr> <tr> <td>IgE antibody concentration</td> <td>380</td> <td>IU/mL</td> <td>< 150</td> </tr> </tbody> </table> <p>A. Looking at the values, suggest which condition the patient is suffering from? Explain the immune mechanism behind this condition.</p> <p>B. Name the chemicals responsible for causing the symptoms.</p>	Test description	Observed value	Unit	Reference range	Total leukocyte count	9000	Per microliter	4400–11,000	Neutrophils	58	%	55–70	Lymphocytes	30	%	20–40	Eosinophils	12	%	1–4	Basophils	2	%	0.5–1	IgE antibody concentration	380	IU/mL	< 150	2
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Basophils	2	%	0.5–1																											
IgE antibody concentration	380	IU/mL	< 150																											
20.	<p><u>Attempt either option A or B.</u></p> <p>A. A patient with ADA deficiency requires periodic infusion of genetically engineered lymphocytes. Explain why such periodic infusion is required and also suggest a permanent cure for such ADA deficiency.</p> <p style="text-align: center;">OR</p> <p>B. Describe in brief any two techniques that can be utilised to transfer recombinant DNA into the host cell directly without using any vector.</p>	2																												
21.	<p><u>Attempt either option A or B.</u></p> <p>A. Study the given graphs (X) and (Y) depicting the annual variation in solar radiation on earth from January to December and answer the under mentioned questions.</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;"> <p>(X)</p> </div> <div style="text-align: center;"> <p>(Y)</p> </div> </div> <p>(i) Compare the graphs (X) and (Y) above and identify which of the two regions – (X) and (Y), will show greater biological diversity giving suitable reasons?</p> <p>(ii) Construct a flow chart showing connection between a grazing food chain and detritus food chain.</p>	2																												

For visually impaired students

- (i) What is primary productivity? Why does it vary in different types of ecosystems?
- (ii) Construct a flow chart showing connection between a grazing food chain and detritus food chain.

OR

B. Use the information provided in the table given below to answer the following questions.

Trophic Level	Net Production (KJ m ⁻² y ⁻¹)	Respiration (KJ m ⁻² y ⁻¹)
Top carnivore	50	35
Carnivores	420	378
Herbivores	4490	4041
Producers	45000	40,367

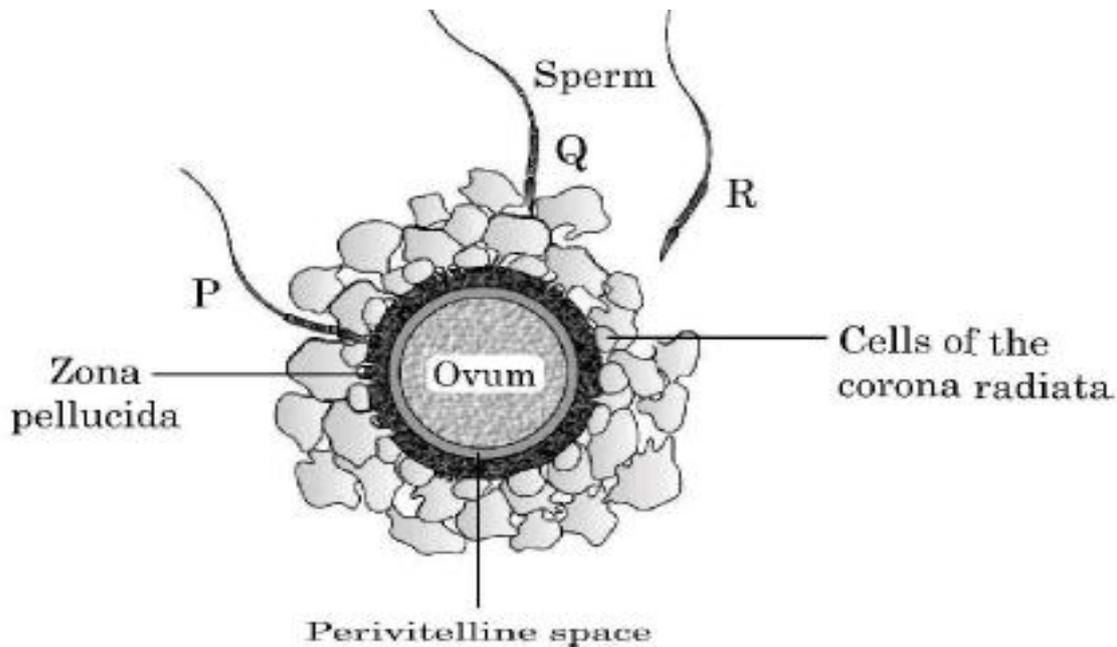
- (i) Calculate the gross primary productivity.
- (ii) Analyse the trend in the net production from producers to top carnivore. Give reason for your observation.

Section - C

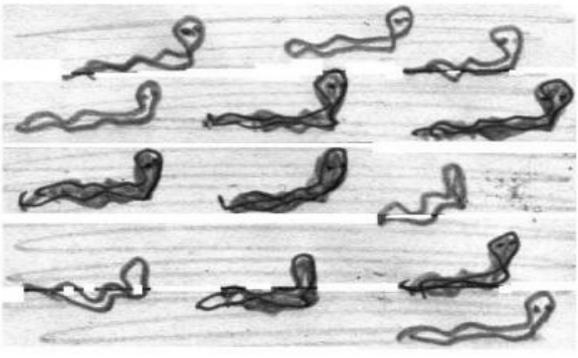
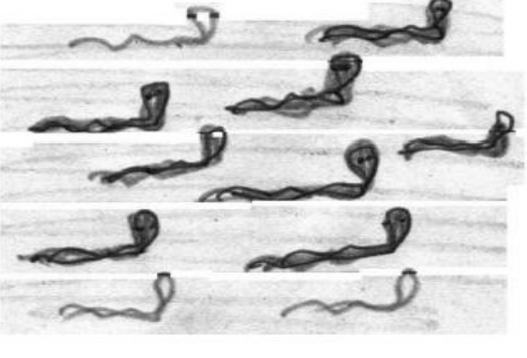
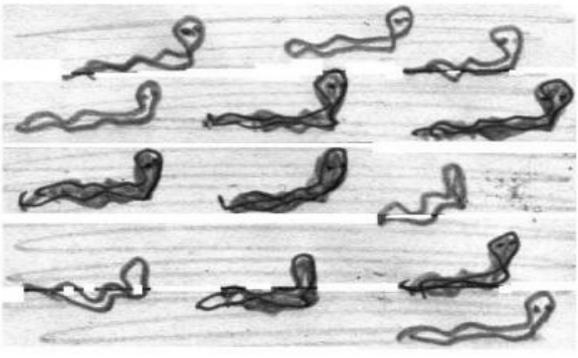
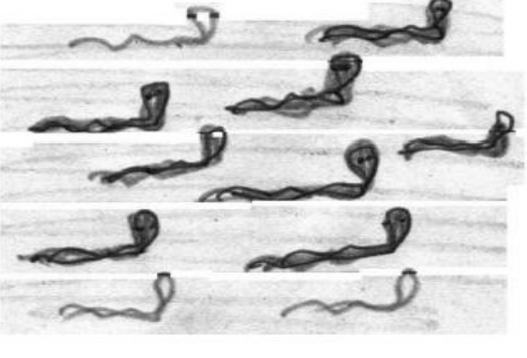
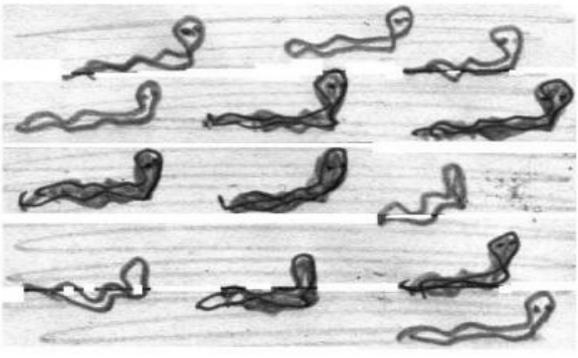
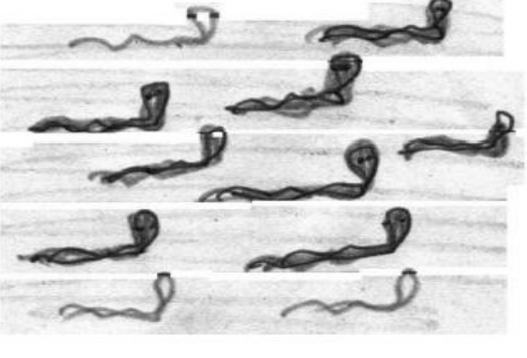
22. Suggest suitable reproductive health measures for the following cases with justification:

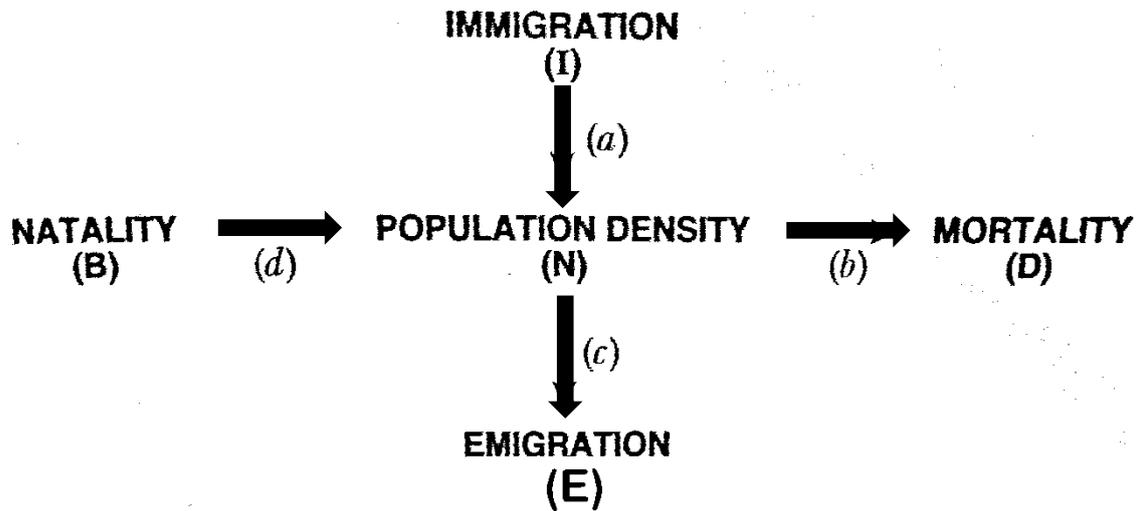
- A. Ramesh and his wife live in a rural area with very little awareness about sexually transmitted infections (STIs). Which government programme could help them, and how?
- B. Anita and Raj want to conceive but are facing difficulty due to blocked fallopian tubes. Which assisted reproductive technology (ART) would be most suitable for them?
- C. Doctors suspect that a developing foetus may have a chromosomal abnormality. Which prenatal diagnostic technique would help confirm this, and how?

23. Given below is the diagram of a human ovum surrounded by sperms. Observe it carefully and answer the following:



- A. Compare the fate of sperms 'P', 'Q', and 'R' shown in the diagram.
- B. Write the role of the zona pellucida in this process.
- C. Analyse the changes that occur in the ovum after the entry of a sperm.

	<p style="text-align: center;">-----</p> <p><u>For visually impaired students</u> Parturition is induced by a complex neuroendocrine mechanism. Explain.</p>			
24.	<p>In rabbits, if the allele for long fur (F) is dominant over short fur (f), and the allele for black coat colour (B) is dominant over brown coat (b). These two genes assort independently. If two heterozygous rabbits (FfBb × FfBb) are crossed, determine the probability of obtaining an offspring with short fur and brown coat. Find the probability using a Punnett square.</p>	3		
25.	<p>A population of snakes lived in a desert with brown sand. Study the drawings given below showing the change in the population from 'one' to 'two' over time and answer the questions that follow. Brown snakes and grey snakes are represented by alleles A/a (Dominant/recessive).</p> <table border="1" style="width: 100%; text-align: center;"> <tr> <td> <p>Population-one</p>  </td> <td> <p>Population-two (Migration of Birds)</p>  </td> </tr> </table> <p>A. If the frequency of the recessive trait is 9% in population-one, work out the frequency of homozygous dominant and heterozygous dominant snakes.</p> <p>B. Name the mechanism of evolution that must have operated so that Population –two evolved from population-one.</p> <p style="text-align: center;">-----</p> <p><u>For visually impaired students</u></p> <p>A. How does the study of fossils help to understand evolution?</p> <p>B. How did SL Miller provide an experimental evidence in favour of Oparin and Haldane's hypothesis? Explain.</p>	<p>Population-one</p> 	<p>Population-two (Migration of Birds)</p> 	3
<p>Population-one</p> 	<p>Population-two (Migration of Birds)</p> 			
26.	<p>Biogas is considered a clean and sustainable fuel. Enumerate its major gaseous components, name the main bacteria involved in its production and explain the processes that are used to transform organic waste into biogas?</p>	3		
27.	<p>Explain the process of RNA interference (RNAi). How is this biological process exploited to develop resistance in plants against nematode infection?</p>	3		
28.	<p>The given flow chart depicts the four basic processes that regulate population density in a given area.</p>	3		



- A. Which of the above represents the increase or decrease of population?
- B. If N is the population density at time t, then what would be its density at time (t+1)? Write the formula.
- C. In a barn there were 30 rats. 5 more rats enter the barn and 6 out of the total rats were eaten by the cats. If 8 rats were born during the time period under consideration and 7 rats left the barn, calculate the resultant population at time (t+1).
- D. If a new habitat is just being colonized, out of the four factors affecting the population growth, which factor contributes the most?

For visually impaired students

- A. It is possible that a species may occupy more than one trophic level in the same ecosystem at the same time. Explain with the help of one example.
- B. If N is the population density at time t, then what would be its density at time (t+1)? Write the formula.
- C. In a barn there were 30 rats. 5 more rats enter the barn and 6 out of the total rats were eaten by the cats. If 8 rats were born during the time period under consideration and 7 rats left the barn, calculate the resultant population at time (t+1).
- D. If a new habitat is just being colonized, out of the four factors affecting the population growth, which factor contributes the most?

Section - D

29. Given below is a set of information about some events and structures in human reproduction:

4

Label	Event/Structure description
P	Spermatogonia undergo repeated mitotic divisions to produce primary spermatocytes.
Q	Secondary oocyte is released from the ovary during ovulation
R	Corpus luteum secretes progesterone after ovulation.
S	Foetus grows in the uterus.

On the basis of the information provided above, answer the following questions:

- A. How many spermatozoa will be produced from one primary spermatocyte? How many secondary oocytes are released by a single primary oocyte?

- B. (i) Which of the above (P, Q, R, S) is directly responsible for maintaining pregnancy in the female? Justify.
- (ii) Which one of the events (P, Q, R, S) is regulated by the surge of luteinising hormone (LH)?

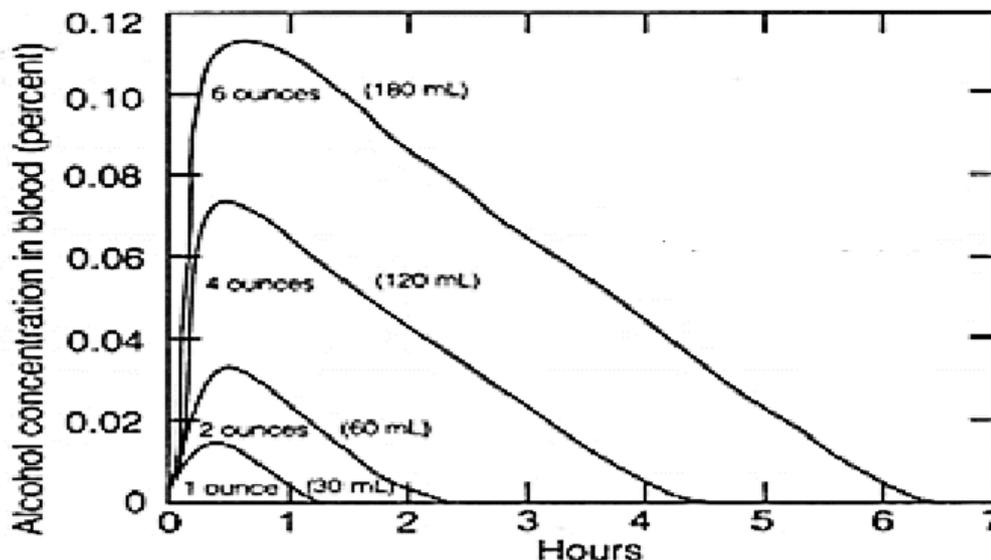
Attempt either subpart C or D:

C. How does luteinising hormone (LH) regulate the process of spermatogenesis?

OR

D. When do spermatogenesis and oogenesis initiate in human males and females respectively?

30. The graph below shows the percent blood alcohol concentration by quantity of alcohol over time. Study the graph and answer the questions that follow:



- A. With reference to the above graph, during which time the concentration of alcohol in blood will be highest and what pattern is observed regarding alcohol concentration in blood later?
- B. "The addictive potential of alcohol, pull the user into a vicious circle leading to its regular use (abuse) from which he/she may not be able to get out." Justify the statement.

Attempt either subpart C or D:

C. What is the average rate of processing of alcohol by the body, as shown in the above graph? Name the main organ where 90% of the absorbed alcohol is metabolised in the body.

OR

D. What are the most common warning signs of alcohol abuse among youth?

For visually impaired students

- A. Alcohol is not a traditional nutrient. Why?
- B. "The addictive potential of alcohol, pull the user into a vicious circle leading to its regular use (abuse) from which he/she may not be able to get out." Justify the statement.

Attempt either subpart C or D:

C. What do you understand by Dependence?

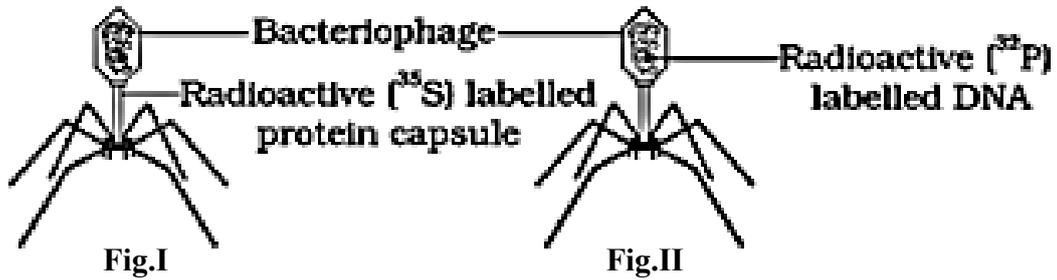
OR

D. What are the most common warning signs of alcohol abuse among youth?

Section -E

31.

A. A revolutionary experiment was performed in the field of molecular biology by Hershey-Chase. An important type of raw material used in the above experiment is given below:



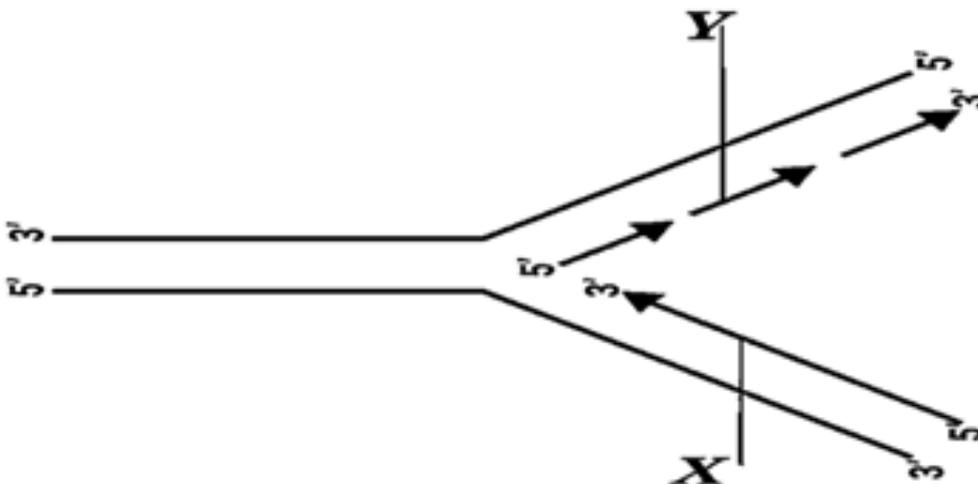
- B. Draw the part of the above experiment showing results in which a centrifuge was used.
- C. What observations in the above experiment provided an unequivocal proof that DNA is the genetic material?
- D. You are repeating the Hershey-Chase experiment and are provided with two isotopes: ³²P and ¹⁵N (in place of ³⁵S in the original experiment). How do you expect your results to be different if hypothetically ¹⁵N is radioactive?

For visually impaired students

- A. Absence of lactose in the culture medium affects the expression of a *lac* operon in *E. coli*. Why and how? Explain.
- B. What observations in the Hershey-Chase experiment provided an unequivocal proof that DNA is the genetic material?
- C. You are repeating the Hershey-Chase experiment and are provided with two isotopes: ³²P and ¹⁵N (in place of ³⁵S in the original experiment). How do you expect your results to be different if hypothetically ¹⁵N is radioactive?

OR

- A. State the contribution of Meselson and Stahl in proving the semi-conservative nature of DNA replication.
- B. Deoxyribonucleoside triphosphates (dNTPs) play a dual role in DNA replication. Explain. Name the enzyme that uses them during replication.
- C. The diagram below shows a replication fork. Study it and answer the following:



- (i) Identify strands X and Y.
- (ii) Why is strand Y synthesised in fragments?

5

For visually impaired students

- A. State the contribution of Meselson and Stahl in proving the semi-conservative nature of DNA replication.
- B. Deoxyribonucleoside triphosphates (dNTPs) play a dual role in DNA replication. Explain. Name the enzyme that uses them during replication.
- C. (i) How were the two methodologies Expressed Sequence Tags (ESTs) and Sequence annotation which were involved in human genome project, different from each other?
 (ii) Expand YAC.
 (iii) Which was the last chromosome sequenced of the 24 human chromosomes sequenced under Human Genome Project?

32. Microbes and enzymes are central to recombinant DNA technology.
- A. Name one bacterium that is the source of restriction enzymes used in genetic engineering. State its significance.
 - B. How is DNA isolated in purified form from a bacterial cell?
 - C. A plasmid vector contains both ampicillin and tetracycline resistance genes. Foreign DNA is inserted in the tetracycline resistance gene.
 (i) What will be the effect on tetracycline resistance?
 (ii) How can recombinants be distinguished from non-recombinants?

OR

- Gel electrophoresis is an important tool in biotechnology.
- A. What is the principle of gel electrophoresis?
 - B. Draw a neat, labelled diagram showing the separation of DNA fragments by gel electrophoresis.
 - C. How are the separated DNA fragments visualized and recovered for use in recombinant DNA experiments?

33. Justify the following statements with suitable examples:
- A. Predators play an important role in maintaining species diversity in a community.
 - B. Prey species have evolved special adaptations against predation.
 - C. Parasitism can significantly affect the survival and reproduction of the host.
 - D. Commensalism may benefit one species without harming the other.
 - E. Certain orchids employ sexual deceit to achieve pollination.

OR

- A. Certain species of cuckoo lay eggs in the nests of crows, and these eggs closely resemble those of the host in size and colour. Name this interaction and describe how it illustrates the concept of co-evolution.
- B. Study the tabulated data of the approximate number of individuals (N) of certain animal populations and maximum support of their habitat. Answer the questions given below.

Species	Population size (N)	K
Rabbit	500	1000
Deer	200	300
Housefly	10000	50000
Elephant	20	50

- (i) Which population is likely to face resource competition? Justify your answer.
- (ii) If the housefly population grows by 10%, what will be the new population size of housefly in the given area at the given time?
- (iii) Explain why populations rarely grow beyond their carrying capacity with reference to the above examples.

KENDRIYA VIDYALAYA SANGATHAN DEHRADUN REGION
PRE-BOARD EXAMINATION- 2025-26
ACCOUNTANCY(055)/ XII

TIME: 3 HRS

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 compulsory for all candidates.
4. Part - B Analysis of Financial Statement.
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

Q. No		Marks
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Part A :- Accounting for Partnership Firms and Companies

1	<p>(a) Assertion: Partner's current accounts are opened when their capital are fluctuating. Reasoning: In case of Fixed capitals all the transactions other than Capital are done through Current account of the partner.</p> <p>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</p> <p style="text-align: center;">OR</p> <p>(b) In the absence of an agreement, partners are entitled to:</p> <p>i) Profit share in capital ratio. ii) Commission for making additional sale. iii) Interest on Loan & Advances by them to the firm. iv) Salary for working extra hours. v) Interest on Capital.</p> <p>Choose the correct option: A) Only i), iv) and v). B) Only ii) and iii). C) Only iii). D) Only i) and iii).</p>	1
2	<p>A, B and C were partners sharing profits and losses in the ratio of 2:2:1. Their fixed Capital balances were ₹ 5,00,000; ₹ 4,00,000 and ₹ 3,00,000 respectively. For the year ended March 31, 2024 profits of ₹ 84,000 were distributed without providing for Interest on Capital @ 10% p.a as per the partnership deed.</p> <p>While passing an adjustment entry, which of the following is correct?</p> <p>A) C will be debited by ₹ 4,200 B) C will be credited by ₹ 4,200 C) C will be credited by ₹ 6,000 D) C will be debited by ₹ 6,000</p>	1
3	<p>(a) If 10,000 shares of ₹10 each were forfeited for non-payment of final call money of ₹3 per share and only 7,000 of these shares were re-issued @ ₹ 11 per share as fully paid up, then what is the minimum amount that company must collect at the time of re-issue of the remaining 3,000 shares?</p> <p>A) ₹ 21,000 B) ₹ 9,000 C) ₹ 16,000</p>	1

	<p>D) ₹ 30,000</p> <p style="text-align: center;">OR</p> <p>(b) Forfeiture of shares leads to reduction of _____ Capital.</p> <p>A) Authorised B) Issued C) Subscribed D) Called up</p>	
4	<p>(a) On 1st April 2022, Galaxy ltd. had a balance of ₹4,00,000 in Securities Premium account. During the year company issued 10,000 Equity shares of ₹10 each as bonus shares and used the balance amount to write off Loss on issue of Debenture on account of issue of 1,00,000, 9% Debentures of ₹100 each at a discount of 10% redeemable @ 5% Premium. The amount to be charged to Statement of P&L for the year for Loss on issue of Debentures would be:</p> <p>A) ₹15,00,000. B) ₹11,00,000. C) ₹12,00,000. D) ₹10,00,000.</p> <p style="text-align: center;">OR</p> <p>(b) Alexa Ltd. purchased building from Siri Ltd for ₹16,00,000. The consideration was paid by issue of 6% debentures of ₹100 each at a discount of 20%. The 6% Debentures account is credited with:</p> <p>A) ₹20,80,000 B) ₹20,00,000 C) ₹19,20,000 D) ₹12,80,000</p>	1
5	<p>Rohit and Ram were partners sharing profits and losses in the ratio 5:3. They admitted Sumit as a new partner. Rohit sacrificed $\frac{1}{4}$ from his share and Ram sacrificed $\frac{1}{6}$ of his share. What will be the new ratio?</p> <p>A) 6:5:5 B) 9:5:10 C) 15:10:7 D) 35:21:40</p>	1
6	<p>The profits earned by a business over the last 5 years are as follows: ₹12,000; ₹13,000; ₹14,000; ₹18,000 and ₹2,000 (loss). Based on 2 years purchase of the last 5 years profits, value of Goodwill will be:</p> <p>A) ₹23,600 B) ₹22,000 C) ₹1,10,000 D) ₹1,18,000</p>	1
7	<p>Vikas is a partner in a firm. His drawings during the year ended 31st March, 2025 were ₹72,000. If interest on drawings is charged @ 9% p.a. the interest charged will be:</p> <p>A) ₹324 B) ₹6,480 C) ₹3,240 D) ₹648</p>	1

8	<p>(a) P, Q and R are partners sharing profits in the ratio of 5: 4: 3. Q retires and P and R decide to share future profits equally. Gaining Ratio will be: A) 5:3 B) 1:1 C) 1:3 D) 3:1</p> <p style="text-align: center;">OR</p> <p>(b) A, B and C are partners in a firm sharing profit/loss in the ratio of 2: 2: 1. On March 31, 2025, C died. Accounts are closed on Dec., 31 every year. The sales for the year 2024 was ₹6,00,000 and the profits were ₹60,000. The sales for the period from Jan. 1, 2025 to March 31, 2025 were ₹2,00,000. The share of deceased partner in the current year's profits on the basis of sales is: A) ₹20,000 B) ₹8,000 C) ₹3,000 D) ₹4,000</p>	1
9	<p>Rama, a partner took over Machinery of ₹ 50,000 in full settlement of her Loan of ₹ 60,000. Machinery was already transferred to Realisation Account. How it will affect the Realisation Account? A) Realisation Account will be credited by ₹ 60,000 B) Realisation Account will be credited by ₹ 10,000 C) Realisation Account will be credited by ₹ 50,000 D) No effect on Realisation Account</p>	1
10	<p>(a) A and B are partners sharing profits and losses as 2 : 1. C is admitted and profit sharing ratio becomes 4: 3: 2. Goodwill is valued at ₹94,500. C brings required goodwill in cash. Goodwill amount will be Credited to : A) A ₹14,000 and B ₹7,000 B) A ₹12,000 and B ₹9,000 C) A ₹21,000 D) A ₹94,500</p> <p style="text-align: center;">OR</p> <p>(b) Ram and Shyam were partners sharing profits and losses in the ratio of 3:2. Their balance sheet shows building at ₹ 1,60,000. They admitted Mohan as a new partner for $\frac{1}{4}$th share. In additional information it is given that building is undervalued by 20%. The share of loss/gain of revaluation of Shyam is _____ & current value of building shown in new balance sheet is _____. A) Gain ₹ 12,800, Value ₹ 1,92,000 B) Loss ₹ 12,800, Value ₹ 1,28,000 C) Gain ₹ 16,000, Value ₹ 2,00,000 D) Gain ₹ 40,000, Value ₹ 2,00,000</p>	1
11	<p>Sara and Tara were partners in a firm. Their capitals as on 1st April, 2024 were ₹ 6,00,000 and ₹ 4,00,000 respectively. On 1st October, 2024, Tara withdrew ₹ 1,00,000 for personal use. According to the partnership deed, interest on capital was allowed @ 8% p.a. The amount of interest allowed on Tara's capital for the year ended 31st March, 2025 was : (A) ₹ 28,000 (B) ₹ 30,000 (C) ₹ 48,000 (D) ₹ 32,000</p>	1
	<p>From the given hypothetical situation, answer Q 12 – 14. X Ltd. issued 8,000, 9% Debentures of ₹100 each at a discount of 10%, redeemable at a premium of 5% on 1st April 2024. The full amount was payable on application. Applications were received for 9,000 debentures and allotment was made on pro rata basis. Balance of Securities Premium Reserve was ₹50,000.</p>	

12	The amount of interest payable on 31 st March 2025 will be A) ₹81,000 B) ₹72,000 C) ₹64,800 D) ₹72,800	1								
13	Net cash received on issue of debentures (after refund to unsuccessful applicants) was: A) ₹8,00,000 B) ₹7,20,000 C) ₹8,10,000 D) ₹7,10,000	1								
14	Loss on Issue of Debentures is to be written off as _____ out of Securities Premium and _____ out of Statement of Profit and Loss. A) ₹30,000; ₹90,000 B) ₹50,000; ₹70,000 C) ₹40,000; ₹80,000 D) ₹70,000; ₹50,000	1								
15	At the time of dissolution Machinery appears at ₹ 10,00,000 and accumulated depreciation for the machinery appears at ₹ 6,00,000 in the balance sheet of a firm. This machine is taken over by a creditor of ₹ 5,40,000 at 5% below the net value. The balance amount of the creditor was paid through bank. By what amount should the bank account be credited for this transaction? A) ₹ 60,000. B) ₹ 1,60,000. C) ₹ 5,40,000. D) ₹ 4,00,000.	1								
16	A, B and C who were sharing profits and losses in the ratio of 4:3:2 decided to share the future profits and losses in the ratio to 2:3:4 with effect from 1st April 2025. An extract of their Balance Sheet as at 31st March 2025 is: <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Liabilities</th> <th>Amount(₹)</th> <th>Assets</th> <th>Amount(₹)</th> </tr> </thead> <tbody> <tr> <td>Workmen Compensation Reserve</td> <td>65,000</td> <td></td> <td></td> </tr> </tbody> </table> <p>At the time of reconstitution, a certain amount of Claim on workmen compensation was determined for which B's share of loss amounted to ₹5,000. The Claim for workmen compensation would be: A) ₹15,000 B) ₹70,000 C) ₹50,000 D) ₹80,000</p>	Liabilities	Amount(₹)	Assets	Amount(₹)	Workmen Compensation Reserve	65,000			1
Liabilities	Amount(₹)	Assets	Amount(₹)							
Workmen Compensation Reserve	65,000									
17	(a) Aamir, Bashir and Chirag were partners in a firm sharing profits and losses in the ratio of 3 : 3 : 2. Chirag retired. Aamir and Bashir decided to share profits and losses in future in the ratio of 1 : 2. On the day of Chirag's retirement, goodwill of the firm was valued at ₹ 5,40,000. Calculate gaining ratio and pass necessary journal entry to record the treatment of goodwill on Chirag's retirement. OR (b) Anu, Manu, Sonu and Rohan were partners in a firm sharing profits and losses in the ratio of 1 : 2 : 1 : 2. With effect from 1st April, 2025, they decided to share profits and losses in the ratio of 2	3								

	<p>: 4 : 1 : 3. Their Balance Sheet showed General Reserve of ₹ 90,000. The goodwill of the firm was valued at ₹ 4,50,000.</p> <p>Pass necessary journal entries for the above on account of change in the profit sharing ratio. Show your working clearly.</p>																																	
18	<p>Vidhi, Manas and Ansh were partners sharing profits and losses in the ratio of 2 : 3 : 5. Ansh was given a guarantee that his share of profits in any given year would not be less than ₹ 1,20,000. Deficiency, if any, would be borne by Vidhi and Manas equally. Profits for the year ended 31st March, 2025 amounted to ₹ 2,00,000.</p> <p>Pass necessary journal entries in the books of the firm for division of profits.</p>	3																																
19	<p>Exe Ltd. took over the running business of Ananya Ltd. having assets of ₹20,00,000 and liabilities of ₹ 3,400,000 by:</p> <p>a) Issuing 16,000 8% Debentures of ₹ 100 each at 5% premium redeemable after 6 years @ ₹ 110; and b) Cheque for ₹ 1,00,000.</p> <p>Pass the Journal entries in the books of Exe Ltd.</p>	3																																
20	<p>On 1st April, 2025, the capital of the firm of Ashu and Madhav is ₹1,50,000. The normal rate of return on capital employed is 10%. Average profits of the firm are ₹23,500.</p> <p>Calculate goodwill of the firm based on three years purchase of super profits.</p>	3																																
21	<p>RR Ltd. was registered with an authorised capital of ₹ 8,00,000 divided into 80,000 equity shares of ₹ 10 each. The company offered to the public for subscription 40,000 equity shares. The amount per share was payable as follows:</p> <p>On Application — ₹ 5 On Allotment — ₹ 3 On first and final call — Balance</p> <p>The issue was fully subscribed and all amounts due were received except the allotment and call money on 2,000 shares allotted to Seema.</p> <p>Present the Share Capital in the Balance Sheet of the company as per Schedule III, Part I of the Companies Act, 2013. Also prepare 'Notes to Accounts' for the same</p>	4																																
22	<p>Aditi, Renu and Varsha were partners in a firm sharing profits and losses in the ratio of 3 : 2 : 5. On 31st March, 2025 their Balance Sheet was as under</p> <p style="text-align: center;">Balance Sheet of Aditi, Renu and Varsha as at 31st March, 2025</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Liabilities</th> <th style="width: 10%;">Amount (₹)</th> <th style="width: 30%;">Assets</th> <th style="width: 10%;">Amount (₹)</th> </tr> </thead> <tbody> <tr> <td>Capitals:</td> <td></td> <td>Buildings</td> <td>6,00,000</td> </tr> <tr> <td>Aditi 5,00,000</td> <td></td> <td>Machinery</td> <td>3,00,000</td> </tr> <tr> <td>Renu 4,00,000</td> <td></td> <td>Stock</td> <td>1,00,000</td> </tr> <tr> <td>Varsha 3,00,000</td> <td>12,00,000</td> <td>Patents</td> <td>1,50,000</td> </tr> <tr> <td>General Reserve</td> <td>1,00,000</td> <td>Debtors</td> <td>2,50,000</td> </tr> <tr> <td>Creditors</td> <td>2,00,000</td> <td>Cash</td> <td>1,00,000</td> </tr> <tr> <td></td> <td>15,00,000</td> <td></td> <td>15,00,000</td> </tr> </tbody> </table>	Liabilities	Amount (₹)	Assets	Amount (₹)	Capitals:		Buildings	6,00,000	Aditi 5,00,000		Machinery	3,00,000	Renu 4,00,000		Stock	1,00,000	Varsha 3,00,000	12,00,000	Patents	1,50,000	General Reserve	1,00,000	Debtors	2,50,000	Creditors	2,00,000	Cash	1,00,000		15,00,000		15,00,000	4
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	<p>Varsha died on 31st July, 2025. The partnership deed provided for the following, on the death of a partner:</p> <p>(i) Interest on capital was to be provided @ 6% p.a.</p> <p>(ii) Goodwill of the firm was to be valued at 3 years purchase of average profits of the previous five years which were ₹ 90,000.</p> <p>(iii) Varsha's share of profit or loss till the date of death was to be calculated on the basis of last year's profit. Profit for the year ending 31st March 2025 was ₹ 9,00,000</p> <p>Prepare Varsha's Capital Account to be rendered to her executors.</p>																																	
23	<p>a) Pass the necessary journal entries for 'Issue of Debenture' for the following:</p> <p>i. Arman Ltd. issued 750, 12% Debentures of ₹100 each at a discount of 10% redeemable at a premium of 5%.</p> <p>ii. Sohan Ltd. issued 800, 9% Debentures of ₹100 each at a premium of 20 per debenture redeemable at a premium of ₹10 per Debenture.</p> <p>b) X Ltd. obtained a loan of ₹4,00,000 from IDBI Bank. The company issued 5,000 9% Debentures of ₹100 each as a collateral security for the same.</p> <p>Show how these items presented in the Balance Sheet of the company.</p>	6																																
24	<p>Abhay, Bikram and Chris were partners in a firm sharing profits and losses equally. They decided to dissolve their partnership firm on 31st March, 2025. The firm's Balance Sheet on the date of dissolution was as follows :Balance Sheet of Abhay, Bikram and Chris as at 31st March, 2025</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">Liabilities</th> <th style="width: 15%;">Amount</th> <th style="width: 25%;">Assets</th> <th style="width: 35%;">Amount</th> </tr> </thead> <tbody> <tr> <td>Capital:</td> <td></td> <td>Plant and Machinery</td> <td>80,000</td> </tr> <tr> <td>Abhay</td> <td>68,000</td> <td>Furniture</td> <td>45,000</td> </tr> <tr> <td>Bikram</td> <td>1,00,000</td> <td>Motor Car</td> <td>1,25,000</td> </tr> <tr> <td>Chris</td> <td>77,000</td> <td>Stock</td> <td>30,000</td> </tr> <tr> <td style="border-top: 1px solid black;">Creditors</td> <td style="border-top: 1px solid black;">1,20,000</td> <td>Debtors</td> <td>70,000</td> </tr> <tr> <td></td> <td></td> <td>Cash at Bank</td> <td>15,000</td> </tr> <tr> <td></td> <td style="border-top: 1px solid black; border-bottom: 3px double black;">3,65,000</td> <td></td> <td style="border-top: 1px solid black; border-bottom: 3px double black;">3,65,000</td> </tr> </tbody> </table> <p>The following information is available:</p> <p>(i) Plant and Machinery was taken over by Abhay at an agreed valuation of ₹ 75,000.</p> <p>(ii) Furniture realised ₹ 40,000.</p> <p>(iii) Motor car was taken over by Bikram for ₹ 1,30,000.</p> <p>(iv) Debtors realised 10% less.</p> <p>(v) 10% of the stock was taken over by Chris for ₹ 4,500. The remaining stock was sold for ₹ 30,000.</p> <p>(vi) Realisation expenses amounted to ₹ 5,000.</p> <p>Prepare Realisation Account.</p>	Liabilities	Amount	Assets	Amount	Capital:		Plant and Machinery	80,000	Abhay	68,000	Furniture	45,000	Bikram	1,00,000	Motor Car	1,25,000	Chris	77,000	Stock	30,000	Creditors	1,20,000	Debtors	70,000			Cash at Bank	15,000		3,65,000		3,65,000	6
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25	<p>(a) Anikesh and Bhavesh are partners in a firm sharing profits in the ratio of 7:3. Their Balance Sheet as on 31st March, 2025 was as follows:</p>	6																																

Balance Sheet of Anikesh and Bhavesh as on 31st March, 2025

Liabilities	Amount (₹)	Assets	Amount (₹)
Creditors	60,000	Cash	36,000
Outstanding Wages	9,000	Debtors	54,000
General Reserve	15,000	Less: Provision for doubtful debts	6,000
Capitals:		Stock	60,000
Anikesh – 1,20,000		Furniture	1,20,000
Bhavesh – 1,80,000	3,00,000	Machinery	1,20,000
Total	3,84,000		3,84,000

On 1st April, 2025 Chahat was admitted for 1/4th share in the profits on the following terms:

- Chahat will bring ₹90,000 as her capital and ₹30,000 as her share of Goodwill premium.
- Outstanding wages will be paid.
- Stock will be reduced by 10%.
- A creditor of ₹6,300, not recorded in the books, was to be taken into account.

Pass necessary Journal Entries for the above transactions in the books of the firm.

OR

(b) Rishi, Shashi and Trishi were partners in a firm sharing profits and losses in proportion of 1/2, 1/6 and 1/3 respectively.

Their Balance Sheet as at 31st March, 2025 was as follows:

Liabilities	Amount (₹)	Assets	Amount (₹)
Capitals:		Fixed Assets	80,000
Rishi 36,000		Stock	20,000
Shashi 30,000		Debtors	30,000
Trishi 20,000	86,000	Cash	40,000
General Reserve	30,000		
Creditors	54,000		
	1,70,000		1,70,000

Shashi retired from the firm on 1st April, 2025 on the following terms:

- Fixed Assets were valued at ₹56,000.
- Stock was taken over by Shashi at ₹26,000.
- Goodwill of the firm was valued at ₹18,000 on Shashi's retirement.
- Balance in Shashi's Capital Account was transferred to her Loan Account.

Prepare the Revaluation Account and Partners' Capital Accounts.

26	<p>(a) Vani Limited invited applications for issuing 1,00,000 equity shares of ₹10 each at a premium of 10%. The amounts were payable as under: On Application and Allotment – ₹4 per share (including premium ₹1) On First Call – ₹4 per share On Second and Final Call – ₹3 per share Applications for 1,50,000 shares were received and pro-rata allotment was made to all the applicants. Excess application money was adjusted towards sums due on calls. Parth a shareholder who had applied for 600 shares, did not pay the first call. His shares were forfeited. The second and final call was not yet made. Half of the forfeited shares were reissued at ₹8 per share fully paid up. Journalise the above transactions in the books of Vani Limited by opening calls in arrears and calls in advance account wherever necessary.</p> <p align="center">OR</p>	6
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	<p>(b) Record the journal entries for forfeiture and re-issue of shares in the following cases</p> <p>(i) X Ltd forfeited 60 shares of ₹ 10 each, ₹ 7 called-up on which the shareholder had paid application and allotment money of ₹ 5 per share. Out of these, 45 shares were re-issued to Naresh as ₹ 7 per share paid-up for ₹ 8 per share.</p> <p>(ii) Y Ltd forfeited 180 shares of ₹ 10 each, ₹ 8 called up issued at a premium of ₹ 2 per share to 'R' for non-payment of allotment money of ₹ 5 per share (including premium). Out of these, 160 shares were re-issued to Sanjay as ₹ 8 called-up for ₹ 10 per share.</p>	
	Part B :- Analysis of Financial Statements	
27	<p>(a) The Quick Ratio of a company is 1 : 2. Which of the following transactions will result in an increase in this ratio?</p> <p>(A) Cash received from debtors (B) Sold goods on credit (C) Purchased goods on credit (D) Purchased goods on cash</p> <p style="text-align: center;">OR</p> <p>(b) _____ ratios are calculated to determine the ability of the business to service its debt in the long run.</p> <p>(A) Liquidity (B) Turnover (C) Solvency (D) Profitability</p>	1
28	<p>From the following calculate Interest coverage ratio Net profit after tax ₹ 12,00,000; 10% debentures Rs 1,00,00,000; Tax Rate 40%</p> <p>A) 1.2 times B) 3 times C) 2 times D) 5 times</p>	1
29	<p>(a) Statement I:- Sale of Marketable Securities will result in no flow of Cash. Statement II:- Debentures issued as collateral security will result in inflow of cash.</p> <p>A) Both Statements are correct. B) Both Statements are incorrect. C) Statement I is correct and Statement II is incorrect. D) Statement I is incorrect and Statement I is correct.</p> <p style="text-align: center;">OR</p> <p>(b) What will be the effect of issue of Bonus shares on Cash Flow Statement?</p> <p>A) No effect B) Inflow in Financing Activity C) Inflow in Operating activity D) Inflow in Investing Activity</p>	1
30	<p>While computing cash from operating activities, which of the following item(s) will be added to the net profit?</p> <p>(i) Decrease in value of inventory (ii) Increase in share capital (iii) Increase in the value of trade receivables (iv) Increase in the amount of outstanding expenses</p> <p>A) Only (i) B) Only (i) and (ii) C) Only (i) and (iii) D) Only (i) and (iv)</p>	1

31	<p>Classify the following items under Major heads and Sub heads (If any) in the balance sheet of a Company as per schedule III of the Companies Act 2013.</p> <p>i. Loose Tools ii. Loan repayable on demand iii. Provision for Retirement benefits</p>	3																																																																								
32	<p>(a) Determine Return on Investment and Net Assets Turnover ratio from the following information:- Profits after Tax were ₹ 6,00,000; Tax rate was 40%; 15% Debentures were of ₹20,00,000; 10% Bank Loan was ₹ 20,00,000; 12% Preference Share Capital ₹30,00,000; Equity Share Capital ₹ 40,00,000 ; Reserves and Surplus were ₹10,00,000; Sales ₹ 3,75,00,000 and Sales Return ₹ 15,00,000.</p> <p style="text-align: center;">OR</p> <p>(b) Calculate proprietary ratio, if Total assets to Debt ratio is 2:1. Debt is ₹5,00,000. Equity shares capital is 0.5 times of debt. Preference Shares capital is 25% of equity share capital. Net profit before tax is ₹10,00,000 and rate of tax is 40%.</p>	3																																																																								
33	<p>(a) From the following information, prepare Comparative Statement of Profit and Loss for the year ended 31st March, 2025 :</p> <table border="1"> <thead> <tr> <th>Particulars</th> <th>2024-25 (₹)</th> <th>2023-24 (₹)</th> </tr> </thead> <tbody> <tr> <td>Revenue from operations</td> <td>8,00,000</td> <td>4,00,000</td> </tr> <tr> <td>Other income</td> <td>1,60,000</td> <td>80,000</td> </tr> <tr> <td>Employee benefit expenses 50% of Revenue from operations</td> <td></td> <td></td> </tr> <tr> <td>Tax rate 50%</td> <td></td> <td></td> </tr> </tbody> </table> <p style="text-align: center;">OR</p> <p>(b) From the following information, prepare Common size Statement of Profit and Loss for the year ended 31st March, 2025 :</p> <table border="1"> <thead> <tr> <th>Particular</th> <th>2024-25 (₹)</th> <th>2023-24(₹)</th> </tr> </thead> <tbody> <tr> <td>Revenue from operations</td> <td>20,00,000</td> <td>10,00,000</td> </tr> <tr> <td>Purchase of stock in trade</td> <td>2,00,000</td> <td>1,00,000</td> </tr> <tr> <td>Other expenses</td> <td>20,000</td> <td>10,000</td> </tr> <tr> <td>Tax rate 50%</td> <td></td> <td></td> </tr> </tbody> </table>	Particulars	2024-25 (₹)	2023-24 (₹)	Revenue from operations	8,00,000	4,00,000	Other income	1,60,000	80,000	Employee benefit expenses 50% of Revenue from operations			Tax rate 50%			Particular	2024-25 (₹)	2023-24(₹)	Revenue from operations	20,00,000	10,00,000	Purchase of stock in trade	2,00,000	1,00,000	Other expenses	20,000	10,000	Tax rate 50%			4																																										
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34	<p>Compute Cash flow from operating activities on the basis of information given in the Balance Sheets of Relga Ltd. as at 31st March, 2024 and 31st March, 2025:</p> <table border="1"> <thead> <tr> <th>Particular</th> <th>Note No</th> <th>2024-25</th> <th>2023-24</th> </tr> </thead> <tbody> <tr> <td>I. Equity and Liabilities</td> <td></td> <td></td> <td></td> </tr> <tr> <td>1. Shareholder's Funds</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(a) Share Capital</td> <td></td> <td>2,50,000</td> <td>2,00,000</td> </tr> <tr> <td>(b) Reserves and Surplus</td> <td></td> <td>70,000</td> <td>50,000</td> </tr> <tr> <td>2. Non-current Liabilities</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Long-term Borrowings</td> <td></td> <td>80,000</td> <td>1,00,000</td> </tr> <tr> <td>3. Current Liabilities</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(a) Trade Payables</td> <td></td> <td>1,60,000</td> <td>60,000</td> </tr> <tr> <td>(b) Other Current Liabilities</td> <td></td> <td>20,000</td> <td>25,000</td> </tr> <tr> <td></td> <td></td> <td style="border-top: 1px dashed black;">5,80,000</td> <td style="border-top: 1px dashed black;">4,35,000</td> </tr> <tr> <td>Total</td> <td></td> <td></td> <td></td> </tr> <tr> <td>II. Assets</td> <td></td> <td></td> <td></td> </tr> <tr> <td>1. Non-current Assets</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(a) PPE and Intangible Assets</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(i) Property, plant & Equipments</td> <td></td> <td>2,00,000</td> <td>1,50,000</td> </tr> <tr> <td>(ii) Intangible Assets</td> <td></td> <td>2,000</td> <td>10,000</td> </tr> <tr> <td>(b) Long-term Loans and Advances</td> <td></td> <td>1,30,000</td> <td>1,00,000</td> </tr> </tbody> </table>	Particular	Note No	2024-25	2023-24	I. Equity and Liabilities				1. Shareholder's Funds				(a) Share Capital		2,50,000	2,00,000	(b) Reserves and Surplus		70,000	50,000	2. Non-current Liabilities				Long-term Borrowings		80,000	1,00,000	3. Current Liabilities				(a) Trade Payables		1,60,000	60,000	(b) Other Current Liabilities		20,000	25,000			5,80,000	4,35,000	Total				II. Assets				1. Non-current Assets				(a) PPE and Intangible Assets				(i) Property, plant & Equipments		2,00,000	1,50,000	(ii) Intangible Assets		2,000	10,000	(b) Long-term Loans and Advances		1,30,000	1,00,000	6
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2. Current Assets		90,000	70,000
(a) Inventories		60,000	40,000
(b) Trade Receivables		98,000	65,000
(c) Cash and Cash Equivalents		-----	-----
Total		5,80,000	4,35,000

Additional Information:

1. During the year a piece of machinery with a book value of ₹30,000; provision for depreciation on it ₹10,000 was sold at a loss of 50% on book value.
2. Debentures were redeemed on 31st March 2025.

Note to Accounts

Particular	2023-24	2024-25
1. Reserves and Surplus		
General Reserve	50,000	70,000
2. Long-term Borrowings		
12% Debentures	1,00,000	80,000
3. Trade Payables		
Creditors	40,000	1,00,000
Bills Payable	20,000	60,000
	-----	-----
	60,000	1,60,000
4. Other Current Liabilities		
Outstanding Expenses	25,000	20,000
5. Property, plant & Equipments		
Machinery	2,00,000	2,60,000
Less: Provision for Depreciation	(50,000)	(60,000)
	-----	-----
	1,50,000	2,00,000
6. Intangible Assets		
Goodwill	10,000	2,000

FIRST PRE BOARD (2025-26)
REGIONAL OFFICE DEHRADUN
CHEMISTRY THEORY (043)

Max. Marks:70

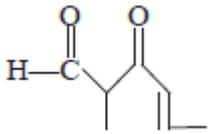
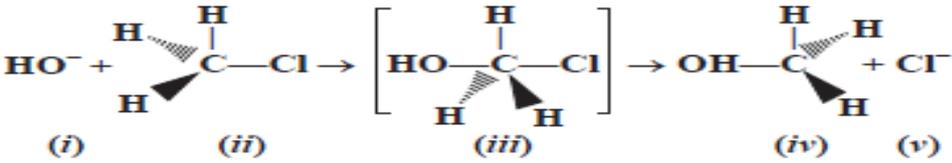
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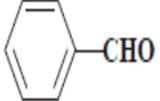
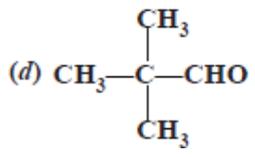
GENERAL INSTRUCTIONS:

Read the following instructions carefully.

- (a) There are **33** questions in this question paper with internal choice.
- (b) SECTION A consists of 16 multiple-choice questions carrying 1 mark each.
- (c) SECTION B consists of 5 short answer questions carrying 2 marks each.
- (d) SECTION C consists of 7 short answer questions carrying 3 marks each.
- (e) SECTION D consists of 2 case-based questions carrying 4 marks each.
- (f) SECTION E consists of 3 long answer questions carrying 5 marks each.
- (g) All questions are compulsory.
- (h) Use of log tables and calculators is not allowed.

SECTION A		
	The following questions are multiple-choice questions with one correct answer. Each question carries 1 mark. There is no internal choice in this section.	
1	K_H value for Ar(g), CO ₂ (g), HCHO(g) and CH ₄ (g) are 40.39, 1.67, 1.83×10^{-5} and 0.413 respectively. Arrange these gases in the order of their increasing solubility. (a) HCHO < CH ₄ < CO ₂ < Ar (b) HCHO < CO ₂ < CH ₄ < Ar (c) Ar < CO ₂ < CH ₄ < HCHO (d) Ar < CH ₄ < CO ₂ < HCHO ⁺	1
2	Which one has highest molar conductivity? (a) [Pt(NH ₃) ₂ Cl ₂] (b) [Co(NH ₃) ₄ Cl ₂] Cl (c) K ₄ [Fe(CN) ₆] (d) [Cr(H ₂ O) ₆] Cl ₃	1
3	Toluene reacts with Br ₂ in presence of sunlight to give (a) o-Bromo toluene (b) p-bromo toluene (c) Benzyl bromide (d) All of these	1
4	A primary alkyl halide would prefer to undergo _____. (a) S _N 1 reaction (b) S _N 2 reaction (c) α-Elimination (d) Racemisation	1
5	Choose the amide which on reduction with LiAlH ₄ gives secondary amine. (a) Ethanamide (b) N-Methylethanamide (c) N,N-diethylethanamide (d) Benzamide	1

6	 <p>The IUPAC name of above compound is</p> <p>(a) 2-Formyl hex-2-en-3-one (b) 5-methyl-4-oxo hex-2-en-5al (c) 3-keto-2-methyl hex-5en-al (d) 3-keto-2-methyl hex-4-en-1-al</p>	1										
7	<p>Phenol can be distinguished from ethanol by the reactions with _____</p> <p>(a) Nitrogen (b) Na (c) Neutral FeCl₃ (d) All the above</p>											
8	<p>Which of the following is not a consequence of lanthanide contraction?</p> <p>a) From La⁺³ to Lu⁺³, the ionic radii changes from 106 pm to 85 pm b) As the size of the lanthanide ions decreases the basic strength increases c) The basic character of oxides and hydroxides decreases with increase in atomic number d) The atomic radii of 4d and 5d series is similar</p>											
9	<p>Consider the following reaction and answer the questions</p>  <p>Which of the statements are correct about above reaction?</p> <p>(a) (i) and (v) both are nucleophiles. (b) In (iii) carbon atom is sp³ hybridised. (c) In (iii) carbon atom is sp² hybridised. (d) (i) and (v) both are electrophiles</p>											
10	<p>Proteins are found to have two different types of secondary structures viz. α-helix and β-pleated sheet structure. α-helix structure of protein is stabilised by :</p> <p>(a) Peptide bonds (b) van der Waals forces (c) Hydrogen bonds (d) Dipole-dipole interactions</p>											
11	<p>Match the terms given in Column I with the units given in Column II.</p> <table border="1"> <thead> <tr> <th>Column I</th> <th>Column II</th> </tr> </thead> <tbody> <tr> <td>(a) Λ_m</td> <td>(i) S cm⁻¹</td> </tr> <tr> <td>(b) E_{Cell}</td> <td>(ii) m⁻¹</td> </tr> <tr> <td>(c) k</td> <td>(iii) S cm² mol⁻¹</td> </tr> <tr> <td>(d) G*</td> <td>(iv) V</td> </tr> </tbody> </table> <p>(a) Λ_m – S cm² mol⁻¹, E_{Cell} – V, k – m⁻¹, G* – S cm⁻¹ (b) Λ_m – S cm² mol⁻¹, E_{Cell} – V, k – S cm⁻¹, G* – m⁻¹ (c) Λ_m – S cm² mol⁻¹, E_{Cell} – m⁻¹, k – S cm⁻¹, G* – V (d) Λ_m – m⁻¹, E_{Cell} – V, k – S cm⁻¹, G* – S cm² mol⁻¹</p>	Column I	Column II	(a) Λ _m	(i) S cm ⁻¹	(b) E _{Cell}	(ii) m ⁻¹	(c) k	(iii) S cm ² mol ⁻¹	(d) G*	(iv) V	
Column I	Column II											
(a) Λ _m	(i) S cm ⁻¹											
(b) E _{Cell}	(ii) m ⁻¹											
(c) k	(iii) S cm ² mol ⁻¹											
(d) G*	(iv) V											

12	<p>Which of the following compounds do not undergo aldol condensation?</p> <p>(a) $\text{CH}_3\text{-CHO}$ (b)  -CHO (c) $\text{CH}_3\text{-C(=O)-CH}_3$ (d) </p> <p>(a) a (b) b & d (c) a ,b & c (d) b & d</p>	
13	<p>Assertion: D (+) – Glucose is dextrorotatory in nature. Reason: ‘D’ represents its dextrorotatory nature.</p> <p>Select the most appropriate answer from the options given below:</p> <p>(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.</p>	
14	<p>Assertion: Λ_m for weak electrolytes shows a sharp increase when the electrolytic solution is diluted. i</p> <p>Reason: For weak electrolytes degree of dissociation increases with dilution of solution.</p> <p>Select the most appropriate answer from the options given below:</p> <p>(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.</p>	
15	<p>Assertion: Acetanilide is less basic than aniline. Reason: Acetylation of aniline results in decrease of electron density on nitrogen.</p> <p>Select the most appropriate answer from the options given below:</p> <p>(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.</p>	
16	<p>Assertion: When a solution is separated from the pure solvent by a semipermeable membrane, the solvent molecules pass through it from pure solvent side to the solution side. Reason: Diffusion of solvent occurs from a region of high concentration solution to a region of low concentration solution.</p> <p>Select the most appropriate answer from the options given below:</p> <p>(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.</p>	

SECTION B

This section contains 5 questions with internal choice in one question. The following questions are very short answer type and carry 2 marks each.

17 a. On mixing liquid X and liquid Y, volume of the resulting solution decreases. What type of deviation from Raoult's law is shown by the resulting solution? What change in temperature would you observe after mixing liquids X and Y? 1

b. What happens when we place the blood cell in water (hypotonic solution)? Give reason. 1

18 Write the state of hybridization, shape and IUPAC name of the complex $[\text{Co}(\text{NH}_3)_6]^{3+}$. (Atomic no. of Co = 27). 2

19 Following data were obtained for the given reaction. $\text{X} + \text{Y} \rightarrow \text{Product}$ 2

Exp.	[X]/M	[Y]/M	Initial Rate M min^{-1}
1.	0.1 M	0.2 M	0.05
2.	0.2 M	0.2 M	0.10
3.	0.1 M	0.1 M	0.05

(i) Find the order of reaction with respect to X and Y

(j) (ii) Find the rate constant.

20 Explain 1

a. Carbylamine reaction

b. Hoffmann bromamide reaction 1

21 Write chemical equations when: 1

(i) ethyl chloride is treated with aqueous KOH.

(ii) chlorobenzene is treated with CH_3COCl in presence of anhydrous AlCl_3 1

OR

Account for the following:

(i) The boiling point of ethanol is higher than that of methanol. 1

(ii) Phenol is a stronger acid than an alcohol. 1

SECTION C

This section contains 7 questions with internal choice in one question. The following questions are short answer type and carry 3 marks each.

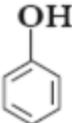
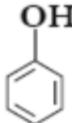
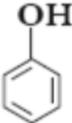
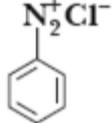
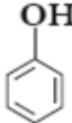
22 Give reasons for the following: 1

(k) The transition metals generally form coloured compounds. 1

(ii) E^0 value for $(\text{Mn}^{3+}|\text{Mn}^{2+})$ is highly positive than that for $(\text{Cr}^{3+}|\text{Cr}^{2+})$ couple. 1

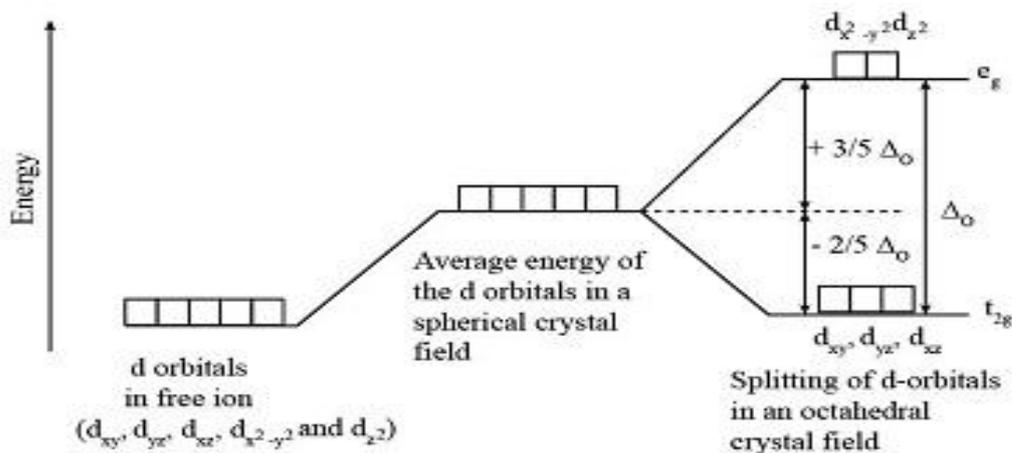
(iii) Zr and Hf have almost similar atomic radii. 1

23 (i) Complete the following reaction and also write the mechanism 2

	$\text{CH}_2=\text{CH}_2 + \text{H}_2\text{O} \xrightarrow{\text{conc H}_2\text{SO}_4} ?$	
	(ii) Out of o-nitro phenol and p-nitro phenol which is steam volatile and why.	1
	OR	
	Complete any three of the following	
	<p>(a)  + HNO_3 (dil.) \longrightarrow</p> <p>(b)  + $\text{CHCl}_3 + \text{NaOH} \xrightarrow{343\text{K}}$</p> <p>(c)  +  \longrightarrow</p> <p>(d)  + $\text{CH}_3\text{COCl} \xrightarrow{\text{base}}$</p>	1 1 1
24	<p>(i) Calculate e.m.f. and ΔG for the following cell: $\text{Mg (s) / Mg}^{2+} (0.001 \text{ M}) // \text{Cu}^{2+} (0.0001 \text{ M}) / \text{Cu (s)}$ Given : $E^0 \text{Mg}^{2+}/\text{Mg} = -2.37 \text{ V}$. $E^0 \text{Cu}^{2+}/\text{Cu} = +0.34 \text{ V}$</p> <p>(ii) Write charging reaction of lead storage battery</p>	2 1
25	When a chromite ore (A) is fused with sodium carbonate in free excess of air and the product is dissolved in water, a yellow solution of compound (B) is obtained. After treatment of this yellow solution with sulphuric acid, compound (C) can be crystallised from the solution. When compound (C) is treated with KCl, orange crystals of compound (D) crystallise out. Identify A to D and also explain the reactions	1 1 1
26	<p>(i) Write the structural formulae of the organic compounds 'A', 'B', 'C' and 'D' in the following sequence of reactions:</p> $\text{'A'} + \text{CH}_3\text{MgBr} \xrightarrow{\text{H}_2\text{O}} \text{CH}_3-\text{CH}_2-\underset{\text{OH}}{\text{CH}}-\text{CH}_3$ $\downarrow \text{Conc. H}_2\text{SO}_4$ $\text{'D'} \xleftarrow{\text{alc. KOH}} \text{'C'} \xleftarrow{\text{Br}_2} \text{'B'}$	1 1 1
	(ii) Why Grignard reagent is prepared under anhydrous condition	
27	Distinguish between the following: <ol style="list-style-type: none"> Acetone and ethanal 2-Pentanone and 3-pentanone Phenol and benzoic acid 	1 1 1
28	Calculate the amount of CaCl_2 (molar mass 111 g mol^{-1}) which must be added to 500 g of water to lower the freezing point by 2K, assuming CaCl_2 is completely dissociated. ($K_f = 1.86 \text{ K kg mol}^{-1}$)	3
	SECTION D	

The following questions are case-based questions. Each question has an internal choice and carries 4 (2+1+1) marks each. Read the passage carefully and answer the questions that follow.

29 Observe the diagram of splitting of d-orbitals in octahedral field and answer the questions based on the diagrams and related studied concepts.



(a) What is crystal field splitting energy? How is the crystal field splitting energy for octahedral (Δ_0) and tetrahedral (Δ_t) complexes related?

(b) Arrange the following complex ions in the increasing order of Crystal field splitting energy
 $[\text{CrCl}_6]^{3-}$, $[\text{CrCN}_6]^{3-}$, $[\text{Cr}(\text{NH}_3)_6]^{3+}$

(c) What is electronic configuration of d_5 ion if $\Delta_0 < P$?

30 Simplest electrolytic cell consist of two copper strips dipping in an aqueous solution of CuSO_4 . DC voltage is applied between two electrodes. Many metals like Na, Mg, Al etc. are produced on large scale by electrochemical reduction of their respective cations where no suitable reducing agent are available for this purpose. Sodium and magnesium are produced by electrolysis of fused chlorides and aluminium is produced by electrolysis of Al_2O_3 in presence of bauxite.

(a) Write the reaction taking place at anode when acidified CuSO_4 is electrolysed using copper electrodes?

(b) What is sign of ΔG° in electrolytic cell?

(c) Why are highly reactive metals obtained by electrolytic reduction and not by chemical reduction of molten ores and not from aqueous solutions?

Or

What will be products of electrolysis at cathode and anode in electrolysis of $\text{NaCl}(\text{aq})$ using platinum electrodes?

SECTION E

The following questions are long answer types and carry 5 marks each. All questions have an internal choice

31 i. Write a reaction which shows that all the carbon atoms in glucose are linked in a straight chain.
 ii. Name one water soluble vitamin which is a powerful antioxidant.
 iii. Name the products of hydrolysis of lactose.
 iv. Mention one important function of nucleic acids in our body.

2

1

1

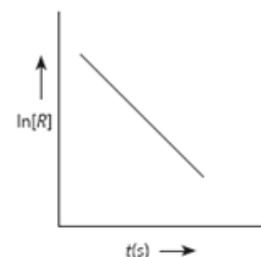
1

1

2

5*1

	v. Write name of two types of RNA molecules which perform different functions?	
	OR	
	i. Write down the structures and names of the products formed when D-glucose is treated with Bromine water ii. What you understand by secondary structure of proteins iii. Which component of starch is insoluble in water? iv. What is meant by the denaturation of a protein? v. Name the bases present in RNA. Which one of these is not present in DNA?	5*1
32	(a) How will you convert the following: (i) Propanone to Propan-2-ol (ii) Ethanal to 2-Hydroxypropanoic acid (iii) Toluene to Benzoic acid (b) (i) Aniline does not undergo Friedel–Crafts Reaction. (ii) p-methyl aniline is more basic than p-nitroaniline	5*1
	OR	
	(a) Account for the following: (i) $\text{Cl}-\text{CH}_2\text{COOH}$ is a stronger acid than CH_3COOH . (ii) Carboxylic acids do not give reactions of carbonyl group. (b) An organic compound 'A' on treatment with aqueous ammonia and heating forms compound 'B' which on heating with Br_2 and KOH forms a compound 'C' of molecular formula $\text{C}_6\text{H}_7\text{N}$. Write the structure and IUPAC names of A, B and C.	5*1
33	(a) For a chemical reaction $\text{R} \rightarrow \text{P}$, the variation in the concentration, $\ln[\text{R}]$ vs. time (s) plot is given as shown in figure (i) Predict the order of the reaction. (ii) What is the slope of the curve? (iii) Write the unit of rate constant for this reaction. (b) Show that the time required for 99% completion is double of the time required for the completion of 90% reaction.	1 1 1 2
	OR	
	(a) For a reaction $\text{A} + \text{B} \rightarrow \text{P}$, the rate is given by $\text{Rate} = k[\text{A}][\text{B}]^2$ (i) How is rate reaction affected if the concentration of 'B' is doubled. (ii) What is overall order of reaction if 'A' is present in large excess? (b) A first order reaction takes 23.1 minutes for 50% completion. Calculate the time required for 75% completion of this reaction. $\log 2 = 0.301$ $\log 3 = 0.4771$, $\log 4 = 0.6021$	1 1 3



9.	<p>Which of the following statement(s) would give an error after executing the following code?</p> <pre>S="Welcome to class XII" # Statement 1 print(S) # Statement 2 S="Thank you" # Statement 3 S[0]='@' # Statement 4 S=S+"Thank you" # Statement 5</pre> <p>(a) Statement 3 (b) Statement 4 (c) Statement 5 (d) Statement 4 and 5</p>	1
10.	<p>Write the output of the following code:</p> <pre>for k in range(2,10,3): print(k, end='-')</pre> <p>(a) 2-5-8- (b) 2-5-8 (c) 2-3-4-5-6-7-8-9- (d) 2-5-8-11-</p>	1
11.	<p>Which of the following constraints prevents a field from being left blank?</p> <p>(a) UNIQUE (b) CHECK (c) DEFAULT (d) NOT NULL</p>	1
12.	<p>A relation named Employee exists with 4 columns and 5 records. If two more columns are added, what is the new degree of the relation?</p> <p>a) 5 (b) 6 (c) 7 (d) 4</p>	1
13.	<p>Which SQL command is used to modify structure of a table?</p> <p>a) UPDATE (b) ALTER (c) MODIFY (d) CHANGE</p>	1
14.	<p>What will be the output of the following Python code?</p> <pre>x = 10 print(x, end='--') def multiply(): global x x = x * 2 print(x, end='++') multiply() print(x)</pre> <p>(a) 10--20++20 (b) 10--20++10 (c) 10--10++20 (d) 20--20++20</p>	1
15.	<p>Which function should be used to display the total number of records from table in a database?</p> <p>(a) sum(*) (b) total(*) (c) count(*) (d) return(*)</p>	1
16.	<p>The SELECT statement when combined with _____ clause, returns records without repetition.</p> <p>(a) DESCRIBE (b) UNIQUE (c) DISTINCT (d) NULL</p>	1
17.	<p>Which of the following network devices is used to connect different networks and also performs data routing between them?</p> <p>(a) Switch (b) Hub (c) Router (d) Repeater</p>	1
18.	<p>You work in a company that allows you to work from home. Recently you encountered a problem in your laptop and you called the IT head of your company to resolve the problem. He asked you to give him remote access of your laptop.</p> <p>Which network protocol will be used in this connection?</p> <p>(a) FTP (b) VOIP (c) PPP (d) TELNET</p>	1
19.	<p>Software used to view web pages is known as _____.</p> <p>(a) Web server (b) Website (c) Web browser (d) Web hosting</p>	1

	<p>Q 20 and 21 are ASSERTION AND REASONING based questions. Mark the correct choice as</p> <p>(a) Both A and R are true and R is the correct explanation for A (b) Both A and R are true and R is not the correct explanation for A (c) A is True but R is False (d) A is false but R is True</p>	
20.	<p>Assertion (A): A primary key must be unique and cannot have NULL values. Reasoning (R): The primary key uniquely identifies each row in the table.</p>	1
21.	<p>Assertion (A): In Python, the finally block is always executed, whether an exception occurs or not. Reason (R): The finally block is used to write the code that must be executed before a program terminates, such as closing files or releasing resources.</p>	1
SECTION B (7 X 2 = 14 Marks)		
22.	<p>Explain the term Dynamic Typing in Python with the help of example. OR Differentiate between mutable and immutable data types in Python with one suitable example each.</p>	2
23.	<p>Rao has written a code to input a number and check whether it is prime or not. His code is having errors. Rewrite the correct code and underline the corrections made.</p> <pre> Def prime(): n=int(input("Enter number to check :: ")) for i in range (2, n//2): if n%i=0: print("Number is not prime \n") break else: print("Number is prime \n") </pre>	2
24.	<p>Answer using Python built-in methods/functions only :</p> <p>I. Write a Python statement to convert all characters of string S to uppercase. II. Write a Python statement to count the number of elements in list L.</p> <p style="text-align: center;">OR</p> <p>Predict the output of the following Python code: quote = "Knowledge is the power, but enthusiasm pulls the switch." print(quote.replace("the", "your")) print(quote.split()[3])</p>	2
25.	<p>Write a function count_even() in Python that accepts a list of integers as input and returns the count of even numbers present in the list.</p> <p style="text-align: center;">OR</p> <p>Write a Python function update_marks() that accepts a dictionary Marks with student names as keys and their marks as values, along with a name and new_mark. The function should update the student's mark if the name exists, otherwise print "Student not found".</p>	2
26.	<p>Predict the output of the Python code:</p> <pre> data = {'A':90,'B':75,'C':60,'D':95} sel = [] for k in data: if data[k]>80: sel.append(k) print(sel) </pre>	2
27.	<p>Write suitable commands to do the following in MySQL.</p> <p>I. To list all the tables in a database LIBRARY. II. To remove a database EXAM from system.</p> <p style="text-align: center;">OR</p> <p>Differentiate between count() and count(*) functions in SQL with appropriate example.</p>	2

28.	Expand the following terms: SMTP, VOIP, HTTPS, PPP OR Define the term Network Topology and mention the advantages of using STAR topology.	2																																																															
SECTION C (3 X 3 = 9 Marks)																																																																	
29.	Write a method COUNTLINES() in Python to read lines from text file "TESTFILE.TXT" and display the lines which are not starting with any vowel. OR Write a function ETCount() in Python, which should read the text file "TESTFILE.TXT" and then print the count of occurrences of words ending with character 'n'.	3																																																															
30.	A list contains following record of course details for a University: [Course_name, Fees, Duration] Course=[["MCA", 200000, 3] , ["MBA", 500000, 2] , ["BA", 100000, 3]] Write the following user defined functions to perform given operations on the stack named 'Univ' : (i) Push_element() - To push an object containing the Course_name, Fees and Duration of a course, which has fees greater than 100000 to the stack. The stack should contain ["MBA", 500000, 2] ["MCA", 200000, 3] (ii) Pop_element() - To pop the object from the stack and display it. Also, display "Underflow" when there is no element in the stack.	3																																																															
31.	Predict the output of the Python code given below: <pre>s = 'Computer@Science' n = len(s) m = "" for i in range(0, n): if (s[i] >= 'a' and s[i] <= 'm'): m = m + s[i].upper() elif (s[i] >= 'n' and s[i] <= 'z'): m = m + s[i-1] elif (s[i].isupper()): m = m + s[i].lower() else: m = m + '\$\$' print(m)</pre> <p style="text-align: center;">OR</p> Predict the output of the Python code given below: <pre>cities = ["Delhi", "Kolkata", "Chennai", "Mumbai", "Pune", "Agra", "Bhopal"] result = [] for city in cities: if len(city) % 2 == 0: result.append(city[-2:].upper()) print(result)</pre>	3																																																															
SECTION D (4 X 4 = 16 Marks)																																																																	
32.	Consider the table Teacher as given below: Table : Teacher <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>T_ID</th> <th>Name</th> <th>Age</th> <th>Department</th> <th>Date_of_join</th> <th>Salary</th> <th>Gender</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Arunan</td> <td>34</td> <td>Computer Sc</td> <td>2019-01-10</td> <td>12000</td> <td>M</td> </tr> <tr> <td>2</td> <td>Saman</td> <td>31</td> <td>History</td> <td>2017-03-24</td> <td>20000</td> <td>F</td> </tr> <tr> <td>3</td> <td>Randeep</td> <td>32</td> <td>Mathematics</td> <td>2020-12-12</td> <td>30000</td> <td>M</td> </tr> <tr> <td>4</td> <td>Samira</td> <td>35</td> <td>History</td> <td>2018-07-01</td> <td>40000</td> <td>F</td> </tr> <tr> <td>5</td> <td>Raman</td> <td>42</td> <td>Mathematics</td> <td>2021-09-05</td> <td>25000</td> <td>M</td> </tr> <tr> <td>6</td> <td>Shyam</td> <td>50</td> <td>History</td> <td>2019-06-27</td> <td>30000</td> <td>M</td> </tr> <tr> <td>7</td> <td>Shiv</td> <td>44</td> <td>Computer Sc</td> <td>2019-02-25</td> <td>21000</td> <td>M</td> </tr> <tr> <td>8</td> <td>Shalakra</td> <td>33</td> <td>Mathematics</td> <td>2018-07-31</td> <td>20000</td> <td>F</td> </tr> </tbody> </table> <p>A. Write the following queries</p> <ol style="list-style-type: none"> To print Name of teachers working in Computer Science department. To display the details of female employees getting salary less than 20000. 	T_ID	Name	Age	Department	Date_of_join	Salary	Gender	1	Arunan	34	Computer Sc	2019-01-10	12000	M	2	Saman	31	History	2017-03-24	20000	F	3	Randeep	32	Mathematics	2020-12-12	30000	M	4	Samira	35	History	2018-07-01	40000	F	5	Raman	42	Mathematics	2021-09-05	25000	M	6	Shyam	50	History	2019-06-27	30000	M	7	Shiv	44	Computer Sc	2019-02-25	21000	M	8	Shalakra	33	Mathematics	2018-07-31	20000	F	4
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7	Shiv	44	Computer Sc	2019-02-25	21000	M																																																											
8	Shalakra	33	Mathematics	2018-07-31	20000	F																																																											

- III. To display average **salary** of male and female teachers.
- IV. To count the number of teachers in each department.

OR

B. Predict the output of the following

- I. SELECT Department, avg(salary) FROM Teacher GROUP BY Department;
- II. SELECT MAX(Date_of_Join), MIN(Date_of_Join) FROM Teacher;
- III. SELECT Name from Teacher where Department like '%ry';
- IV. SELECT Name, Age FROM Teacher where Salary between 25000 and 40000;

33. Kaustubh is working in a mall as a data analyst. The company stores the data in a CSV file named "Product.csv" that contains columns pid, pname and price to store Product id, Product name and Product price respectively.
 Help him to efficiently maintain the data by creating the following user-defined functions

- i. add() – To accept and add data of a Product to the CSV file.
- ii. search()- To display the records of the Product whose price is more than 20000 and product name starting with a vowel.

34. Your friend Satish is working in a company to manage the employee related issues. Help him by writing SQL queries to get desired information from the tables.

Table **Employees**

Empid	Firstname	Lastname	Address	City
010	Ravi	Kumar	Raj nagar	GZB
105	Harry	Waltor	Gandhi nagar	GZB
152	Sam	Tones	33 Elm St.	Paris
215	Sarah	Ackerman	440 U.S. 110	Upton
244	Manila	Sengupta	24 Friends street	New Delhi
300	Robert	Samuel	9 Fifth Cross	Washington
335	Ritu	Tondon	Shastri Nagar	GZB
400	Rachel	Lee	121 Harrison St.	New York
441	Peter	Thompson	11 Red Road	Paris

Table **EmpSalary**

Empid	Salary	Benefits	Designation
010	75000	15000	Manager
105	65000	15000	Manager
152	80000	25000	Director
215	75000	12500	Manager
244	50000	12000	Clerk
300	45000	10000	Clerk
335	40000	10000	Clerk
400	32000	7500	Salesman
441	28000	7500	salesman

Write the SQL commands for the following:

- I. To show first name, last name and address of all employees who lives in Paris or Upton.
- II. To display the details of Employees table in descending order of First name.
- III. To display the first name, last name and salary of all employees from the tables Employee and EmpSalary, who are working as Manager.
- IV. To increase salary of all Clerks by Rs.1000.

OR

To print maximum and minimum salary for each designation.

35.	<p>You are working on a project that involves managing inventory records of a store in a MySQL database. Assume the database is named STOREDB, the user is admin, and the password is admin123. The MySQL is available on a local computer, not a remote computer. The table INVENTORY in the database has following columns:</p> <ul style="list-style-type: none"> ○ ProductID (INTEGER, Primary Key) ○ ProductName (VARCHAR(100)) ○ Price (FLOAT(8,2)) ○ PurchaseDate (DATE) <p>Your task is to create a Python program that adds Rs. 100 to the price of the products that have string “soap” in their product name.</p>	4
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SECTION E (2 X 5 = 10 Marks)

36.	<p>A file, PASSENGERS.DAT, stores the records of passengers using the following structure : [PNR, PName, BRDSTN, DESTN, FARE] where :</p> <p>PNR – Passenger Number (string type) PName – Passenger Name (string type) BRDSTN – Boarding Station Name (string type) DESTN – Destination Station Name (string type) FARE – Fare amount for the journey (float type)</p> <p>Write user defined functions in Python for the following tasks :</p> <p>(i) Create() – to input data for passengers and write it in the binary file PASSENGERS.DAT. (ii) SearchDestn(D) –to read contents from the file PASSENGERS.DAT and display the details of those Passengers whose DESTN matches with the value of D. (iii) UpdateFare() – to increase the fare of all passengers by 5% and rewrite the updated records into the file PASSENGERS.DAT.</p>	5
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37.	<p>MyPace University is setting up its academic blocks at Naya Raipur and is planning to set up a network. The University has 3 academic blocks and one Human Resource Center as shown in the diagram below:</p> <div style="text-align: center; border: 1px solid black; padding: 10px; width: fit-content; margin: 10px auto;"> <pre> graph TD subgraph Blocks direction TB subgraph TopRow direction LR B[Business Block] --- T[Technology Block] end subgraph BottomRow direction LR L[Law Block] --- H[HR Center] end B --- L T --- H end </pre> </div> <p>Center to Center distances between various blocks/center and the no. of computers in blocks are as follows:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #f4a460;">Law Block to business Block</td> <td style="background-color: #f4a460;">40m</td> <td style="background-color: #f4a460;">Law Block</td> <td style="background-color: #f4a460;">15</td> </tr> <tr> <td>Law block to Technology Block</td> <td>80m</td> <td>Technology Block</td> <td>40</td> </tr> <tr> <td>Law Block to HR center</td> <td>105m</td> <td>Business Block</td> <td>25</td> </tr> <tr> <td>Business Block to technology Block</td> <td>30m</td> <td>HR Center</td> <td>115</td> </tr> <tr> <td>Business Block to HR Center</td> <td>35m</td> <td></td> <td></td> </tr> <tr> <td>Technology block to HR center</td> <td>15m</td> <td></td> <td></td> </tr> </table>	Law Block to business Block	40m	Law Block	15	Law block to Technology Block	80m	Technology Block	40	Law Block to HR center	105m	Business Block	25	Business Block to technology Block	30m	HR Center	115	Business Block to HR Center	35m			Technology block to HR center	15m			5
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Business Block to HR Center	35m																									
Technology block to HR center	15m																									

	<ol style="list-style-type: none"> I. Suggest the most suitable place (i.e., Block/Center) to install the server of this University with a suitable reason. II. Suggest an ideal layout for connecting these blocks/centers for a wired connectivity. III. Which device will you suggest to be placed/installed in each of these blocks/centers to efficiently connect all the computers within these blocks/centers. IV. The University wants to establish a high-speed wired connection to its placement center situated 04 KM away from the main campus. Which cable should be used for this connection? V. a. The university is planning to connect its admission office in Delhi, which is more than 1250 km from university. Which type of network out of LAN, MAN, or WAN will be formed? Justify your answer. <p style="text-align: center;">OR</p> <p>b. What is the use of SMTP?</p>	
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Time allowed: 3 Hrs.

Maximum Marks: 80

General Instructions

Read the following instructions very carefully and follow them:

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

SECTION A: READING SKILLS (22 marks)

1. Read the following passage.

12 Marks

1. Behavioural scientists have spent a lot of time studying what makes us happy. We know happiness can predict health and longevity, and happiness scales can be used to measure social progress and the success of public policies. But happiness isn't something that just happens to you.

2. Happiness often comes from within. Learn how to tame negative thoughts and approach every day with optimism. Don't try to stop negative thoughts. Telling yourself "I have to stop thinking about this," only makes you think about it more. Treat yourself like a friend. When you are feeling negative about yourself, ask yourself what advice would you give a friend who was down on herself. Now try to apply that advice to you. Socratic questioning is the process of challenging and changing irrational thoughts. Studies show that this method can reduce depression symptoms. The goal is to get you from a negative mind-set to a more positive one.

3. Optimism is part genetic, part learned. Optimism doesn't mean ignoring the reality of a dire situation. After a job loss, for instance, many people may feel defeated and think, "I'll never recover from this." An optimist would acknowledge the challenge in a more hopeful way, saying, "This is going to be difficult, but it's a chance to rethink my life goals and find work that truly makes me happy."

4. Generosity makes people happier. Several studies have found that people who behaved generously were happier compared to people who made selfish decisions. In fact, just thinking about being generous and kind triggers a happiness reaction in our brains.

5. Behaviours and habits we engage in do matter—from gratitude to kindness to mindfulness—and that they can lead to an enduring happiness boost. It is important to choose activities that fit our personality and interests. Activities fit us better when they feel natural, enjoyable, and aligned with our values, rather than driven by guilt or other people's expectations. Choose activities that are virtuous and meaningful, rather than obsessing about feeling good all the time. Hedonism won't necessarily make you happy, even if you feel good in the moment. If we pursue pleasure, it shouldn't be at the expense of living a meaningful life. We also need to pursue a purpose, and practice forgiveness, gratitude, and generosity—those give us a sense of competence, autonomy, and connection, which are core human needs. People who invest more effort into their new habits see greater improvements in their well-being. "People can create for themselves a steady inflow of engaging, satisfying, connecting, and uplifting positive experiences, thereby increasing the likelihood that they remain in the upper range of their happiness potentials," Sheldon and Lyubomirsky.

Answer the following questions based on the passage above.

- i. Statement I: Happiness is something that happens to you. 1
Statement II: Happiness often comes from within.
- (a) Both statements are false.
(b) Statement I is false and Statement II is true.
(c) Statement I is true and Statement II is false.
(d) Both statements are true.
- ii. Mention two ways by which one can tame negative thoughts, as given in the passage. 2
- (a) _____ (b) _____
- iii. Socratic Questioning- 1
- (1) Reduces depression symptoms
(2) Gives a positive mindset
(3) Makes one generous
(4) Challenges irrational thoughts
- A. 1,2 & 3 B. 2&4 C. 1,2,3&4 D. 1,2& 4
- iv. Hedonism refers to- 1
- (a)The belief that you are not successful
(b)The belief that pleasure is the most important thing in life
(c) The belief that it is not wrong to achieve happiness through unfair means
(d) The belief that happiness is a temporary emotion
- v. The passage emphasizes- 1
- (a) The need for developing activities that fit oneself
(b)The need to be optimistic
(c) The need to create positive experiences for oneself
(d)The need to do surveys on happiness scales
- A. 1&2 B. Only 1 C. 1,2,3&4 D. 1,2 &3
- vi. The core human needs according to the passage are: 1
- (a) Competence, autonomy, and connection
(b) Generosity and optimism
(c) Forgiveness, gratitude and generosity
(d) Kindness, happiness and positive experiences
- vii. How would an optimist deal with a difficult situation? 2

- viii. What does Sheldon and Lyubomirsky opine about happiness? 1
- ix. Assertion (A): It is important to choose activities that fit our personality and interests. 1
- Reason (R): Our activities make us obsessed about feeling good all the time.
- (a)(A) is true and (R) is the correct explanation of it.
- (b) (A) is true but (R) is not the correct explanation of it.
- (c)(A) is false but (R) is true.
- (d) Both (A) and (R) are false.
- x. After a job loss many people feel defeated. A man with a positive mind would----- 1

2. Read the passage given below and answer the questions that follow. 10 Marks

1. AI-driven tools have made significant strides in analysing speech, text, and facial expressions to identify early signs of mental health disorders. Natural Language Processing (NLP) techniques enable extracting valuable insights from written or spoken words. For example, sentiment analysis can identify nuanced changes in an individual's emotional condition by examining social media posts, chat logs, or written diaries.

2. Moreover, voice analysis can detect alterations in speech patterns, encompassing variations in pitch, tone, and rhythm, which might potentially serve as indicators of anxiety, depression, or other mental health conditions. Facial expression analysis, often coupled with computer vision, can provide insights into an individual's emotional state. AI systems can detect micro-expressions and subtle changes in facial features that may indicate underlying psychological conditions.

3. This technology benefits remote mental health monitoring through video consultations or mobile apps. The current trend in this domain involves advancing AI algorithms capable of discerning and comprehending these subtle indicators with notable precision. As AI systems continue to improve, they hold the potential to provide early warning signs of mental health disorders, allowing for timely intervention and support. Table below highlights specific AI tools used in current mental healthcare.

AI tools used in current mental healthcare	
AI tools	Chatbot-based therapy
1. Woebot	-chatbot that provides CBT-based therapy for depression and anxiety. It has been shown to be effective in reducing symptoms of depression and anxiety in clinical trials.
2. Wysa	-chatbot that provides therapy support for a variety of mental health conditions, including depression, anxiety, stress, and loneliness. It uses a combination of CBT, mindfulness, and positive psychology to help users improve their mental health.
3. Talkspace	- online therapy platform connecting patients with licensed therapists through video, text, and audio messaging. It uses AI to match patients with therapists best suited to their needs.
4. BetterHelp	-online therapy platform that connects patients with licensed therapists. It uses AI to match patients with therapists but offers a broader range of therapeutic approaches, including cognitive-behavioral therapy (CBT) and psychodynamic therapy.

Answer the following questions, based on the passage above:

i. Complete the following suitably. **1**

_____ techniques enable extracting valuable insights from written or spoken words.

ii. Suppose you are offered undesirable food by a host and you were dumbfounded. How would AI driven tools read your feelings? **1**

(a) voice analysis

(b) facial expression analysis

(c) written or spoken words

(d) social media posts, chat logs

iii. How does technology benefit remote mental health monitoring? Give two modes. **2**

iv) Paragraph 3 contains words- 'precision' and 'potential' **1**

Classify the following sentences as: - 'precision' and 'potential.'

Sentence 1: AI systems can warn the signs of depression.

Sentence 2: AI algorithms are capable of telling the effect of sleeping hours on the person correctly.

v) Name an online therapy that is best suited to the patients' needs from the AI tool chart. **1**

vi) List two cognitive behavioral therapies found effective in reducing depression and anxiety from the AI tool chart given. **1**

vii) How do AI systems read facial expressions to link with the person's mind? **2**

viii) Which of the AI tools in the chart uses CBT as well as psychodynamic therapy. **1**

(a) Woebot (b) Wysa (c) Talkspace (d) BetterHelp

SECTION B CREATIVE WRITING SKILLS

(18 marks)

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

A. You are the Secretary of Vishvas Flats Welfare Association, Delhi-51. **Write a notice** to be circulated to the members of the Association, requesting them to attend a meeting to discuss about the security measures of the flats and appointment of new security guards. (Word limit 50 words).

OR

B. You are Babita/ Biman the Secretary of the History Club of your school. **Draft a notice** in not more than 50 words informing the students of class IX and X about a proposed excursion to historical places of your city.

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

A. You are Suman/Sonu the Head Girl/Boy of New Field School. Your school has decided to celebrate "The Grand Parent's Day" in school. **Draft a formal invitation** to be sent to the grand parents of students of your school giving details of the programme.

OR

B. You are Dr. Shailesh Gupta, an eminent educationist. You have been invited to preside over an Inter Zonal Declamation Competition by Neha, the President of English Literary Club of Government Model Sr. Sec. School Sector 19, Chandigarh. **Write a reply for refusal** of the invitation.

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

1x5=5

A. You are Gargi/Gagan of 22, H-Block, Janakpuri, Delhi. You feel sad to notice that people litter the roads with utter disregard for sanitation and cleanliness. As a responsible citizen, **write a letter to the editor** of a national daily highlighting the need for educational institutions to instill civic responsibility among school children. (120-150 words) You may use the following cues along with your own ideas to compose this letter.

cleanliness drivespreading awareness campaigns eco club activities in schools
.....volunteer for cleanupworkshops.....seminars

OR

B. Aarohi/Aryan of Hillside Road, Goa, sees the following advertisement in “The City News” and decides to apply for the post of a Marketing Executive. **Write a job application** along with the biodata in 120-150 words to the Personnel Manager, India Book House, Mall Road, Goa.

1x5=5

INDIA BOOK HOUSE Requires Marketing Executive

Qualification:

Graduate in Marketing and Sales

Experience 3-5 years

Fluency in English and Local language

Knowledge of basic computer skills

Job requirement:

Setting targets and timelines

Supervising sales

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

1x5=5

A. You are Vaibhavi/Vaibhav, a student of Class XII. Whenever you are stressed, you listen to music and get relaxed. You strongly believe that music de-stresses you and refreshes your body and mind. Based on your experience, **write an article** on Music as Therapy for a health magazine highlighting the healing power of music. Use the following cues along with your own ideas to compose this article:

music establishes connection with self _music helps in self-expression _comforts body, mind & soul improves one's mood

OR

B. Cultural Society Brightland Public School, Lucknow organised an adult literacy camp in its neighbourhood. **Write a report** in 120 – 150 words on the camp for your school newsletter. You are Sumati/Shivam, the Secretary of the society. Use the following clues:

1x5=5

- no. of volunteers
- hours spent in teaching
- location of the class
- chairs, blackboards
- no. of people attending the camp
- benefits

SECTION C LITERATURE (40 marks)

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

1x6=6

A) 'but after the airport's
security check, standing a few yards
away, I looked again at her, wan, pale
as a late winter's moon and felt that
old familiar ache, my childhood's fear,
but all I said was, see you soon, Amma,
all I did was smile and smile and
smile.....'

(My Mother at Sixty-six)

i. What is the speaker's emotional state when looking at her mother? 1

- (a) Confused and disoriented (b) Nostalgic and longing
(c) Empathetic and understanding (d) Fearful and apprehensive

ii. Complete the following analogy correctly: 1

She sang like a bird-Simile All I did was smile and smile and smile- _____

iii. Read the following statement and choose the correct option: 1

(I)The poet had gone through the security check. (II) She did not want to look at her mother.

- (a) (I) is true, but (II) is false.
(b) (I) is false, but (II) is true.
(c) Both (I) and (II) are true.
(d) Both (I) and (II) are false.

iv. What childhood fear is the poet referring to? 1

v. Which of the following rhyme schemes has been employed by the poet in the above stanza? 1

- (a) ababab (b) free verse (c) abc abc (d) aabbaa

vi. 'Pale as a winter's moon' suggests that her face..... 1

OR

B) Aunt Jennifer's fingers fluttering through her wool
Find even the ivory needle hard to pull
The massive weight of Uncle's wedding band
Sits heavily upon Aunt Jennifer's hand (Aunt Jennifer's Tigers)

- i.** Which of the following themes is best represented in the given extracts? **1**
- (a) The maturity of adulthood
- (b) The glory of femininity
- (c) Victim of male domination
- (d) The superficial beauty
- ii.** State whether the following statement is TRUE or FALSE with reference to the extract **1**
- Aunt Jennifer is nervous and traumatised because of the constraints of her marriage. (True/False)
- iii.** Complete the following sentence appropriately: **1**
- The fingers fluttering through her wool symbolise
- iv.** The use of the words ‘massive weight’ creates a powerful image of **1**
- v.** Complete the sentence appropriately. **1**
- The feeling evoked in the reader towards Aunt Jennifer is
- vi.** What does the Uncle’s character reflect in the poem? **1**
- (a) male chauvinism and patriarchy
- (b) a man’s physical strength
- (c) male ego
- (d) a male’s view of the world

8. Read the following extracts and solve ANY ONE of the given two, (A) or (B). **1X4=4**

(A) “The next day, infection flared in the Maharaja’s right hand. In four days, it developed into a suppurating sore which spread all over the arm. Three famous surgeons were brought in from Madras. After holding a consultation, they decided to operate. The operation took place. The three surgeons who performed it came out of the theatre and announced, “The operation was successful. The Maharaja is dead.” In this manner the hundredth tiger took its final revenge upon the Tiger King.” (The Tiger King)

- i.** What caused the initial health issue faced by the Maharaja in the extract? **1**
- ii.** What was the outcome of the surgical operation performed on the Maharaja? **1**
- (a) The Maharaja fully recovered from the infection.
- (b) The operation was successful, but the Maharaja died.
- (c) The operation failed, and the infection worsened
- (d) The surgeons refused to operate due to the severity of the sore.
- iii.** What does the phrase “the hundredth tiger took its final revenge” suggest about the Maharaja’s death? **1**
- (a) The Maharaja was directly killed by a tiger during a hunt.
- (b) The Maharaja’s obsession with killing tigers symbolically led to his victory.
- (c) The hundredth tiger was responsible for infecting the Maharaja’s hand.

(d) The surgeons conspired against the Maharaja to avenge the tigers.

iv. Choose the correct figure of speech used in the statement “the operation was successful but the Maharaja is dead”? (Irony/Metaphor) 1

OR

(B) “If I am able, are you?” Sadao asked. “No,” Hana said, “But if you can do it alone...” Sadao hesitated again. “The strange thing is,” he said, “that if the man were whole, I could turn him over to the police without difficulty. I care nothing for him. He is my enemy. All Americans are my enemy. And he is only a common fellow. You see how foolish his face is. But since he is wounded...” (The Enemy)

i. What is the “strange thing” Sadao refers to? 1

- (a) Hana’s fear of the enemy
- (b) His inability to turn in an injured soldier
- (c) The soldier’s foolish face
- (d) His deep concern for an American

ii. Complete the sentence appropriately. 1

Sadao’s claim that “he is my enemy” but also expressing hesitation to hand him over, reflects an inner conflict between _____ and _____.

iii. How does the wounded condition of the American soldier affect Sadao’s perception of him? 1

iv. With reference to Sadao’s declaration, “All Americans are my enemies”, read the statements given below and choose the option that correctly evaluates Sadao’s belief: 1

Statement 1: Sadao’s declaration reflects the nationalistic conditioning prevalent during wartime.

Statement 2: Sadao genuinely hates all Americans and shows no empathy throughout the story. Choose the correct option:

- (a) Statement 1 is true but Statement 2 is false.
- (b) Statement 1 is false but Statement 2 is true.
- (c) Both Statement 1 and Statement 2 are true.
- (d) Both Statement 1 and Statement 2 are false.

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

(A) The world had, of course, never been very kind to him, so it gave him unwonted joy to think ill of it in this way. It became a cherished pastime for him during many dreary ploddings to think of people he knew who had let themselves be caught in the world’s rattrap, and of others who were still circling around the bait. One dark evening, as he trudged along the road, he caught sight of a little gray cottage by the roadside and knocked on the door to ask shelter for the night." (The Rattrap)

- i.** What does the line reveal about the peddler’s outlook towards the world? **1**
- (a) He believed in the kindness of strangers.
- (b) He was optimistic despite hardships.
- (c) He found satisfaction in criticizing the world.
- (d) He thought the world was a fair place.
- ii.** What does the phrase “unwonted joy” imply about the peddler’s mindset? **1**
- (a) He was joyful but also ashamed of his thoughts.
- (b) He was forced to think negatively about the world.
- (c) He did not want to enjoy criticizing the world, but he couldn’t help it.
- (d) He was eager to change his attitude.
- iii.** The “gray cottage by the roadside” symbolically represent the joyful attitude of the peddler. (True/False) **1**
- iv.** Do you agree with the peddler’s view that the world is like a rattrap? Why or why not? **1**
- v.** Choose the most relevant idea about the central theme of the story. **1**
- (a) The kindness of strangers
- (b) The deceptive nature of material temptations
- (c) The importance of education
- (d) The joy of companionship
- vi.** Choose the figure of speech used in ‘the world’s rattrap’ (Simile/Metaphor) **1**

OR

(B) “I wish he was an Englishman,” someone said on the bus. “Ireland will win the world cup.” Little Derek told his mother when Sophie brought him home. Her father was gone to pub to celebrate. “What is this you have been telling”, Jansie said, next week. “About what” your Geoff told our Frank you met Danney Casey.” This was not an inquisition, just Jansie being nosey. But Sophie was startled “Oh that”. Jansie frowned, sensing she was covering. “Yes that–well yes I did”. “You never did?” Jansie exclaimed. Sophie glared at the ground. Damn that Geoff, this was a Geoff thing, not a Jansie thing. It was meant to be something special just between them. Something secret. It was not a Jansie thing at all. (Going Places)

- i.** “Ireland will win the World cup.” Who is the speaker? **1**
- ii.** This was a Geoff thing, not a Jansie thing, because - **1**
- (a) Jansie was trustworthy.
- (b) She lived in the world of reality.
- (c) Her personality was different from Geoff.
- (d) Jansie was nosey about things.

Choose the most appropriate combination:

- (a) a & b (b) a&d (c) c&d (d)a&d

iii. 'something special just between them' was meant to be- 1

- (a) A secret
(b) something suspicious
(c) a prank
(d) None of the above

iv. Sophie is obsessed about- 1

- (a) Geoff her elder brother
(b) Her Dad who loves to watch football matches.
(c) Her friend Jansie who wants her to be happy
(d) The prodigy Danny Casey

v. Who represents the realistic/practical side of the life in the above extract? 1

vi. This chapter critically explores the clash between adolescent dreams and the realities of a working-class family, particularly through the character of Sophie. (True/False) 1

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

- i) 'The attitude of the villagers was completely changed that day' Elaborate with reference to the lesson. (The Last Lesson)
- ii) How did the swimming instructor build a swimmer out of Douglas? (Deep Water)
- iii) In what context do you conclude that Subbu was tailor-made for films? (Poets and Pancakes)
- iv) Why do the people who run the roadside stand wait for the squealing of car brakes so eagerly? What is their plea/request? (A Roadside Stand)
- v) Gandhi's selfless devotion and charisma won over the lawyers' confidence and ensured their wholehearted participation in the Champaran struggle. Explain. (Indigo)
- vi) What are the views of writers like V.S. Naipaul and Lewis Carroll on interviews? (The Interview)

11. Answer any two of the following three questions in 40 -50 words each. 2x2=4

- i) How did Tishani Doshi feel about visiting Antarctica? (Journey to the End of the Earth)
- ii) How does Zitkala-Sa's experience with the loss of her long hair symbolize her struggle with cultural assimilation? (Memories of Childhood)
- iii) Why did Derry return to Mr. Lamb's garden despite opposition? (On the Face of It)

12. Answer any one of the following two questions, in about 120-150 words.

1x5=5

A) As Anees Jung, write a diary entry reflecting on the harsh living conditions of the bangle makers you observed while visiting Mukesh's home in Firozabad, highlighting their struggles.

You may begin like this-

Date, Day, Time

Place: Today, Mukesh took me through Firozabad's.....

OR

B) Imagine you are Pablo Neruda of 'Keeping Quiet. You advise Robert Frost (A Roadside Stand) in the context of his conflict and pain at the plight of the road side stand owners. Pen down your advice in a letter to Robert Frost. You may begin like this-

Dear Robert Frost,

You seem very pained at the plight of the roadside stand owners, and I would like to advise you....

13. Answer any one of the following two questions, in about 120-150 words.

1X5=5

A) Both Charley in The Third Level and Dr. Sadao in The Enemy are faced with difficult choices in their lives. Compare how these characters deal with their internal conflicts and what their decisions reveal about human nature.

OR

B) 'The boy drank the milk of an English cow, was brought up by an English nanny, tutored in English.' (The Tiger king).

You realize that western influence on Indian culture is deep rooted since the days of the Tiger King. Write an article using textual references on the pros and cons of western influence on Indian society. You may begin like this-

Indian's exposure to English language and western influence