

BURNPUR RIVERSIDE SCHOOL, CHITTARANJAN
1st PRE-BOARD EXAMINATION : (2025-2026)
BIOLOGY
CLASS: XII

Time: 3 Hours

Maximum Marks: 70

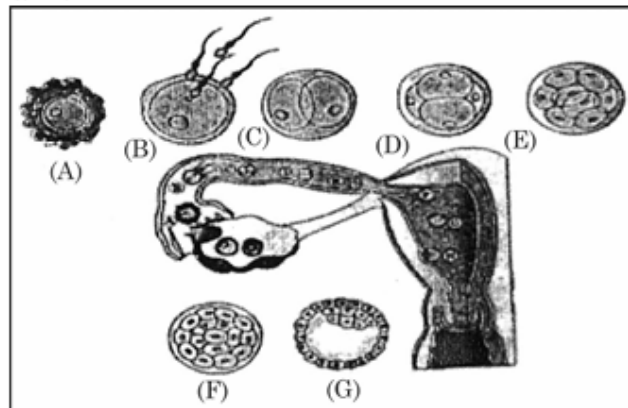
NAME: _____ SEC.: _____ ROLL NO.: _____

General Instructions:

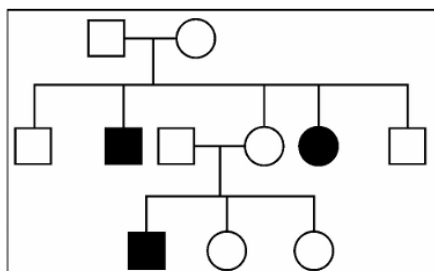
- (i) All questions are compulsory.
- (ii) The question paper has five sections and 33 questions.
- (iii) Section–A has 16 questions of 1 mark each; Section–B has 5 questions of 2 marks each; Section– C has 7 questions of 3 marks each; Section– D has 2 case-based questions of 4 marks each; and Section–E 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 labelled diagrams should be drawn.

Section - A

1. A single gene that controls the expression of more than one trait is said to show 1
 a) Multiple allelism b) Polygenic inheritance
 c) Incomplete dominance d) Pleiotropy
2. A person with trisomy of 21st chromosome shows 1
 i) Furrowed tongue ii) Characteristics palm crease
 iii) rudimentary ovaries iv) gynaeomastia
 Select the correct option from the choices given below
 a) ii & iv b) i, ii & iv c) ii & iii d) i) and ii)
3. Select the option that give the correct identification of ovum, morula and blastocyst in a human female reproduction system as shown in the following diagram: 1



- a) Ovum – B, Morula – D, Blastocyst – F
 - b) Ovum – A, Morula – B, Blastocyst – G
 - c) Ovum – A, Morula – E, Blastocyst – G
 - d) Ovum – B, Morula – D, Blastocyst – G
4. Identify the category of genetic disorder depicted in the pedigree chart given below: 1



- a) X- Linked recessive b) X- Linked dominant
c) Autosomal recessive d) Autosomal dominant

5. Interferons are proteins secreted by 1
a) RBC b) WBC c) bacteria infected cell d) Virus infected cell

6. During biological treatment of sewage, the masses of bacteria held together by fungal filaments to form mesh like structures are called
a) primary sludge b) flocks c) activated sludge d) anaerobic sludge

7. Which of the following statements is correct in the context of observing DNA separation by agarose gel electrophoresis? 1
a) DNA can be seen in visible light.
b) DNA can be seen without staining in visible light
c) Ethidium bromide stained DNA can be seen in visible light
d) Ethidium bromide stained DNA can be seen under UV light

8. A phenomenon where a male insect mistakenly identified the patterns of a orchid flower as the female insect partner and tries to copulate and thereby pollinates the flower is said to be:
a) Pseudocopulation b) Psedopollination
c) Pseudoparthenocarpy d) Pseudofertilization

9. "Cells of tapetum of micro sporangia are usually multinucleate". Which of the following can be a reason for the tapetal cells to become multinucleate?
a) They fuse with the polar cell of megasporangium.
b) They do not undergo cytokinesis.
c) They do not undergo karyokinesis.
d) They do not undergo mitosis.

10. Plasmid used to construct the first recombinant DNA was isolated from which bacterium species?
a) *Escherichia coli* b) *Salmonella typhimurium*
c) *Thermus aquaticus* d) *Agrobacterium tumefaciens*

11. The permissible use of the technique amniocentesis is for
a) detecting sex of the unborn foetus b) artificial insemination
c) transfer of embryo into the uterus of a surrogate mother
d) detecting any genetic abnormality

12. If the sequence of nitrogen bases of the coding strand in a transcription unit is 5'- ATGAATG – 3', the sequence of bases in its RNA transcript would be
a) 5' – AUGAUG – 3' b) 5' – UACUUA – 3'
c) 5' – CAUUCU – 3' d) 5' – GUAAGU – 3'

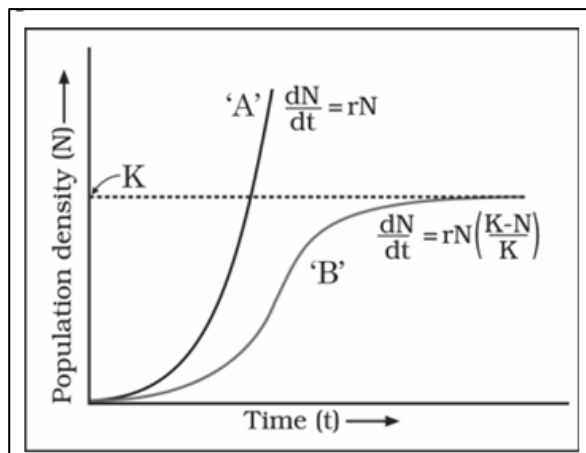
Question number 13 to 16 consists of two statements – **Assertion** (A) and **Reason** (R). Answer the question selecting the appropriate option given below:

13. **Assertion(A):** AIDS is a syndrome caused by HIV.
Reason(R): HIV is a virus that damages the immune system with DNA as its genetic material.
14. **Assertion(A):** In molecular diagnosis, single stranded DNA or RNA tagged with radioactive molecule is called a probe.
Reason(R): A probe always searches and hybridises with its complementary DNA in a clone of cells.
15. **Assertion(A):** In birds, the sex of the offspring is determined by males.
Reason(R): Males are homogametic while females are heterogametic.
16. **Assertion(A):** Communities that comprise more species tend to be more stable.
Reason(R): A higher number of species results in less year-to-year variation in total biomass.

Section - B

- A. "Farmers prefer apomictic seeds to hybrid seeds." Justify giving two reasons.

18. 5' – G↓ AATTC – 3'
3' – CTTAA↑ G – 5'
a) Name the restriction enzyme that recognises the given specific sequence of bases. What are such sequence of bases referred to as?
b) What are the arrows in the given figure indicating? Write the result obtained thereafter.
19. Observe the population growth curve and answer the questions given below:



- a) State the conditions under which growth curve 'A' and growth curve 'B' plotted in the graph are possible.
b) Mention what does 'K' in the graph represents.
20. Explain how are plants benefitted by their association with '*Glomus species*'.
21. If the base adenine constitutes 31% of an isolated DNA fragment, then write what will be the expected percentage of the base cytosine in it. Explain how did you arrive at the answer given.

Section - C

22. Identify a, b, c, d, e and f in the table given below:

Sl.No.	Organism	Bioactive Molecule	Use
1.	<i>Monascus purpureus</i>	a	b
2.	c	d	Antibiotic
3.	e	Cyclosporin A	f

23. **Attempt either A or B**

- A. Tropical region harbour more species than the temperate regions. How have biologists tried to explain this in their own ways? Explain.

OR

- B. What does an ecological pyramid represent? The ecological pyramids may have an 'upright' or an 'inverted' shape. Justify with the help of suitable examples.

24. a) What are transgenic animals?

b) Name the transgenic animal having the largest number amongst all the existing transgenic animals.

- c) State any three reasons for which these types of animals are being produced.

25. If the cells in the leaves of a maize plant contain 10 chromosomes each, write the number of chromosomes in its endosperm and zygote. Name and explain the process by which an endosperm and a zygote are formed in maize.

26. a) Why does DNA replication occur within a replication fork and not in its entire length simultaneously?

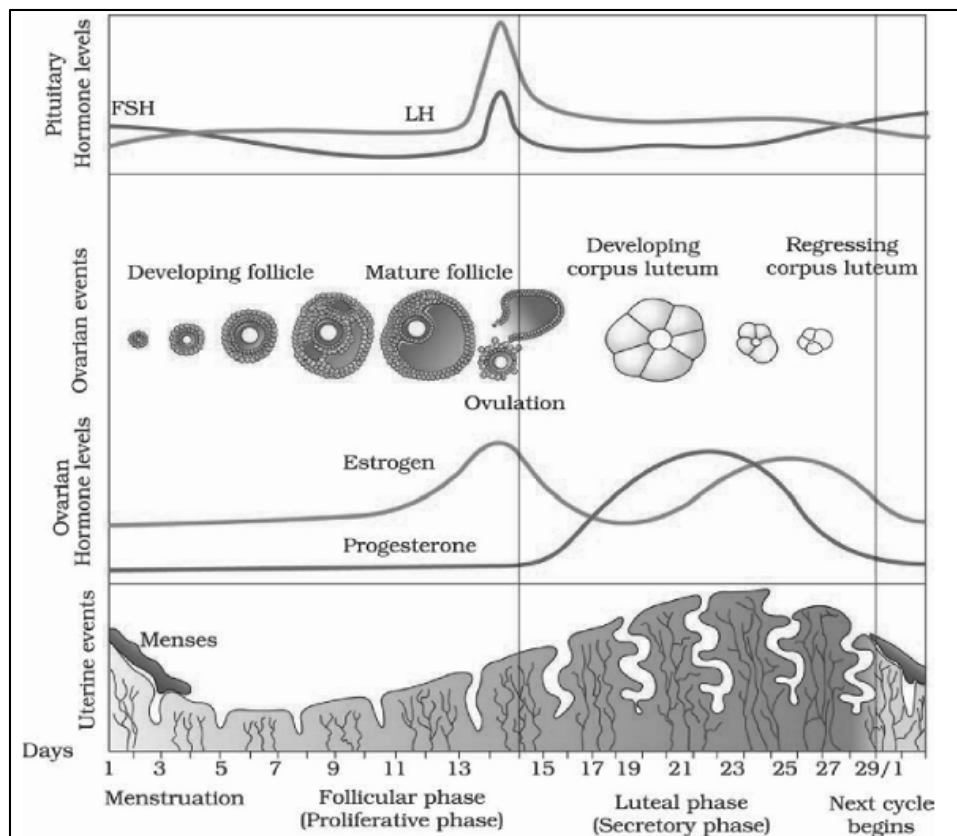
b) "DNA replication is continuous and discontinuous on the two strands within the replication fork." Explain with the help of a schematic representation.

27. Explain the processing of heterogeneous nuclear RNA (hnRNA) into a fully functional mRNA in eukaryotes. Where does this processing occur in the cell?

28. The world is facing accelerated rates of species extinction largely due to human activities. Explain with proper examples.

Section - D

29. In human female, the reproductive phase starts on the onset of puberty and ceases around middle age of the female. Study the graph given below regarding menstrual cycle and answer the questions that follow: 4



- a) Name the hormones and their source organ, which are responsible for menstrual cycle at puberty.
 b) For successful pregnancy, at what phase of the menstrual cycle an early embryo (up to 3 blastomeres) should be implanted in the uterus of a human female who has opted for Assisted Reproductive Technology (ART)? Support your answer with a reason.
Attempt either c or d
 c) Name the hormone and its source organ responsible for the events occurring during proliferative phase of menstrual cycle. Explain the event.

OR

- d) In a normal human female, why does menstruation only occur if the released ovum is not fertilised? Explain.

30. Read the following passage and answer the questions that follow: 4

"Mosquitoes are drastically affecting the human health in almost all the developing tropical countries. Different species of mosquitoes cause very fatal diseases so much so that many humans lose their life and if they survive, are unable to put in productive hours to sustain their life. With the result, the health index of the country goes down."

- a) Name the form in which *Plasmodium* gains entry into (i) human body (ii) the female *Anopheles* body.

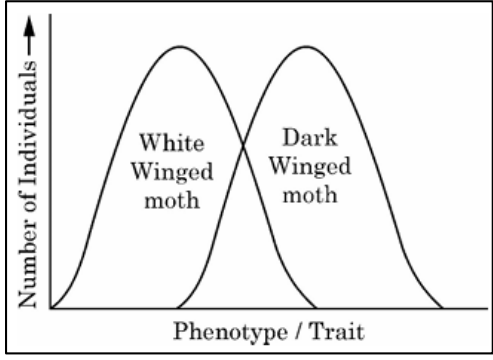
Attempt either b or c

- b) Why do the symptoms of malaria not appear in a person immediately after being bitten by an infected female *Anopheles*? Give one reason. Explain when and how do the symptoms of the disease would appear.

OR

- c) Explain the events which occur within a female *Anopheles* mosquito after it has sucked blood from a malaria patient.
 d) Name the species of mosquito other than female *Anopheles* and the disease, for which it carries the pathogen.

Section - E

31. **Attempt either A or B** 5
- A
- Draw a schematic diagram of the cloning vector pBR 322 and label (1) Bam H1 site (2) gene for ampicillin resistance (3) 'ori' (4) 'rop' gene.
 - State two role of 'rop' gene.
 - A cloning vector does not have a selectable marker. How will it affect the process of cloning?
 - Why is insertional inactivation preferred over the use of selectable markers in cloning vectors?
- OR**
- B
- Name the nematode that infects the roots of tobacco plant and reduces its yield.
 - Name the vector that is used to introduce nematode-specific genes into the host plant (tobacco).
 - How do sense and anti sense RNAs function?
 - Why could parasite not survive in a transgenic tobacco plant?
32. **Attempt either A or B** 5
- A
- Draw a diagram of a human sperm. Label any four parts and write their functions.
 - In a human female, probability of an ovum to get fertilised by more than one sperm is impossible. Give reason.
- OR**
- B
- With the help of labelled diagram only, show the different stages of embryo development in a dicot plant.
 - Endosperm development precedes embryo development. Justify.
33. **Attempt either A or B** 5
- A
- 
- i) Identify the type of natural selection depicted in the graph above.
- ii) In England after industrialisation, the population of dark winged moths were more favoured than white winged moth. Explain.
- iii) Anthropogenic action can enhance the rate of evolution. Explain with the help of an example.
- OR**
- B.
- Why did Hershey and Chase use ^{35}S and ^{32}P in their experiment? Explain.
 - State the importance of (1) blending and (2) centrifugation in their experiment.
 - Write the conclusion they arrived at the end of their experiment.

BURNPUR RIVERSIDE SCHOOL, CHITTARANJAN

1ST PRE-BOARD EXAMINATION: (2025-2026)

MATHEMATICS

CLASS: XII

Time : 3 Hours

Maximum Marks : 80

NAME: _____ SEC.: _____ ROLL NO: _____

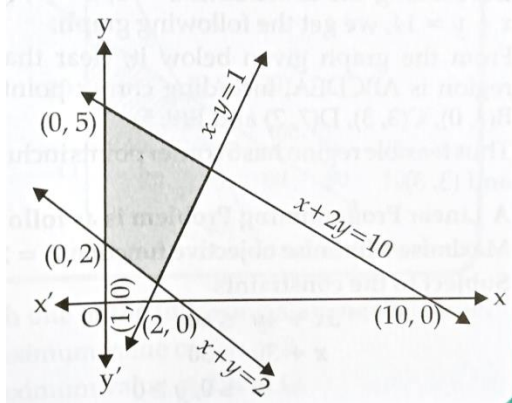
General Instructions :

1. The Question paper contains 38 questions. All questions are compulsory.
2. The question paper is divided into five sections-A, B, C, D and E.
3. In Section A, Question no. 1 to 18 are multiple choice questions (MCQs) with only one correct option and Question no. 19 and 20 are Assertion-Reason based questions of 1 mark each.
4. In Section B, Question no. 21 to 25 are Very Short Answer (VSA)- type questions, carrying 02 marks each.
5. In Section C, Question no. 26 to 31 are Short Answer (SA)- type questions, carrying 03 marks each.
6. In Section D, Question no. 32 to 35 are Long Answer (LA)- type questions, carrying 05 marks each.
7. In Section E, Question no. 36 to 38 are case study-based questions, carrying 04 marks each.
7. All Questions are compulsory. However, an internal choice has been provided in 2 questions in section B, 3 questions in Section C and 2 questions in Section D and one subpart each in 2 questions of Section E.
8. Use of calculator is not allowed.

SECTION-A**This section comprises of MCQs of 1 mark each. Select the correct option (Question 1-Question 18)**

1. The principal value of $\cos^{-1}(\frac{1}{2}) + \sin^{-1}(-\frac{1}{\sqrt{2}})$ is 1
(A) $\frac{\pi}{12}$ (B) $\frac{\pi}{2}$ (C) $\frac{\pi}{3}$ (D) $\frac{\pi}{6}$
2. If $[x \ 2 \ 0] \begin{bmatrix} 5 \\ -1 \\ x \end{bmatrix} = [3 \ 1] \begin{bmatrix} -2 \\ x \end{bmatrix}$ the the value of x is 1
(A) -1 (B) 0 (C) 1 (D) 2
3. If A and B are non-singular matrices of same order with $\det(A) = 5$, then $\det(B^{-1}AB)^2$ is equal to 1
(A) 5 (B) 5^2 (C) 5^4 (D) 5^5
4. If A^T is a skew-symmetric matrix of order 3, then the value of $|A|$ is 1
(A) 3 (B) 0 (C) 9 (D) 1
5. The degree of D.E: $(d^4y/dx^4) - \sin(dy/dx) = 0$ is 1
(A) 5 (B) 3 (C) 2 (D) Not defined
6. If $A = \begin{bmatrix} 2 & 0 & 1 \\ 5 & 1 & -3 \end{bmatrix}$ then the value of $|A(\text{adj } A)|$ is 1
(A) 1001 (B) 101 (C) 10 (D) Not defined
7. If $A^{-1} = \frac{1}{7} \begin{bmatrix} 2 & 1 \\ -3 & 2 \end{bmatrix}$, the matrix A is equal to 1
(A) $7 \begin{bmatrix} 2 & -1 \\ 3 & 2 \end{bmatrix}$ (B) $\begin{bmatrix} 2 & -1 \\ 3 & 2 \end{bmatrix}$ (C) $\frac{1}{7} \begin{bmatrix} 2 & -1 \\ 3 & 2 \end{bmatrix}$ (D) $\frac{1}{49} \begin{bmatrix} 2 & -1 \\ 3 & 2 \end{bmatrix}$
8. The set of all points where the function $f(x) = x + |x|$ is differentiable is 1
(A) $(0, \infty)$ (B) $(-\infty, 0)$ (C) $(-\infty, 0) \cup (0, \infty)$ (D) $(-\infty, \infty)$
9. The function $f(x) = \frac{x}{2} + \frac{2}{x}$ has a local minima at x equal to 1
(A) 2 (B) 1 (C) 0 (D) -2
10. If $\tan\left(\frac{x+y}{x-y}\right) = k$ then $\frac{dy}{dx}$ is equal to 1
(A) $-\frac{y}{x}$ (B) $\frac{y}{x}$ (C) $\sec^2 \frac{y}{x}$ (D) $-\sec^2 \frac{y}{x}$
11. What is the area of the region bounded between the curve $y = x^2, 0 \leq x \leq 2$ and x -axis? 1
(A) $\int_0^2 x^2 dx$ (B) $\int_0^2 \sqrt{y} dy$ (C) $\int_0^4 x^2 dx$ (D) $\int_0^4 \sqrt{y} dy$
12. $\int_{-\pi}^{\pi} x \sin x dx$ is equal to 1
(A) π (B) 0 (C) 2π (D) $\frac{\pi}{2}$

13. If $|a \times b| = \sqrt{3}$ and $a \cdot b = -3$ then the angle between a and b is
 (A) $\frac{2\pi}{3}$ (B) $\frac{\pi}{6}$ (C) $\frac{\pi}{3}$ (D) $\frac{5\pi}{6}$ 1
14. For which of the following vectors is the projection on y-axis zero?
 (i) $2j$ (ii) $-5k$ (iii) $i-4k$
 (A) (i) only (B) (ii) only (C) (i) & (iii) (D) (ii) & (iii) 1
15. Equation of a line passing through $(1, 1, 1)$ and parallel to z-axis is
 (A) $\frac{x}{1} = \frac{y}{1} = \frac{z}{1}$ (B) $\frac{x-1}{1} = \frac{y-1}{1} = \frac{z-1}{1}$ (C) $\frac{x}{0} = \frac{y}{0} = \frac{z-1}{1}$ (D) $\frac{x-1}{0} = \frac{y-1}{0} = \frac{z-1}{1}$ 1
16. For any two events A and B, 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) $1/10$ (B) $1/2$ (C) $7/8$ (D) $7/20$ 1
17. The feasible region corresponding to the constraints of a linear programming problem is given below. 1



Which of the following is *not* a constraint to the given Linear programming problem?

- (A) $x + y \geq 2$ (B) $x + 2y \leq 10$ (C) $x - y \geq 1$ (D) $x - y \leq 1$

18. The feasible region of an LPP is bounded. The corresponding objective function is $Z = 6x + 7y$. The objective function attains _____ in the feasible region
 (A) only maximum (B) only minimum (C) both max and min (D) either max or min 1

Assertion – Reason Based Questions

- a) Both Assertion and Reason are correct and Reason is the correct explanation for Assertion.
 b) Both Assertion and Reason are correct but Reason is not the correct explanation for Assertion.
 c) Assertion is true but the Reason is false.
 d) Reason is true but the Assertion is false.

19. **Assertion(A):** If two unit vectors are inclined at an angle θ , so that their resultant is also a unit vector, then $\sin\theta = \frac{\sqrt{3}}{2}$. 1
Reason(R): If two unit vectors are inclined at an angle θ , so that their resultant is also a unit vector, then $\sin\theta = \frac{1}{2}$.

20. **Assertion(A):** Max value of $(\cos^{-1}x)^2$ is π^2 . 1
Reason(R): Range of the principal value branch of $\cos^{-1}x$ is $\left[-\frac{\pi}{2}, \frac{\pi}{2}\right]$

SECTION-B

This section comprises of 5 very short answer type questions of 2 marks each.

21. Evaluate : $\int \frac{\sin 2x}{\sqrt{9 - \cos^4 x}} dx$ 2

OR

Find the area of the shaded region bounded between the curve $y = 4 - x^2$, $0 \leq x \leq 3$ and x-axis.

22. If $y = (\sqrt{x})^y$, then find $\frac{dy}{dx}$. 2
 23. (A) Solve : $\tan^{-1}\left(\frac{x+1}{x-1}\right) + \tan^{-1}\left(\frac{x-1}{x}\right) = \tan^{-1}(-7)$ 2

OR

(B) Show that $\sin^{-1}(2x\sqrt{1-x^2}) = 2\sin^{-1}x$

24. Find the interval in which the function $f(x) = \tan x - 4x$, $x \in \left(0, \frac{\pi}{2}\right)$ is strictly increasing. 2
 25. Find the area of the parallelogram whose one side and one diagonal are represented by 2

coinitial vectors $\mathbf{i}-\mathbf{j}+\mathbf{k}$ and $4\mathbf{i}+5\mathbf{k}$ respectively.

SECTION-C

This section comprises of 6 short answer type questions of 3 marks each.

26. If $y = \sin^{-1}\left(\frac{\sqrt{1+x}+\sqrt{1-x}}{2}\right)$, then show that $\frac{dy}{dx} = -\frac{1}{2\sqrt{1-x^2}}$ 3

OR

If $y = (\sin^{-1}x)^2$, prove that $(1-x^2)\frac{d^2y}{dx^2} - x\frac{dy}{dx} - 2 = 0$.

27. Calculate the two adjacent sides of a rectangle with a given perimeter as 100 cm and enclosing the maximum area. 3

28. (A) Using integration, find the area of the region in the first quadrant enclosed by the parabola $x = y^2$, the line $x + y = 2$ and x-axis. 3

OR

(B) Draw the rough sketch of the curve $y = 1 + |x + 1|$, $x = -3$, $x = 3$, $y = 0$ and find the area of the region bounded by them by integration.

29. Find the angle between the following lines : 3

$$r_1 = (2\mathbf{i} - 5\mathbf{j} - \mathbf{k}) + \lambda(3\mathbf{i} + 2\mathbf{j} + 6\mathbf{k}) \text{ and } r_2 = (7\mathbf{i} - 6\mathbf{k}) + \mu(\mathbf{i} + \mathbf{j} + 2\mathbf{k})$$

OR

Find the shortest distance between the following lines:

$$r_1 = (\mathbf{i} + \mathbf{j} - \mathbf{k}) + s(2\mathbf{i} + \mathbf{j} + \mathbf{k}) \text{ and } r_2 = (\mathbf{i} + \mathbf{j} + 2\mathbf{k}) + t(4\mathbf{i} + 2\mathbf{j} + 2\mathbf{k})$$

30. Solve the following linear programming problem graphically: 3

Minimize $Z = x + 2y$

Subject to constraints:

$$x + 2y \geq 100,$$

$$2x - y \leq 0,$$

$$2x + y \leq 200,$$

$$x, y \geq 0$$

31. A speaks truth in 50% cases and B speaks truth in 90% cases. 3

In what percentage of cases are they likely to agree with each other in stating the same fact?

SECTION-D

This section comprises of 4 long answer type questions of 5 marks each.

32. If $A = \begin{bmatrix} 1 & 2 & 3 \\ 2 & 3 & -3 \\ -3 & 2 & -4 \end{bmatrix}$ 5

Find A^{-1} hence solve the system of equations:

$$x + 2y - 3z = -4$$

$$2x + 3y + 2z = 14$$

$$3x - 3y - 4z = -15$$

33. Evaluate: $\int \frac{x^2}{(x^2+1)(3x^2+4)} dx$ 5

OR

$$\text{Evaluate : } \int_{-2}^1 \sqrt{5-4x-x^2} dx$$

34. Solve the Differential Equation : $xdy - ydx = \sqrt{x^2 + y^2} dx$ 5

OR

Find the particular solution of the differential equation

$$(1+y^2) + (x - e^{\tan^{-1}y}) \frac{dy}{dx} = 0 \text{ given that } y=0 \text{ when } x=1.$$

35. Find the coordinate of the foot of the perpendicular drawn from the point (2,3,-8) to the line $\frac{4-x}{2} = \frac{y}{6} = \frac{1-z}{3}$. 5

SECTION- E

This section comprises of 3 case study / Passage-based questions of 4 marks each with subparts. The first two case study have three subparts (i),(ii),(iii) of marks 1,1,2 respectively. The third case study question has two subparts of 2 marks each.

36. **Case Study-1**

An organization conducted a bike race under two categories — Boys and Girls. There were 28 participants in all. Among them, 3 boys and 2 girls were selected for the final race. Let $B = \{\text{set of selected boys}\}$, and $G = \{\text{set of selected girls}\}$.

Based on the above information answer the following question.

- (i) How many relations are possible from B to G? 1
- (ii) Among all the possible relations from B to G, how many functions can be formed from B to G? 1
- (iii) (A) Let $R: B \rightarrow B$ be defined by $R = \{(x, y) : x \text{ and } Y \text{ are students from same sex}\}$. Check if R is equivalence relation or not. Justify your answer. 2

OR

(B) A function $f: B \rightarrow G$ be defined by $f = \{(b_1, g_1); (b_2, g_2); (b_3, g_1)\}$. Check if f is bijective or not. Justify your answer.

37. **Case Study-2**

Four players Rubiya, Thaksh, Shanteri, and Lilly participate in a game involving two spinners, Spinner A and Spinner B. The results of the spinners determine their prizes as follows:

- Getting the number '5' from Spinner A and '8' from Spinner B wins a **music player**.
- Getting a number from Spinner A that is greater than the number from Spinner B wins a **photo frame**.

The spinners have the following numbers:

- Spinner A: 3, 5, 7
- Spinner B: 1, 2, 3, 4, 5, 6, 7,

- (i) Thaksh spins both spinners. What is the probability he wins a music player? 1
- (ii) Lilly spins spinner B. What is the probability that the number she gets is even given it is a multiple of 3? 1
- (iii) (A) Rubiya spins both spinners. What is the probability she wins a photo frame? 2

OR

(B) As Shanteri steps up, the game administrator tells her the probability of Spinner A appearing is 65% and Spinner B is 35%. What is the probability that she gets the number '2'?

38. **Case Study-3**

The use of electric vehicles will cut air pollution in the long run. The use of electric vehicles is increasing every year and estimated electric vehicles in use at any time t is given by the function

$$v(t) = \frac{1}{5}t^3 - \frac{5}{2}t^2 + 25t - 2$$

where t represents time and $t = 1, 2, 3, \dots$ corresponds to the year 2001, 2002, 2003, ... respectively.

Based on the above information answer the following question.

- (i) Can the above information be used to estimate the number of vehicles in the year 2000? Justify your answer. 2
- (ii) Prove that the function $v(t)$ is an increasing function. 2

BURNPUR RIVERSIDE SCHOOL, CHITTARANJAN

1ST PRE-BOARD EXAMINATION: (2025-2026)

BUSINESS STUDIES

CLASS: XII

Time: 3 Hours

Maximum Marks : 80

Name: _____ Sec.: _____ Roll No.: _____

General Instructions:

- (i) This paper has 34 questions. All questions are compulsory.
- (ii) Marks are indicated against each question.
- (iii) Answer should be brief and to the point.
- (iv) Answer to the questions carrying 3 marks may be from 50-75 words.
- (v) Answer to the questions carrying 4 marks may be about 150 words.
- (vi) Answer to the questions carrying 6 marks may be about 200 words.
- (vii) Attempt all parts of the questions together.

1. A multinational sweets and snacks company had been into catering business for the last many years. To add to its prospects and growth, it wants to increase its sales volume, the number of products, and capital investment. 1
The organisational objective of management it seeks to achieve is:
A) Survival B) Growth C) Profit D) Corporate Social Responsibility
2. Since more people have become beauty and health conscious, our economy has witnessed an unprecedented surge in number of health and beauty spas and wellness clinics. This related feature of business environment being described in above line is _____. 1
A) Totality of external forces B) Dynamic nature
C) Inter-relatedness D) Relativity
3. Read the following statements **Assertion (A)** and **Reason (R)**, choose the correct alternatives from those given below: 1
Assertion (A): As per critical point control system, a manager should first focus on key result areas.
Reason (R): It is not possible to keep a check on all the activities of the enterprise.
Alternatives:
A) Both Assertion (A) and Reason(R) are true and Reason(R) is 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.
4. **Statement I:** Values are general rules for behaviour of individuals in society formed on the basis of common practice and principles after research in work situations. 1
Statement II: While practicing principles of management, values cannot be neglected as business have to fulfil social and ethical responsibilities towards society.
Choose the correct option from the options given below:
A) **Statement I** is true and **II** is false.
B) **Statement II** is true and **I** is false.
C) Both the statements are false.
D) Both the statements are true.
5. All other managerial functions are performed within the framework of the plans drawn. Identify the related feature of planning. 1
(a) Planning focuses on achieving objectives
(b) Planning is pervasive
(c) Planning is futuristic
(d) Planning is primary function of management
6. 'Asian Contec' decided to approach 'Techno India Engineering College' to recruit qualified personnel for various technical jobs in its newly opened branch in Kolkata. Which source of recruitment from the following has been used by 'Asian Contec' in the above case? 1
A) Direct recruitment
B) Placement agencies and management consultants
C) Campus recruitment
D) Recommendation of employees



Identify the tools of promotion used by 'Mehta Sons Garments to boost its sales:

- A) Sales promotion B) Personal selling C) Advertising D) Public relations

8. Read the following statements: **Assertion (A)** and **Reason(R)** , choose the correct alternative those given below:

Assertion (A): Delegation is a pre-requisite to the efficient functioning of an organization.

Reason(R): It enables a manager to use his time on high priority activities.

- A) Both Assertion(A) and Reason (R) is the correct explanation of Assertion (A)
B) Both Assertion (A) 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.

9. Which of the following statements does not highlight the importance of financial planning?

- A) Detailed plans of action prepared under financial planning increase waste, duplication of efforts and gaps in planning.
- B) It helps in forecasting what may happen in future under different business situations.
- C) It provides a link between investment and financing decisions on continuous basis.
- D) It helps in avoiding business shocks and surprises and helps the company in preparing for the future.

10. Which among the following factors affects capital budgeting decision?

- A. Floatation cost
B. Cash flow of project
C. Control considerations
D. The rate of return
E. The investment criteria involved

Choose the correct answer from the options given below:

- (a) B, D and E only
(c) D, B and C only
- (b) C, A and B only
(d) A, B and C only

11. The _____ technique proposed by Taylor aims at eliminating unnecessary diversity of products.

- A) Motion study
B) Standardisation and simplification of work
C) Differential piece wage system
D) Functional foremanship

12. Identify the correct features of Business Environment.

- A) Certainty, relatively and independent
B) Static, complexity and independent
C) Complexity, relativity and inter-relatedness
D) Relativity, static and complexity

13. Match the following and choose the correct option:

Column A	Column B
A) Judging accuracy of standards	i) It helps to minimise dishonest behaviour on the part of employees by keeping a close check on their activities.
B) Ensuring order and discipline	ii) A good control system enables management to verify whether the <u>standard sets are accurate and objective.</u>
C) Facilitating coordination in action	iii) Controlling provides direction to all activities and efforts for achieving <u>organizational goals.</u>
D) Accomplishing organization goals	iv) Controlling measures the performances to ensure that each activity of the organization is directed towards achievement of <u>predetermined goals.</u>

- a) A (iii) ; B (i) ; C (ii) ; D (iv)
C) A (ii) ; B (i) ; C (iii) ; D (iv)
- B) A (iv) ; B (i) ; C (ii) ; D (iii)
D) A (iii) ; B (ii) ; C (i) ; D (iv)

14. "Coordination unifies unrelated interests into purposeful work activity." Identify the nature of coordination.

- A) Coordination is an all pervasive function
B) Coordination is a continuous process
C) Coordination ensures unity of action
D) Coordination integrates group efforts

15. Due to the negligence of the doctors, Johar passed away within a week's time after his surgery of the spine. Which of the following parties can not file a case in this regard? 1
 A) The consumer
 B) Any registered consumers' association
 C) A legal heir or representative of a deceased consumer
 D) All of the above
16. Which of the following statement is incorrect? 1
 A) Capital market refers to facilities and instructional arrangements through which long terms funds both debt and equity are raised and invested.
 B) Secondary market is the market where securities are sold by the company to the investor directly or through intermediary.
 C) Primary Market is the market where only buying of securities takes place.
 D) Money market is the market for short term funds which deals in monetary assets whose period of maturity is up to one year.
17. _____ is the process of holding securities in electronic form. 1
 A) Financial Intermediation
 B) Dematerialisation
 C) Allocative function
 D) Mobilisation of securities
18. To motivate its employees on one side, "Arshita Pearls" rewards them with increase in pay, promotion, recognition, etc. whereas, on the other side, it stops increments, gives punishment, threatens employees so that they may act in a desired manner. Which feature of motivation is being highlighted in the above case? 1
 (A) Motivation is a complex process.
 (B) Motivation is an internal feeling.
 (C) Motivation can be either positive or negative.
 (D) Motivation produces goal-directed behaviour.
19. Identify the correct sequence of selection process. 1
 A. Selection decision
 B. Employment interview
 C. Selection tests
 D. Reference checking
 Choose the correct answer from the options given below:
 (a) A, B, C, D
 (b) A, C, B, D
 (c) B, A, D, C
 (d) C, B, D, A
20. Read the following statements carefully: 1
Statement I: That part of a brand which can be spoken is called a brand name.
Statement II: That part of the brand which is given legal protection is called Trademark
 A) Statement I is true and statement II is false.
 B) Statement I is false and statement II is true.
 C) Both the statement are true.
 D) Both the statements are false.
21. Voltech Ltd. is engaged in producing electricity from domestic garbage. There is almost equal division of work and responsibility between workers and management. The management even takes workers into confidence before taking important decisions. All the workers are satisfied as the behaviour of management is good. 3
 State the principles of management described in above para and explain it.
OR
 Explain briefly 'remuneration of employees' and 'scale chain' as principles of general management.
22. 'Money market is essentially a market for short term funds.' In the light of this statement, state any three features of money market. 3
23. State the steps in the selection procedure, after the employment interview and before the job offer. 3
24. Explain the following as steps in the process of controlling: 3
 (a) Setting performance Standards.
 (b) Measurement of actual performance.

OR

Explain any three points that highlight the nature of controlling function of management.

25. Mahamana Enterprises is not only giving salary to its employees but it also offers bonus to them over and above the salary. 4
 To further encourage the employees, it announced that it will provide a share in the profits of the company to them.
 These incentives are helpful in increasing the purchasing power of the employees.
 State four other incentives of the same type discussed in the above para.
26. How does recruitment take place through 'Placement Agencies' and 'Recommendation'? 4
- OR**
27. How is training of employees beneficial for the organization? State by giving any four reasons. 4
 Rahul, a sales manager, achieved his sales targets one month in advance. This achievement was displayed on the noticeboard and a certificate for the best performance was awarded to him by the CEO of the company.
 1. Name the incentive provided to Rahul.
 2. Identify the type of incentive.
 3. List two other incentives of the type identified in part (2).
28. 'ABC' Limited is manufacturing steel at its plant in India. It is enjoying a buoyant demand for its product as economic growth is about 7% to 8% and the demand for steel is growing. It is planning to set up a new steel plant to cash on the increased demand it is facing. It is estimated that it will require about ₹5,000 crores to set up and about ₹500 crores working capital to start the new plant. 4
 What is the role and objectives of financial management for this company?
29. Stock Exchange acts as a regulator of the securities market. It provides a continuous market where the securities are bought and sold. It gives investors the chance to disinvest and reinvest. Through this process of disinvestment and reinvestment savings get channelized into their most productive investment avenues. To ensure that the investing public gets a safe and fair deal in the market, the membership of the stock exchange is well regulated and its dealings are well defined according to the existing legal framework. It also ensures wider share of ownership by regulating new issues, better effective steps in educating the public about investments. 4
 Various functions performed by the Stock Exchange are discussed in the above paragraph. By quoting lines from the above paragraph, state any four functions of the Stock Exchange.
30. What is meant by Consumer Protection? Explain any three points of importance of consumer protection from the Businessmen's Point of view. 4
31. Vasudha purchased a bottle of pickle from the local grocery shop. The information provided on the bottle was not clear. She fell sick on consuming it. She filed a case in the District Forum under Consumer Protection Act and got the relief. 1+5
 (a) Identify the important aspect neglected by the marketer in the above case.
 (b) Explain briefly the functions of the aspect identified in (a) above.
32. Explain the following:- 6
 A. Budget B. Strategy C. Programme
- OR**
- Why planning is necessary despite the exorbitant costs? (any 6 points)
33. Aman, Avinash, and Amrish are starting a toy manufacturing business. They have decided to appoint four managers for production, finance, marketing, and personnel. They have identified the main activities of the business, including purchasing raw materials, producing toys, sales, and employee selection. 6
 (a) Identify the function of management involved.
 (b) Quote the lines that help you identify this function.
 (c) Explain any three subsequent steps of the process of this function.
34. Explain the term motion study and state its any four objectives. 6

OR

Mention the functional experts suggested by Taylor:-

- a) Under Planning Department (any 3)
- b) Under Operational Department (any 3)

TIME : 3 Hours

Maximum Marks: 80

NAME: _____ SEC.: _____ ROLL NO.: _____

General Instructions:

1. This question paper contains two sections:

Section A: Macroeconomics

Section B: Indian Economic Development

2. Marks for questions are indicated against each question.

3. Question No. 1-10 and 18-27 are 1 mark questions and are to be answered in one word/sentence.

4. Question No. 11-12 and 28-29 are 3 marks questions and are to be answered in 60-80 words each.

5. Question no. 13-15 and 30-32 are 4 marks questions and are to be answered in 80-100 words each.

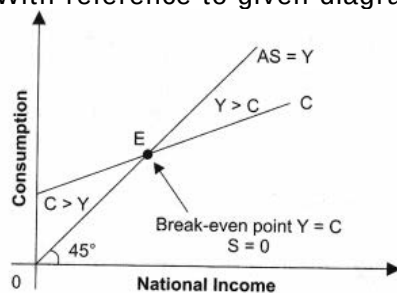
6. Question No. 16-17 and 33-34 are 6 marks questions and are to be answered in 100-150 words each.

Question No. 17 is a case-based question.

7. Answers should be brief and to the point and the above word limit be adhered to as far as possible.

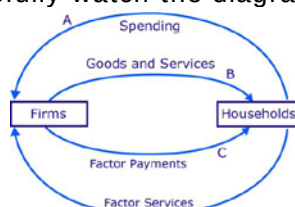
Section A : MACROECONOMICS

1. With reference to given diagram answer the following answer. 1



APS at break-even point, will be

- a) 1 b) 0 c) infinity d) none of these
2. If real GDP of an economy is RS.500 crore and nominal GDP is Rs. 625 crore. GDP deflator will be 1
- a) 125% b) 150% c) 200% d) 75%
3. With the help of money, we can say "what is the price of it". From this statement we can say about 1
- a) Store of value b) Measurement of value
- c) Standard deferred payment d) None of these
4. Carefully watch the diagram and answer the following question 1



The real flow or physical flow will be

- a) Spending, Goods and service b) Factor payment, Factor service
- c) Spending, Factor payment d) Goods and Service, Factor Service
5. Assertion (A): In case of devaluation of a currency, the market forces of demand and supply play no role. 1
- Reason (R) : Devaluation leads to excess demand for foreign currency in the international money market.

- 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.
6. Government spends _____ money to reduce deflationary gap 1
 a) more b) less c) no d) none of this
7. Read the following statements carefully: 1
 Statement 1: Final Goods do not undergo any further transformation at the hands of any producer.
 Statement 2: Final goods may get transformed during their consumption by the ultimate purchaser.
 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.
8. If demand deposit with all commercial banks is Rs. 560 crore, currency held by the public is Rs. 440 crore and reserve with central bank is Rs. 200 crore, value of M_1 will be 1
 a) Rs. 1000 b) Rs. 1200 c) Rs. 800 d) Rs. 760
9. Primary deficit can be zero if 1
 a) fiscal deficit > interest payment b) fiscal deficit < interest payment
 c) revenue deficit < fiscal deficit d) fiscal deficit = interest payment.
10. Which among the following items does not fall under current account of BoP? 1
 a) export of goods to foreign countries
 b) sale of electricity to a neighboring country
 c) FDI in domestic country
 d) accepting free help from WHO during pandemic
11. Explain any three precautions to be taken while calculating national income. 3
12. 'To control inflation RBI should increase RRR'. Do you support the statement? If so, explain the mechanism. 3

OR

- Describe how RBI acts as banker to the government.
13. Differentiate between stock variable and flow variable. 4

OR

Calculate National Income from the following data.

Items	Amount (Rs. Cr)
Compensation of employees	13,300
Wages in kind	200
Indirect taxes	3,800
Gross domestic fixed capital formation	6,200
Operating surplus	5,000
Mixed income of self-employees	16,100
Net factor income from abroad	300
Net export	(-)100

14. With the help of diagram explain how foreign exchange rate is determined under flexible exchange rate regime. 4
15. How are changes in fiscal policy helpful in controlling excess and deficient demand? Describe. 4
16. In an economy, $C = 150 + 0.6Y$ is the Consumption function and Investment expenditure is Rs. 2,000 crores. Calculate 6
 a) Equilibrium level of National Income
 b) Consumption expenditure at equilibrium level of National Income
 c) Value of investment multiplier

OR

- a) Describe with diagram how saving curve is derived from a given consumption curve.
 b) Explain how an economy can reach equilibrium (I-S approach).
17. **Read the following case study and answer the questions given below:** 6
 Government provides certain goods and services which cannot be provided by the market mechanism i.e. (2+2
 by exchange between individual consumers and producers. Examples of such goods are national defence, +2)
 roads, government administration etc. which are referred to as public goods. To understand why public

goods need to be provided by the government, we must understand the difference between private goods such as clothes, cars, food items etc. and public goods. There are two major differences. One, the benefits of public goods are available to all and are not only restricted to one particular consumer. One person's consumption of a good does not reduce the amount available for consumption for others and so several people can enjoy the benefits, that is, the consumption of many people is not 'rivalrous'. Two, in case of private goods anyone who does not pay for the goods can be excluded from enjoying its benefits. If you do not buy a ticket, you will not be allowed to watch a movie at a local cinema hall. However, in case of public goods, there is no feasible way of excluding anyone from enjoying the benefits of the good. That is why public goods are called non-excludable. Even if some users do not pay, it is difficult and sometimes impossible to collect fees for the public good. These nonpaying users are known as 'free-riders'.

- a) What do you mean by public goods?
- b) Explain any two features of public goods?
- c) Describe the meaning of free-riders' problem.

Section B : INDIAN ECONOMIC DEVELOPMENT

- 1
- Population census of India of 1921 is important in the sense
18.
 - a) growth rate was negative
 - b) India entered into second stage of demographic transition
 - c) population started to increase at a higher rate
 - d) all of the above
 19. Statement 1: There were both positive and negative impacts of British rule in India.
Statement 2: British never tried to industries India. 1
 - a) Both the statements are true.
 - b) Both the statements are false.
 - c) Statement 1 is true and Statement 2 is false.
 - d) Statement 2 is true and Statement 1 is false.
 20. 1
- Which of the above logo of the apex institution handling rural credit in India?
- a) Image A b) Image B c) Image C d) Image D
 21. Assertion (A): Education and health are important factors of human capital. 1
Reason (R) : Both education and health help to boost productivity of human being.
 - 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.
 22. Statement 1: Second five-year plan was based on rapid industrialization. 1
Statement 2: Many industries were set up and new industrial policy was formulated.
 - a) Both the statements are true.
 - b) Both the statements are false.
 - c) Statement 1 is true and Statement 2 is false.
 - d) Statement 2 is true and Statement 1 is false.
 23. Which of the following is not an issue of rural development? 1
 - a) Agricultural credit
 - b) Agricultural marketing
 - c) Transport and communication
 - d) Foreign trade centers

24. Assertion (A): In the late 1970s, China's population growth rate had sharply declined. 1
Reason (R) : China has witnessed an increase in the proportion of elderly people owing to stringent family planning programme .
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.
25. From the following statements identify the step not taken in New Economic Policy of 1991. 1
a) Custom duty was increased in foreign trade
b) Quota was abolished in foreign trade
c) Maximum limit of foreign investment was raised
d) Importance was given on privatisation
26. Multiple times milk production is an impact of 1
a) Blue revolution b) Golden revolution
c) Green revolution d) Operation flood
27. If we add number of workers to the number of unemployed, we get 1
a) labour force
b) workforce
c) voluntary unemployed
d) total population
28. Define disinvestment policy initiated in 1991. States merits of it. 3

OR

How reform was made in foreign trade sector under new economic policy?

29. Differentiate between human capital and physical capital. 3
30. Describe any two reforms conducted in China those helped the country to develop faster as compared to its neighbours. 4
31. Describe the procedure of global warming and its possible remedies. 4

OR

What do you mean by organic farming? Mention any three problems faced by farmers?

32. What are the prospects in rural India to generate employment in primary sector other than agriculture? 4
33. Write merits and demerits of LPG policy introduced by Government of India since 1991. 6

34. **Shares in Employment of India** 6

Sex	Rural	Urban	Total
Men	51.7	53.0	52.1
Women	17.5	18.2	16.5
Total	35.0	33.9	34.7

Compare and analyse the above information related to sex difference in workforce of Indian economy.

OR

Explain the steps taken under institutional and non-institutional reform in Indian agriculture from 1950 to 1990.

Which among them is more unsuccessful than the other and why?

BURNPUR RIVERSIDE SCHOOL, CHITTARANJAN

1st PRE-BOARD EXAMINATION : (2025-2026)

ACCOUNTANCY

CLASS : XII

Time: 3 Hours

Maximum Marks : 80

Name: _____ Sec.: _____ Roll No.: _____

General Instructions:

1. This question paper contains 34 questions. All questions are compulsory.
2. This question paper is divided into two parts, Part A and B.
3. **Part- A is compulsory for all candidates.**
4. Part B has two options i.e. **(i) Analysis of Financial Statements and (ii) Computerized Accounting.** Students must attempt only one of the given options.
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 for **one mark**, 2 questions for **three marks**, one question of **four marks** and 2 questions for **six marks**.

PART A

Accounting For Partnership Firms and Companies

1. Interest on capital is allowed only when _____. 1
 A) Partners demand it B) It is mentioned in the partnership deed
 C) Profits are earned D) Firm suffers a loss
2. On revaluation, plant and machinery reduced from ₹9,00,000 to ₹8,40,000 and investments appreciated from ₹2,00,000 to ₹2,50,000. The gain or loss on revaluation will be: 1
 A) Gain ₹50,000 B) Loss ₹50,000 C) Gain ₹10,000 D) Loss ₹10,000
3. A and B are partners in a firm sharing profits and losses in the ratio of 3:2. They admitted C as a partner in the firm for 1/5th share of profits. He brings in ₹30,000 as capital and ₹10,000 as his share of goodwill. The premium for goodwill will be credited to the capital accounts of A and B in: 1
 A) Old Ratio B) New Ratio C) Sacrificing Ratio D) Gaining Ratio

OR

P and Q are partners sharing profits in the ratio of 2:1, they admitted R as a new partner for 20% of share in profits and losses. Determine the new profit-sharing ratio.

4. Profits for last three years were ₹ 12,000, ₹26,000 and ₹ 4,000. The value of goodwill at 2.5 years' purchase of average profit will be: 1
 A) ₹ 14,000 B) ₹ 35,000 C) ₹19,000 D) ₹ 38,000

OR

In case of change in profit-sharing ratio, the gaining partner must compensate the sacrificing partners by paying the proportional amount of:

5. **Statement I:** Valid partner can be setup even without a written agreement between the partners. 1
 A) Capital B) Goodwill C) Accumulated Profits and Reserves D) Gain on Revaluation

Statement II: Rent paid to a partner for use of his personal property for business is debited to a profit and loss account.

- A) Both **Statement I** and **Statement II** are correct.
 B) **Statement I** is incorrect and **Statement II** is correct.
 C) **Statement I** is correct and **Statement II** is incorrect.
 D) Both **Statement I** and **Statement II** are incorrect.
6. Jay and Viru started a partnership with a guarantee given to Jay of ₹30,000 profits per year. The profits for 2020-21 are ₹60,000. Assuming 2:1 as profit sharing ratio, calculate Jay's share of profit. 1
 A) ₹20,000 B) ₹30,000 C) ₹40,000 D) None of the these

OR

Aani, Bani and Chani are partners in 2:3:2. Aani guaranteed Chani a profit of ₹5,000. The firm earned ₹ 14,000. Aani's share will be:

- A) ₹4,000 B) ₹3,600 C) ₹3,000 D) ₹ 5,000

7. **Assertion (A):** A new partner can be admitted into a partnership firm without the consent of all the existing partners in the firm. 1
Reason (R): According to Section 31 of the Indian Partnership Act, 1932, a new partner shall not be introduced into a firm without the consent of all the existing partners.
 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 a correct explanation of (A).
 C) (A) is true and (R) is false.
 D) (A) is false and (R) is true.

8. In case of death of a partner, his share in the profit up to the date of his death is calculated on the basis of: 1
 A) Time or Sales basis B) Capital basis C) Equal basis D) New Profit- Sharing ratio

OR

Upon the retirement of a partner, the remaining partners decide to pay the retiring partner a sum greater than their capital balance. This excess amount is generally adjusted against:

- A) The retiring partner's capital account B) The goodwill account
 C) The capital accounts of the remaining partners D) The profit and loss account
9. Which of the following statements is/are true? 1
a) The rate of dividend on preference and equity shares is fixed.
b) Preference shareholders have the right to receive dividend before the interest is paid on the debentures.
c) Preference shares cannot be redeemed during the lifetime of the company.
 A) Only a B) Only a and b C) Only c D) None of these

10. All assets (except cash/bank and fictitious assets) are transferred to the _____ side of _____ Account. 1

A) Debit, Capital B) Debit, Realisation C) Credit, Capital D) Credit, Realisation

11. A fixed charge is created on a _____ asset whereas a floating charge is on the _____ assets of the company. 1

A) Specific, fixed B) General, current C) Fixed, general D) Specific, general

12. Match the following and choose the correct option: 1

Column A	Column B
i) Deceased partner's share of profit	a) Credited to his Capital A/c
ii) Executor's Account	b) Adjusted among partners after death
iii) Life Insurance Policy	c) Used to compensate for partner's death
iv) Joint Life Policy Reserve	d) Created when settlement not immediate

A) (i) (a); (ii) (b); (iii) (c); (iv) (d)

B) (i) (d); (ii) (a); (iii) (b); (iv) (c)

C) (i) (a); (ii) (d); (iii) (c); (iv) (b)

D) (i) (b); (ii) (a); (iii) (c); (iv) (d)

13. The debentures that do not carry a particular rate of interest are called _____. 1

A) Unsecured Debentures B) Convertible Debentures

C) Zero-Coupon Rate Debentures D) Bearer Debentures

14. A, B and C are the partners sharing profits in the ratio 3:2:1, C retires. If A and B purchase the share of the retiring partner equally, what will be the new profit-sharing ratio? 1

A) 1:1 B) 2:3 C) 7:5 D) 3:2

15. A company forfeited 4,000 shares of ₹10 each on which application money of ₹3 has been paid. Out of these 2,000 shares were reissued as fully paid up and ₹4,000 has been transferred to capital reserve. Calculate the rate at which these shares were reissued: 1

A) ₹10 per share B) ₹9 per share C) ₹11 per share D) ₹8 per share

OR

Mr. A, a holder of 1500 shares, failed to pay allotment and call money. He had applied for 4000 shares. His shares were forfeited after final call and 1000 out of them were reissued for ₹9 per share. The par value of shares was ₹10 per share and were issued at a premium of 30%. The money was payable as:

On Application - ₹3 per share (including ₹1 as premium)

On Allotment - ₹₹7 per share (including ₹2 as premium)

On Call - ₹3 per share

The amount not received by **Mr. A** on allotment is:

A) ₹10,500 B) ₹7,500 C) ₹3,000 D) ₹28,000

16. Total assets of a partnership firm, which was dissolved were ₹ 15,00,000 and its total liabilities were ₹3,00,000. Assets were realised at 90% and liabilities were settled at 5% less. The profit or loss on dissolution was: 1

A) Profit ₹ 1,35,000 B) Loss ₹ 1,35,000 C) Profit ₹ 1,65,000 D) Loss ₹ 1,65,000

17. Calculate goodwill according to the Capitalisation of Average Profit Method when a firm earned an Average Profit of ₹30,000. The Normal Rate of Return is 10% and the Capital Employed (as on the date of Valuation of Goodwill) is ₹2,40,000. 3
18. John is a partner in a firm. He withdraws ₹ 1,000 p.m. regularly. Interest on drawings is charged @ 5% p.a. Calculate the interest on drawings using average period, if he draws 3
- at the beginning of every month
 - in the middle of every month
 - at the end of every month

OR

Calculate the drawings when:

- a partner withdraws ₹10,000 on 1st January and the rate of interest on drawings is 10% per annum
 - a partner withdrew ₹10,000 on 1st January and ₹5,000 on 1st July. Interest on drawings is 12% p.a.
 - a partner withdrew ₹8,000 on 1st March and ₹12,000 on 1st September. Interest on drawings is 12% p.a
19. Beta Ltd issued 5,000, 9% debentures of ₹ 500 each. Pass the necessary journal entries for the issue of debentures in the books of the company in the following case. When debentures are issued at a premium of 25% to the vendors for machinery purchased for ₹ 6,25,000. 3

OR

KTR Ltd issued 365, 9% debentures of ₹ 1,000 each on 4th March, 2016. Pass necessary journal entries for the issue of debentures in the following situations

- When debentures were issued at par redeemable at a premium of 10%.
 - When debentures were issued at 6% discount redeemable at 5% premium.
20. Kiya and Leela are partners sharing profits in the ratio of 3 : 2. Kiran was admitted as a new partner with 1/5th share in the profits and brought in ₹24,000 as her share of goodwill premium that was credited to the capital accounts of Kiya and Leela respectively with ₹18,000 and ₹6,000. Calculate the new profit-sharing ratio of Kiya, Leela and Kiran. 3
21. Anu and Bhagwan were partners in a firm sharing profits in the ratio of 3 : 1. Goodwill appeared in the books at ₹4,40,000. Raja was admitted to the partnership. The new profit sharing ratio among Anu, Bhagwan and Raja was 2 : 2 : 1. Raja brought ₹1,00,000 for his capital and necessary cash for his goodwill premium. The goodwill of the firm was valued at ₹ 2,50,000. Record the necessary journal entries in the books of the firm for the above transactions. 4
22. Manas, Baivab and Aman were partners in a firm sharing profits in the ratio of 7 : 2 : 1. On 31st March, 2018, the firm was dissolved, after transferring sundry assets (other than cash in hand and cash at bank) and third party liabilities in the realisation accounts the following transactions took place: 4
- Debtors amounting to ₹ 1,40,000 were handed over to a debt collection agency which charged 5% commission. The remaining debtors were ₹ 47,000 out of which debtors of ₹ 17,000 could not be recovered because the same became insolvent.
 - Creditors amounting to ₹ 5,000 were paid ₹ 3,500 in full settlement of their claim and balance creditors were handed over stock of ₹ 90,000 in full settlement of their claim of ₹ 95,000.
 - A bill receivable ₹ 2,000 discounted with the bank was dishonoured by its acceptor and the same had to be met by the firm.
 - Profit on realisation amounted to ₹ 6,000. Pass necessary journal entries for the above transactions in the books of Manas, Baivab and Aman.
23. Meghna, Mehak and Mandeep were partners in a firm whose Balance Sheet as on 31st March, 2023 was as under: 6

BALANCE SHEET

Liabilities	Amount	Assets	Amount
Creditors	28,000	Cash	27,000
General Reserve	7,500	Debtors	20,000
Capitals:		Stock	28,000
Meghna 20,000		Furniture	5,000
Mehak 14,500			
Mandeep 10,000	44,500		
	80,000		80,000

Mehak retired on this date under following terms:

- i) To reduce stock and furniture by 5% and 10% respectively.
 - ii) To provide for doubtful debts at 10% on debtors.
 - iii) Goodwill was valued at ₹12,000.
 - iv) Creditors of Rs.8,000 were settled at ₹7,100.
 - v) Mehak should be paid off and the entire sum payable to Mehak shall be brought in by Meghna and Mandeep in such a way that their capitals should be in their new profit-sharing ratio and a balance of ₹25,000 is maintained in the cash account.
- Prepare Revaluation Account and partners' capital accounts of the new firm.

OR

Krishna and Suresh were partners in a firm sharing profits in the ratio of 3 : 1. On 1st April, 2015 they admitted Rahul as a new partner for 1/5th share in profits of the firm. On the date of Rahul's admission, the balance sheet of Krishna and Suresh showed a general reserve of ₹ 1,20,000, a debit balance of ₹ 60,000 in profit and loss account and workmen compensation fund of ₹ 1,50,000. The following was agreed upon on Rahul's admission:

- i) Rahul will bring ₹1,50,000 as his capital and his share of goodwill premium in cash.
 - ii) Goodwill of the firm be valued at ₹2,40,000.
 - iii) There was a claim of workmen compensation for ₹1,70,000.
 - iv) The partners decided to share future profits in the ratio of 3 : 1 : 1.
- Pass the necessary journal entries for the above on Rahul's admission.

24. C and D are partners in a firm sharing profits in the ratio of 4 : 1. On 31st March, 2016, their balance sheet was as follows

Balance sheet
As at 31st March, 2016

Liabilities		Amount	Assets		Amount
Creditors		40,000	Cash		24,000
Provision for bad debts		4,000	Debtors		36,000
Outstanding salary		6,000	Stock		40,000
General reserve		10,000	Furniture		80,000
Capitals			Plant and machinery		80,000
C	1,20,000				
D	80,000	2,00,000			
		2,60,000			2,60,000

On the above date, E was admitted for 1/4 th share in the profits on the following terms:

- (i) E will bring ₹ 1,00,000 as his capital and ₹ 20,000 for his share of goodwill premium, half of which will be withdrawn by C and D.
 - (ii) Debtors ₹ 2,000 will be written off as bad debts and a provision of 4% will be created on debtors for bad and doubtful debts.
 - (iii) Stock will be reduced by ₹ 2,000, furniture will be depreciated by ₹ 4,000 and 10% depreciation will be charged on plant and machinery.
 - (iv) Investments ₹ 7,000 not shown in the balance sheet will be taken into account.
 - (v) There was an outstanding repairs bill of ₹2,300 which will be recorded in the books.
- Pass necessary journal entries for the above transactions in the books of the firm on E's admission.

25. DAVID Ltd. invited applications for issuing 50,000 shares of ₹ 10 each at a premium of ₹ 2 per share. The amount was payable as follows:

On application – ₹ 3 per share (including premium ₹ 1)

On allotment – ₹ 3 per share (including premium ₹ 1)

On first call – ₹ 3 per share

On second and final call – Balance amount

Application for 70,000 shares were received. Allotment was made on the following basis:

Application for 5,000 shares-full

Applications for 50,000 shares – 90%

Balance of the applications were rejected. ₹ 1,11,000 were received on account of allotment. The amount of allotment due from the shareholders to whom shares were allotted on a pro-rata basis was fully received. A few shareholders to whom shares were allotted in full, failed to pay the allotment money ₹ 1,20,000 were received on first call. Directors decided to forfeit those shares on which allotment and call money was due. Half of the forfeited shares were re-issued @ ₹ 8 per share fully paid-up. Final call was not made.

Pass the necessary journal entries for the above transactions in the book of DAVID Ltd.

OR

K Ltd. issued 1,000 shares @ ₹100 each at a premium of ₹20 payable as ₹30 on Application, ₹50 on Allotment (including premium), ₹30 on First Call, and ₹10 on the Second & Final Call. The

company did not call the second & final call. All the shares were duly received except the First Call on 100 shares. These shares were immediately forfeited and re-issued at ₹80 each. Pass the necessary Journal Entries in the books of K Ltd.

26. Tata Ltd issued 5,000, 10% debentures of ₹ 100 each on 1st April, 2012. The issue was fully subscribed. According to the terms of issue, interest on debentures is payable half yearly on 30th September and 31st March and tax deducted at source is 10%. Pass the necessary entries related to the debenture interest for the half yearly ending on 31st March 2013 and transfer of interest on debentures to the statement of profit and loss. 6

PART- B (OPTION- I)
Analysis of Financial Statement

27. A company should disclose all the information in 1
A) statement B) annual report C) accounts book D) None of these
OR

When financial statements for a single year are analysed, it is called

- A) vertical analysis B) horizontal analysis C) lateral analysis D) circular analysis

28. Calculate amount of tax to be deducted. 1
Revenue from Operations – ₹ 5,00,000
Other income (% of Revenue from Operations) – 20%
Expenses (% of Operating Revenue) – 40%
Tax Rate – 30%
A) ₹ 1,50,000 B) ₹ 1,20,000 C) ₹ 1,00,000 D) ₹ 2,00,000

29. Purchases and sales of long-term assets like property, plant, and equipment, investments in other companies are under which heading in the cash flow statement? 1
A) Cash flow from operating activities B) Cash flow from investing activities
C) Cash flow from financing activities D) Cash Equivalent
OR

Dividend paid by a non - financial company is shown as:

- A) Cash and Cash Equivalent B) Investing Activities C) Operating Activities D) Financing Activities

30. **Assertion (A):** 'Sale of goods for cash' does not affect Debt-Equity ratio. 1
Reason (R): 'Sale of goods on cash basis neither affect 'Debt' nor 'Equity'
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

31. Assuming that the debt equity ratio is 2 : 1. State giving reasons whether this ratio would increase, decrease or remain unchanged in the following cases. 3
i) Purchase of fixed assets on a credit of two months
ii) Issue of new shares for cash
iii) Sale of fixed assets at a loss of ₹ 3,000.

32. State clearly what would constitute the operating activities for each of the following enterprises: 3
i) Hotel ii) Film production house iii) Financial enterprise

33. Prepare a Commonsize statement of profit and loss from the following: 4

Particulars	Note No.	31st March, 2020 ₹	31st March, 2019 ₹
Revenue from operations		12,50,000	10,00,000
Other income		50,000	50,000
Cost of materials consumed		8,50,000	7,00,000
Finance cost		1,00,000	80,000
Other Expenses		50,000	70,000

OR

34. (a) From the following information, calculate Cash flow from Operating Activities.

6

Particulars	31 March 2023 ₹	31 March 2024 ₹
Surplus i.e Balance in Statement of Profit and Loss	6,00,000	5,00,000
Provision for Tax	1,00,000	1,20,000
Trade Receivables	2,00,000	2,40,000
Trade Payables	1,50,000	2,00,000
Goodwill	2,00,000	1,50,000

Additional Information:- Proposed Dividend for the year ended March 31, 2023 and March 31, 2024 was ₹1,50,000 and ₹ 1,80,000 respectively.

- (b) From the following information calculate the Cash from Investing Activities:

Particulars	31 March 2023 ₹	31 March 2024 ₹
Machinery (Cost)	20,00,000	28,00,000
Accumulated Depreciation	4,00,000	6,50,000

Additional Information:-

- (i) Machinery costing ₹50,000 (Book Value ₹40,000) was lost by fire and an insurance claim of ₹32,000 was received.
(ii) Depreciation charged during the year was ₹3,50,000.
(iii) A part of Machinery costing ₹2,50,000 was sold at a loss of ₹ 20,000.

PART- B (OPTION -II)
Computerized Accounting

27. Identify the error which will be displayed on screen when the set of co-ordinates that a cell occupies on a worksheet is invalid.

1

- A) Correct a # NAME ? Error
B) Correct # REF ! Error
C) Correct a # N/A Error
D) Correct a ##### Error

OR

What is the outcome of an arithmetic expression or function called ?

- A) Horizontal vector
B) Derived value
C) Basic value
D) Vertical vector

28. How many categories of function are available in Excel 2007 ?

1

- A) 2
B) 6
C) 12
D) 7

29. How are ranges identified within Excel ?

1

- A) Using Hashtag
B) Using Vector
C) Using Colour
D) Using Comma

30. Which function results can be displayed in Auto Calculate?

1

- A) SUM and AVERAGE.
B) MAX and LOOK
C) LABEL and AVERAGE
D) MIN and BLANK

OR

How are 'absolute cell reference' and 'mixed cell reference' identified in Excel ?

- A) Using # sign
B) Using ~ sign
C) Using \$ sign
D) Using £ sign

31. Explain cell reference, relative cell reference and absolute cell reference.

3

32. Explain the following :

3

- i) Contra voucher
ii) Post-dated voucher
iii) Receipt voucher

33. What are the different phases of accounting cycle which can be processed through the use of computers ?

4

OR

List eight uses of accounting software.

34. State the steps in creating a pie chart using Excel.

6

Time: 3 Hours

Maximum Marks: 60

NAME: _____ SEC.: _____ ROLL NO.: _____

General Instructions:

1. Please read the instructions carefully.
2. This Question Paper consists of **24 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 (6 + 18 =) 24 questions, a candidate has to answer (6 + 11 =) 17 questions in the allotted (maximum) time of 3 hours.**
5. All questions of a particular section must be attempted in the correct order.
6. **SECTION A - OBJECTIVE TYPE QUESTIONS (30 MARKS):**
 - i. This section has 06 questions.
 - ii. There is no negative marking.
 - iii. Do as per the instructions given.
 - iv. Marks allotted are mentioned against each question/part.
7. **SECTION B – SUBJECTIVE TYPE QUESTIONS (30 MARKS):**
 - i. This section contains 18 questions.
 - ii. A candidate has to do 11 questions.
 - iii. Do as per the instructions given.
 - iv. Marks allotted are mentioned against each question/part.

SECTION A: OBJECTIVE TYPE QUESTIONS

1. **Answer any 4 out of the given 6 questions on Employability Skills: (1 X 4 = 4 marks)**
 - i. _____ is the personality trait characterized by gregarious, assertive and sociable behaviour. 1
 - ii. There are _____ skills for effective communication. 1
 - a) 1 b) 2 c) 3 d) 4
 - iii. In spreadsheet, the cell having a highlighted cell boundary is called a/an _____. 1
 - iv. _____ is an optimistic state of mind that always sees the bright side of life and focuses on the glass being half-full instead of half empty. 1
 - v. 'Startup India' was launched in the year _____. 1
 - vi. ITUC stands for _____. 1
2. **Answer any 5 out of the given 7 questions: (1 X 5 = 5 marks)**
 - i. _____ is the keyword in MySQL, which is used to display unique values in a column. 1
 - ii. eBay is an USA based ecommerce company founded in the year _____. 1
 - iii. _____ is the procedure in which one class inherits the attributes and methods of another class. 1
 - a) Abstraction b) Inheritance c) Encapsulation d) Polymorphism
 - iv. Which out of these is **not** a relational operator in Java? 1
 - a) = b) == c) >= d) !=
 - v. JDBC stands for _____. 1
 - vi. In a table EMPLOYEE (empno, empname, dob, salary), write a query to find the number of employees. 1
 - vii. State True or False: Bing is a search engine belonging to Microsoft. 1
3. **Answer any 6 out of the given 7 questions: (1 X 6 = 6 marks)**
 - i. Which are the 2 wild card characters used for pattern matching in SQL? 1
 - a) !, - b) %, - c) %, _ d) _, #
 - ii. Name the ICT network developed by the National Informatics Centre. 1
 - iii. Define an Object in Java. 1
 - iv. Name the two DCL commands in SQL. 1
 - v. Define a Web Application. 1
 - vi. _____ is a non-primitive data type in java. 1
 - vii. Which out of these is **not** an aggregate function in Java? 1
 - a) SUM() b) AVG() c) COUNT() d) PROD()

4. **Answer any 5 out of the given 6 questions: (1 X 5 = 5 marks)**
- A column or a group of column that can identify each unique record independently in a relation is called _____.
(a) Super key (b) Candidate key (c) Primary key (d) Alternate key **1**
 - Rajesh wants to get some e-books for his brother studying in class 7 in a CBSE affiliated school. Which portal should he be visiting to get the e-books for all the subjects? **1**
 - Which keyword is used to make a variable act like constant in Java? **1**
 - Write an SQL query to add a foreign key deptid to a table **EMPLOYEE** referencing to the table **DEPT**. deptid is the primary key of **DEPT** table. **1**
 - Which out of these is **not** a stage of web development cycle?
a) Reserch b) Testing c) Funding d) Designing **1**
 - State TRUE or FALSE:
Grade_Test#2 is a valid variable name. **1**
5. **Answer any 5 out of the given 6 questions: (1 X 5 = 5 marks)**
- Write an SQL query to increase the salary of all the employees in a table **EMPLOYEE**(Emp_name, salary, DOJ) by 5%. **1**
 - e-governance tool used to assist the business community through various websites like filling form for GST or tax is an example of _____.
a) G2G b) G2B c) G2C d) G2E **1**
 - Write a point of difference between while loop and do-while loop. **1**
 - State TRUE or FALSE:
The query "**DELETE FROM employee;**" will delete all the records and the table employee from the database. **1**
 - Udemy is an online learning and teaching market place with over _____ students.
a) 58 million b) 58 billion c) 58 thousand d) 58 hundred **1**
 - The class Scanner in java is available in which package? **1**
6. **Answer any 5 out of the given 6 questions: (1 X 5 = 5 marks)**
- _____ method reads the value/text from the object and return it to the program.
a) getter b) setter c) main d) System.out **1**
 - In Java, this string method checks whether a string ends with a specified character(s). Name the method.
a) contains() b) length() c) endsWith() d) equals() **1**
 - _____ access modifier is to be used to keep the access level within the class only.
a) Public b) Default c) Private d) Protected **1**
 - NSP stands for _____. **1**
 - Write an SQL query to display the name of the employees from table **EMPLOYEE** whose name ends with 'T'. **1**
 - Which out of these is **not** a foreign key constraint?
a) ON DELETE b) CASCADE c) SET NULL d) NO ACTION **1**

SECTION B: SUBJECTIVE TYPE QUESTIONS

Answer any 3 out of the given 5 questions (4X3= 12 marks)

20. Write a Java code using String methods to perform the following tasks: **1+1+1+1**
String str = "java programming";
Answer any 3 out of given 5 questions on Employability Skills (2 X 3 = 6 marks)
Answer each questions in 20-30 words
- Convert all characters to uppercase. **2**
 - Write any two advantages of active listening at workplace. **2**
 - Find the index of the character 'm' in the given string. **2**
 - Define Stress. **2**
 - Append the word "rocks" at the end of the string. **2**
 - What is a worksheet? How many rows and columns are there in LibreOffice Calc worksheet? **2**
 - Replace the word "java" with "C++". **2**
 - List any four key characteristics of a project. **4**
 - What are the qualities that motivate an entrepreneur? (any 4) **4**
 - Consider the following tables **1+1+1+1**
 - Name any four Missions from the National Mission on climate change.

Table: MOVIE

MID	MName	Genre	Budget
M01	Avatar	Sci-Fi	500000
M02	Dangal	Sports	150000
M03	Inception	Thriller	300000

(2X3=6 marks)

12. **Table: ACTOR** **2**
13. rollNo, structure of the **2**

14.		AID	MID	ActorName	
	C	A101	M01	Sam Worthington	2
	F	A102	M02	Aamir Khan	
	f	A103	M03	Leonardo DiCaprio	

Write SQL queries for the following:

- Find the total number of actors in each movie.
- Add a new record to MOVIE: (M04, '3 Idiots', 'Comedy', 200000).
- Display MName, ActorName, and Genre of all actors.
- Show details of movies whose budget is more than 200000.

23. a) Define an array. 1+3

b) Write a program to take 10 elements in an array as input and find the sum of the elements.

24. Define exception handling in java. Name the keywords that manage exception in java. Write the syntax for exception handling. 1+1+2

```

}
}
}

```

15. Find the error and rewrite the correct code 2

```

public class sample
{
    public static main(String args[])
    {
        for (i=0;i<=10;i++)
            system.out.print(+a)
    }
}

```

16. What do you mean by Work Integrated Learning? 2

Answer any 2 out of the given 3 questions (3X2= 6 marks)

17. a) Define Referential Integrity. 1+2

b) Consider the following table TEACHER and answer the following questions:

Table: TEACHER

TID	TNAME	DOA	DEPT	PAY
501	SUBHAV JAIN	2014-07-09	COMPUTER	450000
203	SHUBH NANGIA	2009-11-23	CHEMISTRY	340000
510	VARUN KAPOOR	2015-02-15	HINDI	320000
307	KAMAL PATRA	2010-12-29	ACCOUNTS	310000
490	SUJAN REDDY	2012-09-11	ENGLISH	270000
370	IKAT GOSWAMY	2011-05-08	COMPUTER	510000

DOA - Date of Appointment, DEPT - Department

Write the statement:

i) To display the number of teachers and the corresponding department name, in each department.

ii) To display the minimum PAY of teachers whose Date of Appointment is after 2010.

18. Nitu is creating a Java program to calculate the area of a rectangle. She writes the following code: 1+1+1

```

class Rectangle {
    int length;
    int width;

    int calculateArea() {
        return length * width;
    }

    public static void main(String[] args) {
        Rectangle r1 = new Rectangle();
        r1.length = 5;
        r1.width = 10;
        System.out.println("Area: " + r1.calculateArea());
    }
}

```

- a) What does the method calculateArea() do in this program?
- b) How is the object of the class created?
- c) What will be the output of the program?

19.

Consider the following table: **EMPLOYEE**

1 ½
+1 ½

EmpID	Name	Dept	Salary	City	JoinDate
101	Mehul	HR	50000	Delhi	2019-04-12
102	Smiha	IT	75000	Mumbai	2020-01-23
103	Arsh	Finance	62000	Chennai	2021-05-30
104	Neeru	IT	78000	Delhi	2018-11-15
105	Amit	HR	52000	Bangalore	2022-07-10

- i) Write a query to find the name and salary of the employees not staying in Delhi.
- ii) Write a query to arrange the table in descending order of the salary.

BURNPUR RIVERSIDE SCHOOL, CHITTARANJAN

1st PRE-BOARD EXAMINATION: (2025-26)

PHYSICS

CLASS: XII

Time: 3 Hours

Maximum Marks: 70

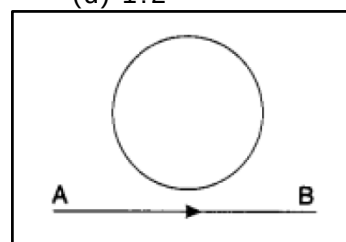
NAME: _____ ROLL NO.: _____ SEC.: _____

General Instructions:

- (i) There are 33 questions in all. All questions are compulsory.
- (ii) This question paper has five sections: Section A, Section B, Section C, Section D and Section E.
- (iii) All the sections are compulsory.
- (iv) Section A contains sixteen questions, twelve MCQ and four Assertion Reasoning based of 1 mark each, Section B contains five questions of two marks each, Section C contains seven questions of three marks each, Section D contains two case study-based questions of four marks each and Section E contains three long answer questions of five marks each.
- (v) There is no overall choice. However, an internal choice has been provided in one question in Section B, one question in Section C, one question in each CBQ in Section D and all three questions in Section E. You have to attempt only one of the choices in such questions.
- (vi) Use of calculator is not allowed.

SECTION - A

1. Force between charges A(charge $4q$) and B(charge q) is F . If 75% charge of A is transferred to B then force between A and B will become - 1
 (a) $F/4$ (b) F (c) $4F$ (d) $F/2$
2. Which of the following is not the property of an equipotential surface? 1
 (a) They do not cross each other
 (b) The work done in carrying a charge from one point to another on an equipotential surface is zero
 (c) For a uniform electric field, they are concentric spheres
 (d) They can be imaginary spheres
3. Which of the following metals is used for making standard resistors? 1
 (a) Copper (b) Iron (c) Manganin (d) Aluminium
4. Two horizontal thin long parallel wires, separated by a distance r carry current I each in the same directions. The net magnetic field at a point midway between them will be - 1
 (a) $\mu_0 I / 2\pi r$, vertically downward (b) zero
 (c) $\mu_0 I / \pi r$, vertically upward (d) $2\mu_0 I / r$, vertically upward
5. The ratio of magnetic fields due to a small bar magnet in the end on position to the broad side on position is - 1
 (a) 1:1 (b) 1:4 (c) 2:1 (d) 1:2
6. In the given figure current from A to B in the straight wire is decreasing. The direction of induced current in the loop is A - 1
 (a) clockwise
 (b) anticlockwise
 (c) changing
 (d) nothing can be said



7. In a series LCR circuit that is operating above the resonant frequency, the current - 1
 (a) lags the applied voltage (b) leads the applied voltage
 (c) is in phase with the applied voltage (d) is zero
8. Waves in decreasing order of their wavelength are - 1
 (a) radio waves, ultraviolet rays, visible rays, X-rays
 (b) radio waves, visible rays, infrared rays, X-rays
 (c) radio waves, infrared rays, visible rays, X-rays
 (d) X-rays, infrared rays, visible rays, radio waves
9. Consider the refractive index of water is $5/3$ and a light source is placed in water at a depth of 4 m. Then what must be the minimum radius of disc placed on water surface so that the light of source can be stopped? 1
 (a) 5 m (b) 4 m (c) 3 m (d) 6 m

10. If the 8th bright fringe of light of wavelength λ_1 coincides with the 9th bright fringe of light of the wavelength λ_2 in Young's double slit experiment, then the possible wavelengths of visible light are - 1
 (a) 400nm and 450nm (b) 425nm and 400nm
 (c) 400nm and 425nm (d) 450nm and 400nm
11. Consider the fusion reaction: ${}^4\text{He} + {}^4\text{He} \rightarrow {}^8\text{Be} + Q$ 1
 For the reaction, Atomic mass of ${}^8\text{Be}$ is 8.0053 u and that of ${}^4\text{He}$ is 4.0026 u. & $1\text{u} = 931 \text{ MeV}/c^2$ then Q-value will be -
 (a) -9.31MeV (b) -93.1MeV (c) -9.31keV (d) -93.1keV
12. A nucleus of mass number 189 splits into two nuclei having mass number 125 and 64. The ratio of radius of daughter nuclei respective is - 1
 (a) 25:16 (b) 1:1 (c) 4:5 (d) 5:4
- For Questions 13 to 16, two statements are given – one labelled Assertion (A) and other labelled Reason (R). Select the correct answer to these questions from the options as given below.**
- a) If both Assertion and Reason are true and Reason is correct explanation of Assertion.
 b) If both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
 c) If Assertion is true but Reason is false.
 d) If both Assertion and Reason are false.
13. **Assertion (A):** The total number of electric lines of force passing through a given area in a normal direction is called electric flux. 1
Reason (R): Electric flux is a vector quantity.
14. **Assertion (A):** In astronomical telescope, the objective lens is of larger aperture. 1
Reason (R): Larger the aperture, smaller is the magnifying power.
15. **Assertion (A):** The maximum intensity in interference pattern is four times the intensity due to each slit. 1
Reason (R): Intensity is directly proportional to square of amplitude.
16. **Assertion (A):** Total energy of revolving electron in any stationary orbit is negative. 1
Reason (R): Energy can have only positive value.
- SECTION – B**
17. An electric dipole having a dipole moment of $4 \times 10^{-9} \text{ C m}$ is placed in a uniform electric field such that the dipole is in stable equilibrium. If the magnitude of the electric field is $3 \times 10^3 \text{ N/C}$, what is the work done in rotating the dipole from a position of stable equilibrium to a position of unstable equilibrium? 2
18. Two electric bulbs P and Q have their resistances in the ratio of 1:2. They are connected in series across a battery. Find the ratio of the power dissipation in these bulbs. 2
19. Two protons P and Q moving with same speed pass through the magnetic field B_1 and B_2 respectively, at right angles to field directions. If $B_2 > B_1$, which of the two protons will describe circular path of smaller radius? Explain. 2
20. Identify the electromagnetic waves whose wavelengths lie in the range. 2
 (i) $10^{-12} \text{ m} < \lambda < 10^{-9} \text{ m}$
 (ii) $10^{-3} \text{ m} < \lambda < 10^{-1} \text{ m}$
 Write one use of each.
- OR**
- Write Maxwell's generalization of Ampere's Circuital law. Show that in the process of charging a capacitor, the current produced within the plates of the capacitor is $i = \epsilon_0 d\phi_E/dt$ where ϕ_E is the electric flux produced during charging of the capacitor plates.
21. A hydrogen atom initially in its ground state Absorbs a photon which excites it to 3rd excited state. Estimate the frequency of the photon. 2
- SECTION – C**
22. A cell of emf 'E' and internal resistance 'r' is connected across a variable load resistor R. 3
 Draw the plots of the terminal voltage V versus
 (i) R
 (ii) the current I
 (iii) It is found that when $R = 4 \Omega$, the current is 1 A and when R is increased to 9Ω , the current reduces to 0.5 A. Find the values of the emf E and internal

- resistance r .
23. (i) Define magnetic susceptibility of a material. 3
 (ii) A circular coil of N turns and radius R carries a current I . It is unwound and rewound to make another coil of radius $R/2$, current I remaining the same. Calculate the ratio of the magnetic moments of the new coil and the original coil.
24. A series LCR circuit with $R = 20\ \Omega$, $L = 2\text{ mH}$ and $C = 5\ \mu\text{F}$ are connected to a 200 V ac source of variable frequency. What is 3
 (i) the amplitude of the current and
 (ii) the average power transferred to the circuit in one complete cycle, at resonance?
 (iii) Calculate the potential drop across the capacitor at resonance.
25. Draw a ray diagram to show the formation of the image of an object placed on the axis of a convex refracting surface, of radius of curvature ' R ', separating the two media of refractive indices ' n_1 ' and ' n_2 ' ($n_2 > n_1$). Use this diagram to deduce the relation 3

$$n_2/v - n_1/u = (n_2 - n_1)/R$$
 where u and v represent respectively the distance of the object and the image formed.
26. (i) A parallel beam of light of wavelength 500 nm falls on a narrow slit and the resulting diffraction pattern is observed on a screen 1 m away. It is observed that the first minimum is at a distance of 2.5 mm from the centre of the screen. Find the width of the slit. 3
 (ii) Write any two differences between fringe pattern in interference and diffraction?
27. (i) Define atomic mass unit and write its value. 3
 (ii) Show that the nuclear density is independent of mass number (A).

OR

- (i) Define the term 'mass defect' of a nucleus. How is it related with its binding energy?
 (ii) Determine the Q -value of the following reaction:

$${}^1_1\text{H} + {}^1_3\text{H} \rightarrow {}^2_1\text{H} + {}^2_1\text{H}$$
 Given $m({}^1_1\text{H}) = 1.00783\text{ u}$,
 $m({}^2_1\text{H}) = 2.01410\text{ u}$,
 $m({}^3_1\text{H}) = 3.01605\text{ u}$.
28. Draw the circuit diagram of half-wave rectifier, state its principle and draw the input and output waveforms. 3

SECTION – D

29. **Read the following passage carefully and answer the following questions:** 4
 Minimum energy required to emit the electron from the surface of conductor is called work function (W or ϕ_0). It is measured in eV (electron volt). 1 eV is the energy gained by an electron when it is accelerated by a potential difference of 1 volt. Methods of electron emission- (i) Thermionic emission, (ii) Field emission, (iii) Secondary emission, (iv) Photoelectric emission. Work function (ϕ_0) is the minimum energy that must be supplied to liberate the most loosely bound surface electrons from a metal without giving them any velocity is called the work function of the metal. Work function is measured in electron volt (eV). Work function depends on the properties of metal and the nature of its surface.
 (i) What is the slope of the graph of stopping potential (V_0) versus frequency (ν).
 (ii) How maximum kinetic energy of emitted photoelectrons depends on the intensity of the incident photon?
 (iii) **Attempt either sub-part A or B.**
 A. Calculate the number of photons emitted per second from the radio transmitter operates at a frequency 880 kHz and a power of 10 kW .
OR
 B. The threshold wavelength for photoelectric emission for a material is $3900\text{ \AA}$. What is the power of the lamp required to illuminate the material that emits 10^{22} number of photons per second.

30. **Read the following passage carefully and answer the following questions:** 4
 A semiconductor diode is basically a p-n junction with metallic contacts provided at the ends for the application of an external voltage. It is a two-terminal device. When an external voltage is applied across a semiconductor diode such that p-side is connected to the positive terminal of the battery and n-side to the

negative terminal, it is said to be forward biased. When an external voltage is applied across the diode such that n-side is positive and p-side is negative, it is said to be reverse biased. An ideal diode is one whose resistance in forward biasing is zero and the resistance is infinite in reverse biasing. When the diode is forward biased, it is found that beyond forward voltage called knee voltage, the conductivity is very high. When the biasing voltage is more than the knee voltage the potential barrier is overcome and the current increases rapidly with increase in forward voltage. When the diode is reverse biased, the reverse bias voltage produces a very small current about a few micro-amperes which almost remains constant with bias. This small current is reverse saturation current.

- (i) An ideal diode D is connected (in FB) to an external resistance $R = 100\Omega$ and an emf of 3.5 V . If the barrier potential developed across the diode is 0.5 V , the current in the circuit will be -

(a) 40 mA (b) 20 mA (c) 35 mA (d) 30 mA

- (ii) In an ideal diode the resistance during reverse bias will be -

(a) infinite (b) zero (c) small (d) large

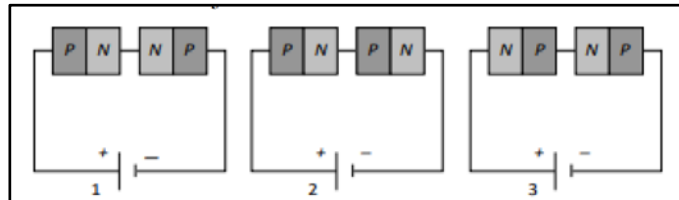
- (iii) Based on the V-I characteristics of the diode, we can classify diode as -

(a) bilateral device (b) ohmic device (c) non-ohmic device (d) passive device

Attempt either sub-part A or B.

- (iv) A. Two identical PN junctions can be connected in series by three different methods as shown in the figure. If the potential difference in the junctions is the same, then the correct connections will be -

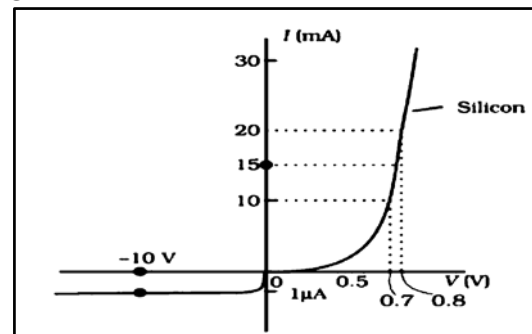
- (a) in the circuits (1) and (2)
 (b) in the circuits (2) and (3)
 (c) in the circuits (1) and (3)
 (d) only in the circuits (1)



OR

B. The V-I characteristic of a diode is shown in the figure. The ratio of the resistance of the diode at $I = 15\text{ mA}$ to the resistance at $V = -10\text{ V}$ is

- (a) 100
 (b) 10^6
 (c) 10
 (d) 10^{-6}



SECTION - E

31. (i) Using Gauss Law, derive an expression for the Electric Field Intensity at any point outside a uniformly charged spherical shell of radius R and carrying charge q , with the help of suitable diagram. 5
 (ii) A uniformly charged spherical shell of 2.5 m radius has a surface charge density of $100\mu\text{C}/\text{m}^2$. Calculate the Charge on the sphere and Total electric flux passing through the sphere.

OR

- (i) A dielectric slab of dielectric constant ' K ' and thickness ' $t < d$ ' is inserted between plates of a parallel plate capacitor of plate separation d and plate area A . Obtain an expression for its capacitance.
 (ii) Two capacitors of different capacitances are connected first in series and then in parallel across a dc source of 100 V . If the total energy stored in the combination in the two cases are 40 mJ and 250 mJ respectively, find the capacitance of the capacitors.
 32. (i) Calculate self-inductance for a long solenoid of length l , number of turns N and radius r . 5
 (ii) A coil is mechanically rotated with constant angular speed ω in a uniform magnetic field which is perpendicular to the axis of rotation of the coil. The plane of the coil is initially held perpendicular to the field. Plot a graph showing variation of (i) magnetic flux (Φ) and (ii) the induced emf in the coil as a function of ωt .

OR

- (i) Draw a schematic diagram of a step up/step down transformer. Explain its

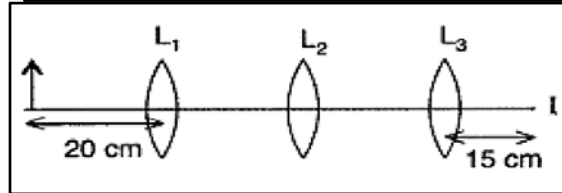
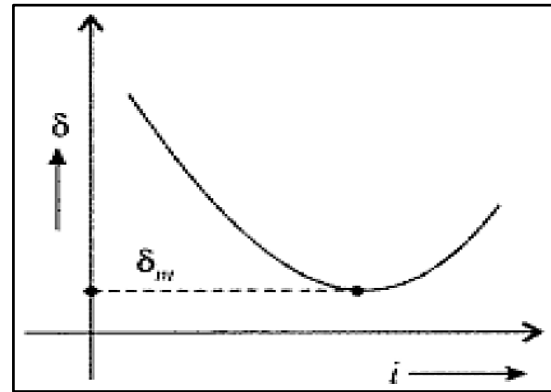
working principle. Deduce the expression for the secondary to primary voltage in terms of the number of turns in the two coils.

- (ii) Describe briefly any two energy losses, giving the reason of their occurrence in actual transformer. How are these reduced?

33. (i) The relation, between the angle of incidence (i) and the corresponding, angle of deviation (δ), for a certain optical device, is represented by the graph shown in the figure. Identify this device.

Draw a ray diagram for this device and use it for obtaining an expression for the refractive index of the material of this device in terms of an angle characteristic of the device and the angle, marked an δ_m , in the graph.

- (ii) You are given three lenses L_1 , L_2 and L_3 each of focal length 15 cm. An object is kept at 20 cm in front of L_1 , as shown. The final real image is formed at the focus 'I' of L_3 . Find the separations between L_1 , L_2 and L_3 .



OR

- (i) Draw a labelled ray diagram to obtain the real image formed by an astronomical telescope in normal adjustment position. Define its magnifying power.
- (ii) You are given three lenses of power 0.5 D, 4 D and 10 D to design a telescope.
- (i) Which lens should be used as objective? Justify your answer.
- (ii) Why is the aperture of the objective preferred to be large?

BURNPUR RIVERSIDE SCHOOL, CHITTARANJAN
1ST PRE-BOARD EXAMINATION: (2025 – 2026)
COMPUTER SCIENCE
CLASS: XII

Time: 3 Hours

Maximum Marks: 70

NAME: _____ SEC.: ____ ROLL NO.: ____

General Instructions:

- i) Please check this question paper contains **37 questions**.
- ii) All questions are compulsory. However, internal choices have been provided in some questions. Attempt only one of the choices in such questions.
- iii) The paper is divided into **5 Sections- A, B, C, D and E**.
- iv) **Section A**, consists of **21** questions (**1 to 21**). Each question carries **1 Mark**.
- v) **Section B**, consists of **07** questions (**22 to 28**). Each question carries **2 Marks**.
- vi) **Section C**, consists of **03** questions (**29 to 31**). Each question carries **3 Marks**.
- vii) **Section D**, consists of **04** questions (**32 to 35**). Each question carries **4 Marks**.
- viii) **Section E**, consists of **02** questions (**36 to 37**). Each question carries **5 Marks**.
- ix) All programming questions are to be answered using **Python Language only**.
- x) In case of **MCQ**, text of the **correct answer should also be written**.

SECTION – A

- A. Select the most appropriate option out of the options given for each question or answer in short:** **[1 X 21 = 21]**
1. Predict the output of the following Python expression: 1
`print(32%6**2*2)`
 a) 32 b) 36 c) 64 d) 128
 2. State if the following statement is True or False: 1
`global` is a valid Python identifier.
 3. What will be the output of the following code? 1
`x=[3,7,2,9]`
`print(x[x[1]-5])`
 a) 7 b) 2 c) 3 d) Error
 4. Which of the following statements about functions in Python is **true**? 1
 a) A function must always return a value. b) A function can be defined inside another function.
 c) A function cannot take arguments. d) A function must be called before it is defined.
 5. What will be the output of the following code? 1
`def add(a, b=5):`
`return a + b`
`print(add(3))`
 a) 3 b) 5 c) 8 d) Error: Missing Argument
 6. Which of the following functions returns the memory address of an object? 1
 a) `id()` b) `type()` c) `eval()` d) `input()`
 7. `import random` 1
`print(random.randint(1, 3))`
 What will this code print?
 a) Always prints 1 b) Always prints 3
 c) Prints any integer between 1 and 3 (inclusive) d) Prints a float between 1 and 3
 8. You are working with a text file using the statement: 1
`f = open("data.txt", "a+")`
 Which of the following is **correct** about this mode?
 a) The file is opened for reading only, and the existing data is preserved.
 b) The file is opened for writing only, and the existing data is erased.
 c) The file is opened for both appending and reading, and the existing data is preserved.
 d) The file must already exist, otherwise an error occurs.
 9. Which of the following statements about file handling in Python is **true**? 1
 a) The `read()` method reads one line at a time from a file.
 b) The `readlines()` method returns a list of strings, one for each line in the file.
 c) The `write()` method can only write numeric data to a text file.
 d) The `W+` mode opens a file for writing but does not allow reading.
 10. **Fill in the blank:** 1
 A Cookie is a _____.
 a) Protocol b) Software c) Hardware d) Temporary file

11. I am responsible for connecting different networks and directing data between them. Who am I? 1
a) Hub b) Switch c) Repeater d) Router
 12. Which of the following protocols is used for uploading and downloading files over a network? 1
a) SMTP b) FTP c) PPP d) VoIP
 13. Which SQL constraint ensures that the values in a column are unique across all rows but allows one NULL value? 1
a) PRIMARY KEY b) UNIQUE c) NOT NULL d) CHECK
 14. Which SQL keyword is used to combine both matching and non-matching rows from two tables? 1
a) OUTER JOIN b) INNER JOIN c) SELECT d) WHERE
 15. In networking, which protocol is responsible for reliable communication over the internet? 1
a) IP b) TCP c) UDP d) FTP
 16. Which of the following is a valid SQL command to change the structure of a table? 1
a) MODIFY b) ALTER c) EDIT d) CHANGE
 17. What will be the output of the following Python code? 1
try:
 x=10/0
except Exception:
 print("Some other error!")
except ZeroDivisionError:
 print("Zero Division Error!")
a) Zero Division Error! b) Some other error! c) ZeroDivisionError d) Nothing is printed
 18. A table named STUDENT has degree 6. After deleting 4 columns, what will be its new degree? 1
 19. Which of the following operations removes an element from the top of a stack? 1
a) Push b) Pop c) Enqueue d) Delete
- Q20. and 21. are ASSERTION AND REASONING based questions. Mark the correct choice as.**
- (a) Both A and R are true and R is the correct explanation for A
 - (b) Both A and R are true and R is not the correct explanation for A
 - (c) A is True but R is False
 - (d) A is false but R is True
20. **ASSERTION(A):** A Primary key must be unique and can have NULL values. 1
REASONING(R): The Primary key uniquely identifies each row in the table.
 21. **ASSERTION(A):** Stack follows LIFO structure. 1
REASONING(R): Stack has only one open end known as its TOP from where elements are inserted and deleted.

SECTION – B

Answer the following questions in short.

[2 X 7 = 14]

22. A. Explain the difference between explicit and implicit type conversion in Python. 2
OR
B. Differentiate between break and continue statements in Python with a suitable example.
23. The code provided below is intended to remove the first and last characters of a given string and return the resulting string. However, there are syntax and logical errors in the code. Rewrite it after removing all the errors. Also, underline all the corrections made. 2
define remove_first_last(str):
 if len(str) < 2:
 return str
 new_str = str[1:-2]
 return new_str
result = remove_first_last("Hello")
Print("Resulting string: " result)
24. A. (Answer using Python built-in methods/functions only): 2
I. Write a statement to find the index of the first occurrence of the substring "good" in a string named review.
II. Write a statement to sort the elements of list L1 in descending order.
OR
B. Predict the output of the following Python code:
text = "Learn Python with fun and practice"
print(text.partition("with"))
print(text.count("a"))
25. A. Write suitable commands to do the following in MySQL: 2
I. View the table structure. II. Create a database named SQP.
OR
B. Differentiate between DROP and DELETE query in SQL with a suitable example.

26. A. Define the following terms: 2
 I. Modem II. Gateway
OR
 B. I. Expand the following terms: HTTP and FTP
 II. Differentiate between web server and web browser.
27. Define a Stack. Name any two operations performed on a stack. 2
OR

Write the code for inserting an element onto a stack. Please write only the block of code.

28. Write a Python statement to read all lines from a text file **"notes.txt"** into a list named **lines**, and then display the total number of lines in the file. 2

SECTION – C

[3 X 3 = 9]

29. A. Write a function in Python to read a text file **"letter.txt"** and display those lines which begin with the word 'You'. 3

OR

B. Write a function, vowelCount() in Python that counts and displays the number of vowels in the text file named **"Poem.txt"**.

30. Consider the Table: Students (Student_ID, Name, Class, Age) 3

Write the following queries:

- I. Add a new column Email of type VARCHAR(50) to the table.
 II. Modify the datatype of Age column to SMALLINT.
 III. Delete all students whose age is less than 5.

31. A. Predict the output of the following Python code: 3

```
ranking = {"first": 24, "second": 15, "third": 6}
def get_value(item):
    return item[1]
sorted_items = sorted(ranking.items(), key=get_value, reverse=True)
out = []
for item in sorted_items:
    out.append(item[0][0] + str(item[1]))
result = "-".join(out)
print(result)
```

OR

B. A dictionary containing records of students is given as:

Records = {'Aman': 90, 'Riya': 76, 'John': 89}

Write the following user-defined functions to perform operations on a stack named TopStudents:

- I. push_grade() – To push the names of students whose marks are more than 80 into the stack TopStudents.

Output:

TopStudents = ['Aman', 'John']

- II. highest_grade() – To display the name of the student with the highest marks from the dictionary Records.

Output:

Student with highest marks: Aman

SECTION – D

[4 x 4 = 16]

32. Ram is a CS student and has been assigned by his teacher to write functions ADD() and COUNTER () for working with the records of employees. 4

ADD () – To accept and add the data of an employee to a CSV file **"record.csv"**. Each record contains a list of field elements as EMPID, NAME and SALARY.

COUNTER () – To count the number of employees present in the CSV file named **"record.csv"**.

33. Arijit has a list containing 10 integers. You need to help him to create a program with separate user defined functions to perform the following operations based on this list. 4

- i) Traverse the content of the list and PUSH all the even numbers into a stack.
 ii) POP and display the contents of the stack.

34. Karan is handling a Car Rental Database with the following tables: 4

Table: Cars

Car_ID	Model	Type	Location
C01	Swift Dzire	Sedan	Pune
C02	Hyundai Creta	SUV	Mumbai
C03	Maruti Alto	Hatchback	Pune
C04	Honda City	Sedan	Delhi

Table: Rentals

Rental_ID	Customer_Name	Car_ID	Return_Date
R01	Amit	C01	2024-10-05
R02	Shreya	C02	2024-09-18
R03	Farhan	C03	2024-12-02
R04	Kavita	C04	2024-11-15

Write SQL queries for the following tasks:

- I. Display the names of customers who have rented cars from 'Pune'.
- II. Display rental records for customers who rented cars of type 'SUV', 'Sedan' or 'Hatchback'.
- III. Delete all rentals where the return date is before '2024-09-20'.
- IV. (a) Display the Cartesian Product of the two tables.

OR

- (b) Display the customer's name along with the model of car they rented.

35. A school maintains a CSV file named Attendance.csv to record student attendance. 4

The columns are:

Roll_No, Name, Date, Status (Status is 'P' for present and 'A' for absent)

Write user-defined functions to:

1. MarkAttendance() – Accept attendance details from the user and append them to Attendance.csv.
2. CountAbsentees() – Display the total number of days a given student was absent.

SECTION – E

[5 x 2 = 10]

36. a) Name any two DDL and DML commands. 5

- b) Consider the following structure of Table-Management:

Man_Id (Integer), Department (String), Staff (String), Section (String) and Salary (Integer).

Write python code to create the above table structure. Use the following to connect to the database:

Host: localhost, Database: School, User: root and Password: 1234

OR

- a) Explain the concept of candidate keys.

- b) Consider the following table structure:

Employee (String), Emp_Id (Integer), Emp_Name (String), Dept (String) and Age (Integer)

Write Python code to create the above table. Use the following to connect to the database:

Host: localhost, Database: Office, User: root and Password: 1234

37. ABC Technologies is planning to establish a new office campus in Pune while maintaining its main office in Mumbai. The Pune campus will consist of four buildings: Administration, Accounting, Development, and Support. As the network specialist, you are asked to design the best network solutions for the campus based on the following: 5

From	To	Distance (metres)
Administration	Support	140
Administration	Accounting	155
Administration	Development	180
Support	Accounting	85
Accounting	Development	65
Support	Development	65

Number of Computers in Each Block:

Building	Number of Computers
Administration	70
Accounting	150
Development	80
Support	30

- (i) Suggest the most ideal location for the central server in the Pune campus and justify your choice.

- (ii) Suggest the best placement for the following network devices within the campus:

- (a) Repeater (b) Switch

- (iii) Suggest and draw a cable layout to connect all blocks efficiently.

- (iv) The company wants to establish a high-speed wired connection between the Pune campus and the Mumbai headquarters. Which type of cable would be most appropriate for this purpose?

- (v) (a) What is TCP/IP?

OR

- (b) Give one example of a WAN.

BURNPUR RIVERSIDE SCHOOL, CHITTARANJAN.
1ST PRE-BOARD EXAMINATION: (2025-2026)
SUBJECT: PHYSICAL EDUCATION
CLASS: XII

Time: 3 Hours**Maximum Marks: 70****NAME: _____ SEC.: ____ ROLL NO.: ____****GENERAL INSTRUCTIONS**

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

(SECTION - A)**(All questions are compulsory)**

- | | | |
|----|---|---|
| 1. | How many rounds will be played if the number of teams are 29 in the knockout fixture?
a) 5 b) 6 c) 4 d) 3 | 1 |
| 2. | Which of the following is the objective of Intramural competition?
a) To achieve high performance b) To provide career opportunities
c) To promote health and fitness d) To promote cultural and economic development | 1 |
| 3. | Halasana is used for curing which of following deformities ?
a) Kyphosis b) Scoliosis c) Lordosis d) Flatfoot | 1 |
| 4. | Which one of the following asanas is not a remedial asana for treating obesity?
a) Vajrasana b) Tadasana c) Trikonasana d) Ardha- Matsyendrasana | 1 |
| 5. | International Paralympic committees headquarter is located in.....
a) USA b) United Kingdom c) France d) Germany | 1 |
| 6. | Deficiency of which one of the following causes weakening of the muscles?
a) Sodium b) Potassium c) Iodine d) Fluorine | 1 |
| 7. | Vitamin B3 is commonly known as
a) Thiamin b) Riboflavin c) Niacin d) Pyridoxine | 1 |
| 8. | Stadiometer is required for which Test in Khelo India Fitness Assessment?
a) Balance b) Height c) Flexibility d) Weight | 1 |
| 9. | Given below are two statements labelled Assertion (A) and Reason (R).
Assertion (A): The Basal Metabolic Rate (BMR) is the number of calories needed to maintain body function at resting condition.
Reason (R): A person who does not engage in any work, still requires energy for the functioning of their internal organs.
In the context of the above two statements, which of the following option is correct?
a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of the Assertion (A) | 1 |

b) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of the Assertion (A)

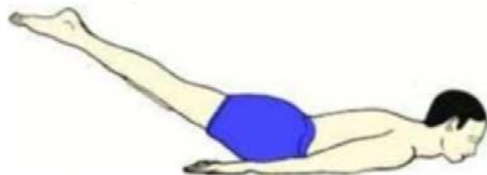
c) Assertion (A) is true, but Reason (R) is false.

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

10. Laceration is a..... 1
a) Irregular cut on skin b) Tissue injury c) Swelling d) Ligament injury

11. Sprain is an injury of the: 1
a) Muscle b) Ligament c) Joint d) Bone

12. Identify the asana: 1



a) Bhujangasana. b) Shalabhasana. c) Pavanmuktasana. d) Katichakrasana.

13. The force of friction..... the motion of one body over the other. 1
a) opposes b) supports. c) helps d) does not affect

14. Who said " The drive to strive is called motivation?" 1
a) Sage b) Alderman. c) Sheldon d) Cattell

15. A thin, long, depressed personality trait is known as..... 1
a) Mesomorphic b) Ectomorphic c) Ambivart d) Endomorphic

16. Ballistic method is used to improve..... 1
a) Strength b) Endurance c) Flexibility d) Speed

17. Acceleration Runs are used to improve: 1
a) Strength b) Speed c)Endurance d)Flexibility

18. Which of the following is not a type of coordinative ability? 1
a) Orientation Ability b) Acceleration Ability
c) Grouping Ability d) Dynamic Ability

(SECTION - B)
(Attempt any 5 questions)

19. What are the common problems faced due to Osteoporosis? 2

20. Discuss any two fat soluble vitamins on the basis of their sources and benefits. 2

21. What is Rockport fitness walking test? 2

22. A football player wants to improve his acceleration and quick reaction during a match. Suggest two suitable training method and justify how each will help to improve his performance. 2

23. Differentiate between Hostile aggression and Instrumental aggression. 2

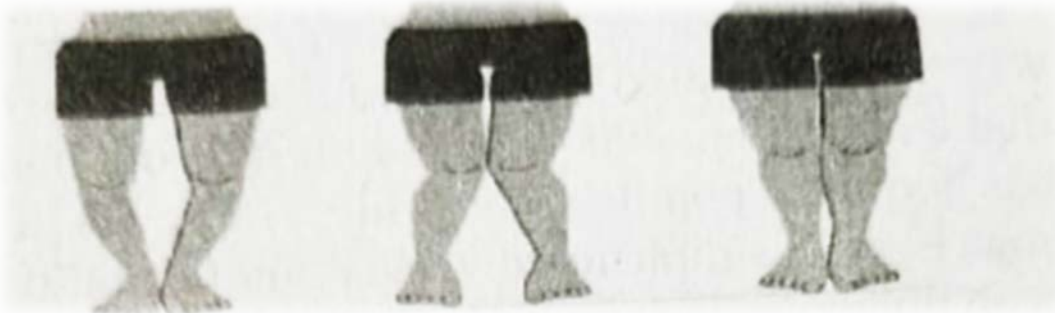
24. Discuss the treatment of Abrasion. 2

(SECTION - C)
(Attempt any 5 questions)

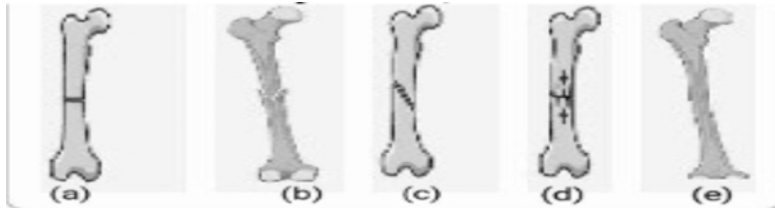
25. League tournament is a better way to judge the best team of the tournament. Comment. 3
26. Discuss the exercise guideline for different age groups. 3
27. Explain strategies to make physical activities for CWSN. 3
28. Discuss about meal intake guidelines for pre, during, post sports event. 3
29. What do you understand by project file trajectory? Explain. 3
30. Elucidate the Big five personality theory. 3

(SECTION - D)

31. XYZ School is one of the reputed schools in their location for the number of sports facilities it provides to its stake holders. Keeping that in consideration CBSE Sports cell has given them the responsibility of conducting CBSE Basketball cluster. 37 teams have sent their entry for participation in the tournament. 1×4=4
- i) Due to large number of teams willing to participate, the school is conducting the competition by _____ fixture.
- a) League b) Knock out c) Staircase d) Challenge
- ii) The third bye is given to _____ team of lower half in knock-out tournament.
- a) first b) last c) middle d) anywhere
- iii) Total number of matches will be _____.
- a) 34 b) 30 c) 28 d) 36
- iv) Total number of byes in lower half will be _____.
- a) 15 b) 16 c) 14 d) 13
32. Posture plays a very significant role in our daily activities. Correct posture means the balancing of body in accurate and proper manner. Various types of postural deformities can be identified in individuals. 1×4=4



- i) From the above given pictures the deformities seen on the left most is caused due to deficiency of.....
- a) Iron b) Calcium c) Vit-D d) Both b) & c)
- ii) Walking on the inner edge of the feet can be a remedy for.....
- a) Bow legs b) Flat foot c) Overweight d) Leg deformity
- iii) The person in the middle is suffering with.....
- a) Rickets b) Flat foot c) Knock knees d) Elephant foot
- iv) Horse-riding is the best exercise for clearing this deformity.....
- a) Knock knees b) Bow legs c) Flat foot d) Round shoulder



- i) When the two ends of the injured bone enter into each other it is said to be.....
- a) Comminuted Fracture. b) Greenstick Fracture
c) Impacted fracture. d) Transverse fracture.
- ii) is a continued fracture.
- a) (d) b) (b) c) (e) d) (a)
- iii) When the bone is broken into many pieces at one place or different places, it is called.....
- a) Oblique Fracture. b) Impacted Fracture.
c) Comminuted Fracture. d) Greenstick Fracture.
- iv)Fracture occurs in a straight line at a right angle to the shaft of the bone. Usually caused by a direct blow.
- a) Greenstick Fracture. b) Oblique Fracture.
c) Transverse Fracture. d) Impacted Fracture.

(SECTION - E)
(Attempt any 3 questions)

- | | | |
|-----|---|---|
| 34. | What is a knock-out and a League tournament? Draw a fixture of 29 teams on a knockout basis. | 5 |
| 35. | Define balanced diet. Explain micro nutrients. | 5 |
| 36. | With the help of suitable example, discuss the application of Newton's law of motion in sports. | 5 |
| 37. | Discuss in detail the different types of coordinative abilities. | 5 |

BURNPUR RIVERSIDE SCHOOL, CHITTARANJAN
1ST PRE-BOARD EXAMINATION: (2025–2026)
ENGLISH CORE
CLASS: XII

Time: 3 Hours

Maximum Marks:80

NAME: _____ SEC.: _____ ROLL NO.: _____

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 number and part thereof in your answer sheet.

iv. Separate instructions are given with each question/part, wherever necessary.

v. Adhere to the prescribed word limit while answering the questions.

SECTION A: READING SKILLS (22 marks)**1. Read the following passage. 12**

- (1) The term Artificial Intelligence spells a future in which this emerging technology will impact every aspect of human existence. In fact, little do we know, it has already crept into our lives, slowly but surely. Look around you – education, health care, industry, innovation, robots, robotic surgeries, transportation, home-service – it's already there. It will change the lifestyle of everyone from the technology industry to normal people.
- (2) The past fifteen years have seen considerable AI advances in education. You enter school and AI takes your attendance using face recognition. Various applications are in wide use by educators and learners today. AI technologies assist teachers in classroom. Learning at home is likely to expand significantly, along with learning based on virtual reality applications. Though quality education will always require active engagement by human teachers, AI promises to enhance education at all levels, especially by providing personalization at scale.
- (3) The evolution of new technologies, mobile, and internet are changing lifestyles. Artificial Intelligence is playing an important role in every sector, such as banking, driving, education, e-commerce, electronics, robotics. Systems of artificial intelligence are aiming to stimulate execution and decision making that is human-like. In targeted applications, substantial increases in the future uses of AI technologies, including more driverless cars, healthcare diagnostics and targeted treatments, and physical assistance for elder care can be expected. AI and robotics will also be applied across the globe in industries struggling, such as agriculture, food-processing and factories. They will facilitate delivery of online purchases through flying drones, self-driving trucks or robots.
- (4) AI based applications could improve health outcomes and quality of life for millions of people in the coming years – prime applications include clinical decision support, patient monitoring and coaching, automated devices to assist in surgery or patient care, and management of health care systems. Recent successes, such as mining social media to infer possible health risks, machine learning to predict patients at risk, and robotics to support surgery have expanded a sense of possibility for AI in healthcare.
- (5) People's future relationships with machines will become ever more personalized as AI systems learn to adapt to individual personalities, ambitions and goals. These AI applications will help monitor people's well-being, alert them to the impending risks, and deliver services when needed or wanted.

Answer the following questions, based on the passage above.

- I. Select the word that most appropriately defines Artificial Intelligence today. 1
 A. rewarding B. universal C. luxurious D. temporary
- II. Mention the connection between 'face-recognition' in school education and AI. 1
- III. As per paragraph 2 _____ for the quality education. 1
 Find the correct option.
 A. school education will become a virtual engagement
 B. the teacher will be replaced by AI
 C. human teachers will play a passive role in the classroom
 D. human teachers are irreplaceable
- IV. Share evidence from the text, in about 40 words, about how AI can support the field of education. 2
- V. The phrase 'stimulate execution' in para 3 nearly means: 1

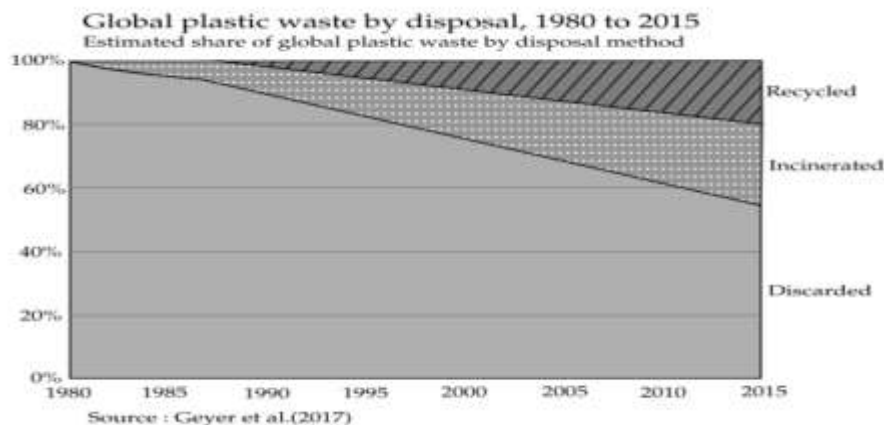
- A. Imitate creations
C. Shake inventions
B. Strategise destructions
D. Motivate implementation
- VI. With evidence from the text, explain in about 40 words, two ways in which AI will help in the health care sector. 2
- VII. According to the passage, why does the author conclude that people's relationships with machines will become more personalised? 1
- VIII. Complete the following statement:
AI will make the commercial supply chain smoother by _____. 1
- IX. Read the five headlines given below (I – V) and find those, which are not relevant as per the passage: 1
- (i) AI will impact every aspect of our lives.
(ii) AI will be a boon to the medical practitioners.
(iii) Social relationships will be controlled by AI.
(iv) AI is a major reason for rising unemployment today.
(v) Factory owners will not use AI for fear of its unpredictability.
- A. Only (v)
B. (ii) and (iii)
C. (iv) and (v)
D. (iii), (iv) and (v)
- X. Read the given statement and state if it's TRUE or FALSE: 1
- 'Robotics support in surgery will eventually replace the doctors.'

2.

Read the following passage.

10

- (1) When plastic waste is burnt, a complex weave of toxic chemicals is released. Breaking down Poly Vinyl Chloride (PVC) used for packaging, toys and coating electrical wires. It produces dioxin, an organochlorine which belongs to the family of Persistent Organic Pollutants (POPs). A recent Dioxin Assessment Report brought out by the United States Environmental Protection Agency (USEPA) says the risk of getting cancer from dioxin is ten times higher than reported by the agency in 1994.
- (2) Yet the Delhi government is giving the green signal to a gasification project which will convert garbage into energy without removing plastic waste. Former transport minister Rajendra Gupta, the promoter of this project, says this is not necessary. He claims no air pollution will be caused and that the ash produced can be used as manure. An earlier waste to energy project set up in Timarpur failed. The new one, built with Australian assistance, will cost 200 crore. It will generate 25 megawatts of power and gobble 1,000 tonnes of garbage every day.
- (3) "Technologies like gasification are a form of incineration," says Madhumita Dutta, central coordinator with Toxics Link, New Delhi. Incineration merely transfers hazardous waste from a solid form to air, water and ash, she points out. Toxins produced during incineration include acidic gases, heavy metals as well as dioxins and furans. "The 'manure' will be hazardous and a problem to dispose," says Dutta.
- (4) Municipal solid waste contains a mix of plastics. Breaking down this waste emits hydrochloric acid which attacks the respiratory system, skin and eyes, resulting in coughing, vomiting and nausea. Polyethylene generates volatile compounds like formaldehyde and acetaldehyde, both suspected carcinogenic. Breathing styrene from polystyrene can cause leukaemia. Polyurethane is associated with asthma. Dioxin released by PVC is a powerful hormone disruptor and causes birth defects and reproductive problems. There is no threshold dose to prevent it and our bodies have no defence against it.
- (5) "Even the best run incinerators in the world have to deal with stringent norms, apart from contaminated filters and ash, making them hugely expensive to operate," says Dutta. In Germany, air pollution devices accounted for two-thirds of the cost of incineration. Despite such efforts, the European Dioxin Inventory noted that the input of dioxin into the atmosphere was the highest from incineration.



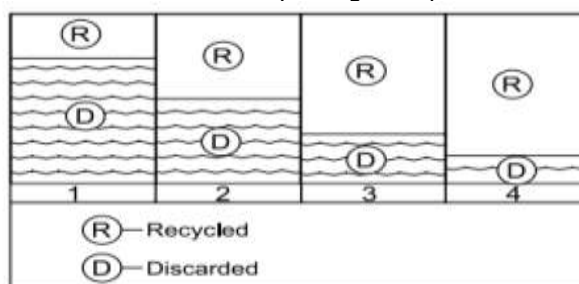
- (6) How has the global plastic waste disposal method changed over time? In the chart, we see the share of global plastic waste that is discarded, recycled or incinerated from

1980 through to 2015. Prior to 1980, recycling and incineration of plastic were negligible; 100 percent was therefore discarded. From 1980 for incineration and 1990 for recycling, rates increased on average by about 0.7 percent per year. In 2015, an estimated 55 percent of global plastic waste was discarded, 25 percent was incinerated and 20 percent recycled.

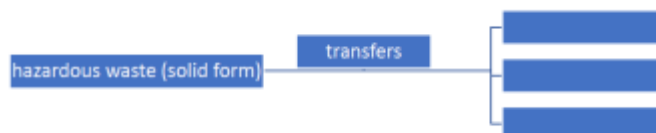
- (7) "India does not have the facility to test dioxin and the cost of setting one up is prohibitively expensive," says Dutta. Besides, Indian garbage has a low calorific content of about 800 cal/kg, since it has high moisture and requires additional fuel to burn. Toxics link calculates that the electricity generated from such technology will cost between 5-7 per unit, which is six times higher than conventional energy. India has chosen a dioxin preventive route and burning of chlorinated plastics is prohibited under Municipal Solid Waste and Biomedical Rules. Nearly 80 percent of Indian garbage is recyclable or compostable. Resident associations, the informal sector and the municipal corporation can make Delhi's garbage disappear in a sustainable manner. "Instead, the government promotes end-of-pipeline solutions," says Dutta.

Answer the following questions, based on the passage above.

- I. Which statements are NOT TRUE according to the passage? 1
1. India has adopted a preventive measure under which burning of chlorinated plastics is prohibited.
 2. USEPA says that the risk of getting cancer from dioxin is a hundred times higher than reported by the agency in 1994.
 3. Incineration merely transfers hazardous waste from a solid form to air, water and ash.
 4. Hydrochloric acid attacks the digestive system, nose and eyes, which results in diabetes and nausea.
- A. 2 and 4 B. 1 and 3 C. 3 and 4 D. 1 and 2
- II. Based on the graphical chart in the passage, choose the option that correctly states the ratio between discarded waste to recycled global plastic waste in 2015. 1



- A. Option 1 B. Option 2 C. Option 3 D. Option 4
- III. Based on the given graphical representation of data in the passage, choose the option that lists the statements that are TRUE. 1
1. In the year 2015, the incinerated plastic waste disposal was 80%.
 2. In the year 1980, share of discarded plastic waste was 100%.
 3. Discarded plastic waste was 60% in the year 2010.
 4. Recycled plastic waste in the year 2000 was less than 70%.
- A. 1 and 3 B. 2 and 3 C. 1 and 4 D. 3 and 4
- IV. Give any two reasons why gasification is more likely to be a curse rather than a boon for human health. 2
- V. "Technologies like gasification are a form of incineration," says Madhumita Dutta, central coordinator with Toxics Link, New Delhi. 1
- On the basis of the process described, complete the given flowchart:



- VI. Find a word in the passage which means the same as 'waste material'? (para 2) 1
- VII. India has chosen a dioxin preventive route and burning of chlorinated plastics is prohibited under Municipal Solid Waste and Biomedical Rules. Give two reasons to justify the prohibition. (Paragraph 7) 2
- VIII. Arrange the sentences in the order in which they occurred year-wise. 1
1. From 1980, rates increased on average by about 0.7 percent per year for incineration.
 2. 20 percent of waste was recycled in 2015.
 3. Prior to 1980, recycling and incineration of plastic was negligible.
 4. In 2015, an estimated 55 percent of global plastic waste was discarded.

SECTION B: CREATIVE WRITING SKILLS (18 marks)

3. **Attempt ANY ONE of the two, in about 50 words.** 4x1=4
- A. As the Principal of Cyrus Public School, Chennai, draft a notice in about 50 words on the upcoming parent-teacher meeting to be held to discuss the students' performance in the 1st Pre-Board Examination and for planning extra remedial classes before the Board Examination. Invent necessary details.
- OR
- B. The Residents' Welfare Association, Vrindavan Complex, Mumbai, is planning to organise a Community Lunch for the people living in the nearby slum. As the president of the association, draft a notice in not more than 50 words informing the residents about the same and calling for contributions and volunteers for the programme.
4. **Attempt ANY ONE of the two, in about 50 words.** 4x1=4
- A. You are Daisy/Daniel Maria, living at 39, Parvat Niwas Colony, Shimla. You decide to hold a dinner party to celebrate your parents' 25th wedding anniversary. Draft a formal invitation in not more than 50 words to invite all family members and friends to attend a grand dinner at Hotel Holiday Home.
- OR
- B. You are Mamta/ Mohan. You have been invited by the Pegasus Club, New Delhi, to be one of the judges for an Elocution Competition for school children. But due to a previous engagement, you cannot accept this invitation. Write a formal reply to the President of the Club, regretting your inability to accept the invitation.
5. **Attempt any one of the two, (A) or (B), in 120-150 words** 5x1=5
- A. Adult literacy is important for many reasons, including personal growth, social mobility, career advancement, etc. It gives mature learners the chance to increase their knowledge, develop new skills and gain helpful qualifications and credentials. Write a letter to the editor of a local daily discussing the benefits of providing adult literacy education to adults. Also, suggest effective ways to raise awareness about the importance of this education among adults. You may use some of the given cues along with your own ideas to draft the letter. You are the Project Manager, Ramanuj Rao/ Savitri Ranganathan of 'Second Chance', an NGO from Jamshedpur, Jharkhand.
- What are the long-term benefits of adult literacy?
 - What better employability and employment outcomes could be created?
 - Why is adaptation to change essential at this age?
- OR
- B. You are Milind/Brinda of 6/A, Kidwai Road, Ahmedabad, currently working as a manager in a leading corporate firm. You have come across the advertisement in a national daily and wish to apply for the post of administrator. Draft a Job application along with your resume to the CEO of Doshi Accountants (S) Pvt. Ltd.

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6. **Attempt any one of the two, (A) or (B), in 120-150 words** 5x1=5
- A. The present-day youth are greatly stressed due to cut-throat competition and consumerist culture. Write an article in 120-150 words on the causes of stress on the modern generation, suggesting suitable solutions.
- under pressure of efficiency and productivity
 - environment is highly competitive
 - no time for relaxing
 - no practical and suitable solution for this stress
 - high time each one of us sat back in quiet introspection
 - stop living like robots

- behave like human beings and not like machines

OR

- B. The Cultural Society of Daisy Public School, Vellore organised a two-day Yoga Camp in its neighbourhood. Write a report in 120-150 words on the camp for your school magazine. You are Rakesh Nair, Secretary. You may use the cues given below along with your own ideas.

- Date of the camp
- Location of the camp
- Number of volunteers
- Atmosphere of the camp
- Amenities provided to the participants

SECTION C: LITERATURE (40 marks)

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

- A. ... and looked out at Young
Trees sprinting, the merry children spilling
out of their homes..." (My mother at Sixty-six)
- I. "The sun lazily climbed the sky" takes the same literary device as "Young trees sprinting". Which poetic device is mentioned here? 1
- II. Comment on the use of the phrasal verb "look out". 1
- III. Identify the sentence that does not use the word 'sprinting' in its proper context: 1
- A. Nelly was sprinting towards the finishing line.
- B. The woman started sprinting in an alarmed manner.
- C. Siddharth was seen sprinting off to his class so as to avoid being late before he met with an accident.
- D. The clock was making a sprinting sound.
- IV. The tone of the poet in the above extract is that of _____ 1
- V. The word "spilling" here connotes: 1
- A. a zeal for life
- B. carefree days of childhood
- C. boiling of milk
- D. none of the above
- VI. Assertion: The expression on the mother's face was of lack of energy and vigour. 1
Reason: She thought her daughter was selfish as the latter is going away.
- A. Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
- B. Both Assertion and Reason are true and Reason is not the correct explanation of Assertion.
- C. Assertion is true but Reason is false.
- D. Assertion is false but Reason is true.

OR

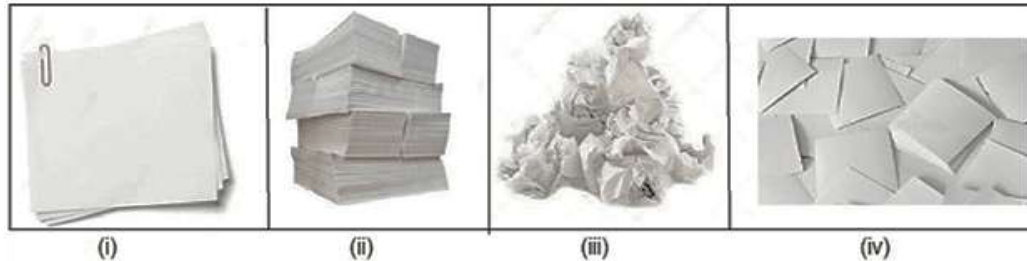
- B. And such too is the grandeur of the dooms
We have imagined for the mighty dead;
All lovely tales that we have heard or read;
An endless fountain of immortal drink,
Pouring unto us from the heaven's brink
(A Thing of Beauty)
- I. What do you mean by 'the grandeur of the doom' as per the poem? 1
- A. The magnificence that we associate with our ancestors and the beautiful things created.
- B. The magnificence that we associate with our Gods and Goddess.
- C. The magnificence we associate with the beauty of nature.
- D. The magnificence we associate with the present leaders of the world.
- II. What is implied by 'all lovely tales that we have heard or read'? 1
- III. Select the correct option from those in brackets, to fill in the blank. 1
- The source of the 'endless fountain of immortal drink' is from _____.
(the lovely tales/ the heaven's brink)
- IV. Which figure of speech is used in the last two lines? 1
- A. Simile B. Personification C. Imagery D. Irony
- V. Who does 'mighty dead' refer to? 1
- VI. What has 'a thing of beauty' been compared to? 1

- 8. Read the following extracts and solve ANY ONE of the given two, (A) or (B).** 1x4=4

- A. At midnight, when the town slept in peace, the dewan and his aged wife dragged the tiger into the car and shoved it into the seat. The dewan himself drove the car straight to the forest where the Maharaja was hunting. When they reached the forest, the tiger launched its satyagraha and refused to get out of the car. The dewan was thoroughly exhausted in his efforts to haul the beast out of the car and push it down to the ground. On the following day, the same old tiger wandered into the Maharaja's presence and stood as if in humble supplication, "Master, what do you command of

me?" It was with boundless joy that the Maharaja took careful aim at the beast. The tiger fell in a crumpled heap. (The Tiger King)

- I. Choose the option that uses the same figure of speech as 'tound slept in peace'. 1
 - A. His actions really flared up my temper, so I walked out.
 - B. She is going through a rollercoaster of emotions.
 - C. My alarm clock yells at me every morning until I get out of bed.
 - D. The children were screaming and shouting in the fields.
- II. Pick the Adjectives that best describes the dewan's attitude: (multiple choice) 1
 - i) desperate ii) submissive iii) servile
 - iv) dishonourable v) disobedient
- III. Why did the king refuse permission to the British officer? 1
 - A. Because of his resolve to hunt the hundred tigers himself.
 - B. Because he was doubtful of fulfilling his resolve to kill a hundred tigers.
 - C. Because he won't be able to test the chief astrologer's prediction.
 - D. Options (A) and (C)
- IV. Pick out the option that lists the display of "crumpled heap" 1



A. Option (i) B. Option (ii) C. Option (iii) D. Option (iv)

OR

- B. But this eating by formula was not the hardest trial on that first day. Late in the morning, my friend Judewin gave me a terrible warning. Judewin knew a few words of English; and she had overheard the paleface woman talk about cutting our long, heavy hair. Our mothers had taught us that only unskilled warriors who were captured had their hair shingled by the enemy. Among our people, short hair was worn by mourners, and shingled hair by cowards!
(Memories of Childhood: The Cutting of My Long Hair)
- I. What view of the narrator's mother about shingled hair is NOT TRUE in the sentences below? 1
 - A. She would lose her identity and her culture.
 - B. She would be considered as mourners, cowards, and unskilled warriors.
 - C. She would feel anguished, indignant, spiritless and helpless.
 - D. She would look fashionable and feel comfortable, confident and stylish.
- II. What does the narrator mean by 'mourn'? 1
 - A. Lament B. Comforter C. Exuberate D. Rejoice
- III. Select the correct option from those in brackets to fill in the blank. 1

The narrator called it as 'eating by formula' was not the hardest trial in that first day. The phrase 'eating by formula' in the passage could mean _____.

(food that is good for health/ food that is eaten in a disciplined way)
- IV. What information do we gather about the Red Indians from the extract? 1

9.

- Read the following extracts and solve ANY ONE of the given two, (A) or (B).** 1x6=6
- A. "Poor man! It was in honour of this last lesson that he had put on his fine Sunday clothes, and now I understood why the old men of the village were sitting there in the back of the room. It was because they were sorry, too, that they had not gone to school more. It was their way of thanking our master for his forty years of faithful service and of showing their respect for the country that was theirs no more."
(The Last Lesson)
 - I. Why does the narrator refer to M. Hamel as 'Poor man'? 1
 - II. Choose the option that might raise a question about M. Hamel's "faithful service". 1
 - A. When Franz came late, M. Hamel told him that he was about to begin class without him.
 - B. Franz mentioned how cranky M. Hamel was and his "great ruler rapping on the table".
 - C. M. Hamel often sent students to water his flowers and gave them a holiday when he wanted to go fishing.
 - D. M. Hamel permitted villagers to put their children "to work on a farm or at the mills" for some extra money.
 - III. Choose the option that most appropriately fills in the blanks, for the following description of the given extract. 1

The villagers and their children sat in class, forging with their old master a (i) _____ togetherness. At that moment, the classroom stood (ii) _____. It was France itself,

and the last French lesson a desperate hope to (iii) _____ to the remnants of what they had known and taken for granted, their own (iv) _____.

- A. (i) graceful; (ii) still; (iii) hang on; (iv) country
 B. (i) bygone; (ii) up; (iii) keep on; (iv) education
 C. (i) beautiful; (ii) mesmerized; (iii) carry on; (iv) unity
 D. (i) forgotten; (ii) transformed; (iii) hold on; (iv) identity

- IV. "It was in honour of this last lesson that he had put on his fine Sunday clothes." 1
 How did the above line best capture M. Hamel on the last day of school?
 V. Concluding his last lesson by writing 'Vive la France!' on the blackboard shows that 1
 M. Hamel _____.
 VI. Assertion (A): The old men of the village were sitting there in the back of the room. 1
 Reason (R): This was because they were sorry, too, that they had not gone to school more.
 A. Both Assertion (A) and Reason (R) are true and (R) is the correct explanation of (A)
 B. Both (A) and (R) are true but (R) is not the true explanation of (A).
 C. (A) is true and (R) is false.
 D. (A) is false and (R) is true.

OR

- B. Savita, a young girl in a drab pink dress, sits alongside an elderly woman, soldering pieces of glass. As her hands move mechanically like the tongs of a machine, I wonder if she knows the sanctity of the bangles she helps make. It symbolises an Indian woman's suhaag, auspiciousness in marriage. It will dawn on her suddenly one day when her head is draped with a red veil, her hands dyed red with henna, and red bangles rolled onto her wrists. She will then become a bride. Like the old woman beside her who became one many years ago. She still has bangles on her wrist, but no light in her eyes. "Ek waqt ser bhar khana bhi nahin khaya," she says, in a voice drained of joy. She has not enjoyed even one full meal in her entire lifetime — that's what she has reaped! Her husband, an old man with a flowing beard, says, "I know nothing except bangles. All I have done is make a house for the family to live in." (Lost Spring)
 I. Choose the word from the extract that best matches the meaning 'the favourable quality of strongly indicating a successful result'. 1
 A. Soldering B. Symbolised
 C. Reaped D. Auspiciousness
 II. Cite evidence from the extract to prove that the old man has achieved something 1
 important in his lifetime.
 III. Complete the sentence by choosing from the phrases from the bracket. The phrase 1
 "drained of joy" suggests that _____. (worked hard yet unhappy/
 worked hard and joyful)
 IV. 'She still has bangles on her wrist, but no light in her eyes', what does it talk about 1
 the bangle makers of Firozabad.
 V. Which trait of Savita can be inferred by 'her hands move mechanically like the tongs 1
 of a machine'?
 VI. Which literary device is used in this line from the extract: 'her hands move 1
 mechanically like the tongs of a machine'?
 A. Analogy B. Simile C. Metaphor D. Irony

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

2x5=
10

- I. Analyse the symbolism of the returned rattrap and the letter left by the peddler. (The Rattrap)
 II. What are the different kinds of war mentioned in the poem? What is Neruda's attitude towards these wars? (Keeping Quiet)
 III. It takes a lot of courage to release the familiar and seemingly secure, to embrace the new... On the basis of this quote, which act of courage do J.B. Kriplani and Professor Malkani display? (Indigo)
 IV. Why is the Englishman's visit referred to as 'unexplained mystery' in 'Poets and Pancakes'?
 V. 'The Name of the Rose' was a huge success even after describing about the medieval past. Suggest the reason behind its success. (The Interview)
 VI. What do the symbols, 'tigers' and 'ring' stand for in the poem, 'Aunt Jennifer's Tigers'?

11. Answer any two of the following three questions in 40 -50 words each:

2x2=4

- I. Why are the youngsters called the future policy makers of the earth? (Journey to the End of the Earth)
 II. How did 'The World' help Charley to confirm his doubts regarding the existence of a third level? (The Third Level)

- III. What is the bond that unites the two—Mr. Lamb, the old and Derry, the small boy? How does the old man inspire the little boy? (On the Face of It)

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

5×1=5

- A. Douglas' mother writes to the YMCA authorities, holding them accountable for the mishap as well as demanding that the authorities employ a team of guards near the pool for supervision of the children. As the mother, write a letter to the authorities with reference to the case of your son.

You may begin like this:

This is with reference to the incident of near fatal drowning of my son, William, on your premises. We were... (Deep Water)

OR

- B. Compare the emotional alienation of Sophie in 'Going Places', who dreams beyond her means, with the social alienation of the rural poor in 'A Roadside Stand'. How do both represent the unseen struggles within modern society?

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

5×1=5

- A. Bama's brother's advice was a turning point in her life. Imagine a dialogue between Bama and her brother, Annan, ten years later. Write this conversation where Bama shares how she used his advice to fight discrimination in her college life. (Memories of Childhood)

OR

- B. Imagine you are Dr. Sadao Hoki. Draft a diary entry immediately after the departure of the American prisoner of war. Reflect on the emotional and ethical journey you have undergone. Discuss your feelings about your decision to help the enemy, the reactions of those around you, and your thoughts on the future. How has this experience challenged your beliefs and impacted your view of humanity?

BURNPUR RIVERSIDE SCHOOL, CHITTARANJAN

1ST PRE-BOARD EXAMINATION: (2025-2026)

CHEMISTRY

CLASS: XII

Time: 3 Hours

Maximum Marks: 70

NAME: _____ SECTION: _____ ROLL NO.: _____

General Instructions:

Read the following instructions very carefully and strictly follow them:

1. There are **33** questions in this question paper with internal choice.
2. **SECTION A** consists of 16 multiple-choice questions carrying **1** mark each.
3. **SECTION B** consists of 5 very short answer questions carrying **2** marks each.
4. **SECTION C** consists of 7 short answer questions carrying **3** marks each.
5. **SECTION D** consists of 2 case-based question carrying **4** marks each.
6. **SECTION E** consists of 3 long answer questions carrying **5** marks each.
7. **All questions are compulsory.**
8. **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. The molal elevation constant depends upon 1
 (a) nature of solute (b) nature of solvent
 (c) vapour pressure of the solution (d) enthalpy change
2. If M, N, O, P and Q are in the increasing order of their standard potentials in standard conditions of their standard half cells, then by combination of which two half cells maximum cell potential will be obtained? 1
 (a) M and N (b) M and O (c) M and P (d) M and Q
3. Which of the following aqueous solutions can have the highest electrical conductivity? 1
 (a) 0.1 M Acetic acid (b) 0.1 M Chloroacetic acid
 (c) 0.1 M Fluoroacetic acid (d) 0.1 M Difluoroacetic acid
4. The half-life of the first order reaction having rate constant $K = 0.01 \text{ s}^{-1}$ is 1
 (a) 69.3 sec. (b) 0.0693 sec. (c) 6.93 sec. (d) 0.00693 sec.
5. The correct IUPAC name of $[\text{Pt}(\text{NH}_3)_2\text{Cl}_2]$ is 1
 (a) diamminedichloridoplatinum (IV) (b) dichloridodiammineplatinum (IV)
 (c) dichloridodiammineplatinum (II) (d) diamminedichloridoplatinum (II)
6. Which of the following aqua complexes will exhibit the minimum paramagnetic behaviour? 1
 (a) $[\text{Ni}(\text{H}_2\text{O})_6]^{2+}$ (b) $[\text{Fe}(\text{H}_2\text{O})_6]^{2+}$ (c) $[\text{Cr}(\text{H}_2\text{O})_6]^{2+}$ (d) $[\text{Mn}(\text{H}_2\text{O})_6]^{2+}$
7. The main difference between C – X bond of a haloalkane and a haloarene is 1
 (a) C – X bond in haloalkanes is shorter than haloarenes.
 (b) In haloalkanes the C attached to halogen in C – X bond is sp^3 hybridised while in haloarenes it is sp^2 hybridised.
 (c) The C–X bond in haloalkanes acquires a double bond character due to higher electronegativity of X than haloarenes.
 (d) Haloalkanes are less reactive than haloarenes due to difficulty in C – X cleavage in haloalkanes.
8. The correct order of increasing acidic strength is _____. 1
 (a) Ethanol < Phenol < Acetic acid < Chloroacetic acid
 (b) Phenol < Ethanol < Chloroacetic acid < Acetic acid
 (c) Ethanol < Phenol < Chloroacetic acid < Acetic acid
 (d) Chloroacetic acid < Acetic acid < Phenol < Ethanol
9. Iodoform test is **not** given by 1
 (a) Pentan-2-one (b) Pentan-3-one (c) Ethanal (d) Ethanol
10. Atharv heated a mixture of primary amine and chloroform with ethanolic potassium hydroxide (KOH) to form isocyanides which has foul smelling. What is the name of the reaction involved in the statement? 1
 (a) Hoffmann bromide degradation reaction (b) Gabriel Phthalimide reaction
 (c) Coupling reaction (d) Carbylamine reaction

11. Benzoic acid is treated with SOCl_2 and the product (X) formed is reacted with ammonia to give (Y). (Y) on reaction with Br_2 and KOH gives (Z). (Z) in the reaction is
 (a) chlorobenzene (b) benzamide (c) benzoyl chloride (d) aniline 1
12. Amongst the following which will react fastest with HCl and ZnCl_2 .
 (a) Butan-2-ol (b) 2-Methylpropan-2-ol (c) 2-Methylpropan-1-ol (d) Butan-1-ol 1
- Question No. 13 to 16 consist of two statements – Assertion (A) and Reason (R). Answer these questions selecting the appropriate option given below:**
- a) Both A and R are true, and R is the correct explanation of A.
 b) Both A and R are true, and R is not the correct explanation of A.
 c) A is true but R is false.
 d) A is false but R is true.
13. **Assertion (A):** The C-O-H bond angle in alcohols is slightly less than the tetrahedral angle. 1
Reason (R): This is due to the repulsive interaction between the two lone electron pairs on oxygen.
14. **Assertion (A):** During the nitration of aniline, 47% of the product formed is meta-substituted. 1
Reason (R): During the nitration of aniline, anilinium ion is formed that has the meta-directing $-\text{NH}_3^+$ group.
15. **Assertion (A):** The half-life for a zero-order reaction is independent of the initial concentration of the reactant. 1
Reason (R): For a zero-order reaction, Rate = k
16. **Assertion (A):** Pulses are cooked faster in pressure cooker. 1
Reason (R): Boiling point of water is less than 100°C inside a pressure cooker.

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. **Attempt either option A or B** 2
 A. For a 5% solution of urea (Molar mass = 60 g/mol), calculate the osmotic pressure at 300 K. [$R = 0.0821 \text{ L atm K}^{-1} \text{ mol}^{-1}$]
OR
 B. A solution is made by dissolving 30 g of a non-volatile solute in 90 g of water. It has a vapour pressure of 2.8 kPa at 298 K. At 298 K, the vapour pressure of pure water is 3.64 kPa. Calculate the molar mass of solute.
18. (i) How do primary batteries differ from secondary batteries? 2
 (ii) The mercury cell has a constant cell potential throughout its useful life. Why?
19. Define each of the following: 2
 (i) Elementary reaction
 (ii) Energy of activation of a reaction
20. Write the main product and its IUPAC name formed when 2
 (i) chlorobenzene undergoes nitration reaction.
 (ii) isopropyl chloride is treated with NaI in acetone.
21. Give simple chemical tests to distinguish between the following pairs of compounds. 2
 (i) Propanal and Propanone
 (ii) Phenol and Benzoic acid

Section C

This section contains 7 questions. The following questions are short answer type and carry 3 marks each.

22. Give reasons for the following: 3
 (i) Measurement of osmotic pressure method is preferred for the determination of molar masses of macromolecules such as proteins and polymers.
 (ii) Aquatic animals are more comfortable in cold water than in warm water.
 (iii) Elevation of boiling point of 1 M KCl solution is nearly double than that of 1 M sugar solution.
23. A reaction is first order in A and second order in B. 3
 (i) Write differential rate equation.
 (ii) How is the rate affected when concentration of B is tripled?
 (iii) How is the rate affected when concentration of both A and B is doubled?

24. Account for the following 3
- Cu^+ ion is not stable in aqueous solutions.
 - Most of the transition metals and their compounds act as good catalysts.
 - Enthalpies of atomization of transition metals are quite high.
25. Compound 'A' with molecular formula $\text{C}_4\text{H}_9\text{Br}$ is treated with aq. NaOH. The rate of this reaction depends upon the concentration of the compound 'A' and aq. NaOH. When another isomer 'B' of this compound, which is optically active treated with aq. NaOH solution, the rate of reaction is found to be dependent on concentration of 'B' only. 3
- Write structural formula of both compounds 'A' and 'B'.
 - Out of these two compounds which one will be converted to products with racemic mixture and why?
26. (i) Predict the products of the following reaction 3
- $$\text{C}_6\text{H}_5\text{-CH}_2\text{-O-C}_6\text{H}_5 + \text{HI} \xrightarrow{\Delta}$$
- (ii) Convert:
- Phenol to salicylic acid
 - Propene to Propan-1-ol
27. Give the structures of A, B and C in the following reactions: 3
- $\text{CH}_3\text{CH}_2\text{I} \xrightarrow{\text{NaCN}} \text{A} \xrightarrow{\text{HO}^-, \text{partial hydrolysis}} \text{B} \xrightarrow{\text{NaOH} + \text{Br}_2, \Delta} \text{C}$
 - $\text{C}_6\text{H}_5\text{N}_2\text{Cl} \xrightarrow{\text{CuCN}} \text{A} \xrightarrow{\text{H}_3\text{O}^+} \text{B} \xrightarrow{\text{NH}_3/\Delta} \text{C}$
28. Answer the following questions. (**Attempt any three**) 3
- Write product formed on reaction of D-glucose with Br_2 water.
 - What type of linkage is present in disaccharide?
 - Vitamins are the organic compounds which are required for the healthy growth and functioning of animal organism. Deficiency of which vitamin causes
 - Pernicious anaemia
 - Rickets
 - Differentiate between Nucleoside and Nucleotide.

Section D

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

29. Potassium dichromate is one of the crystalline chemical reagents. Hexavalent chromium compounds are harmful to health. $\text{K}_2\text{Cr}_2\text{O}_7$ is widely used in laboratories and industries as an oxidizing agent because it is not deliquescent. Potassium dichromate looks very bright and red-orange colour. The chromate ion is tetrahedral whereas the dichromate ion consists of two tetrahedra sharing one corner with Cr-O-Cr bond angle of 126° . Potassium permanganate is dark purple crystal which is isostructural with those of KClO_4 . 4
- How potassium permanganate acts as oxidizing agent in presence of ferrous ion (Fe^{2+}), in acidic medium? (Give reaction)
 - What happens when potassium permanganate is heated?
- Attempt either option (iii) or (iv)**
- Draw the structure of manganate and permanganate ions.
- OR**
- Give reason:
 - The highest oxidation state is exhibited in oxo-anions of a metal.
 - The transition metals generally form coloured compounds like potassium permanganate.
30. Protein primary structure is the linear sequence of amino acids in a peptide or protein. In contrast, Secondary structure refers to regular, recurring arrangements in the space of adjacent amino acid residues in a polypeptide chain. It is maintained by hydrogen bonds between amide hydrogens and carbonyl oxygens of the peptide back bone. The major secondary structures are α -helix and β -pleated structures. The tertiary structure of protein represents overall folding of secondary structure. Two major type molecular shapes which are found naturally are fibrous and globular. Protein found in a biological system with a unique three-dimensional structure and biological activity is called a native protein. When a protein in its native form, is subjected to physical changes like change in temperature or chemical changes like change in pH, the hydrogen bonds are disturbed. Due to this, globules unfold and helix gets uncoiled and protein loses its biological activity. This is called denaturation of 4

protein. The denaturation causes change in secondary and tertiary structures but primary structures remain intact. Examples of denaturation of protein are coagulation of egg white on boiling, curdling of milk, and formation of cheese when an acid is added to milk.

- (i) What type of bonding helps in stabilizing the α -helix structure of proteins?
- (ii) Where does the water present in egg go after boiling the egg?

Attempt either option (iii) or (iv)

- (iii) Give two differences between globular and fibrous protein.

OR

- (iv) What is meant by a peptide linkage? Explain with one example.

Section E

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

31. **Attempt either option A or B** 5

- A.(i) Calculate emf of the following cell at 25°C:

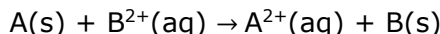


Given: $E_{\text{Ni}^{2+}/\text{Ni}}^0 = -0.25 \text{ V}$, $E_{\text{Ag}^+/\text{Ag}}^0 = 0.80 \text{ V}$, $\log 10 = 1$

- (ii) How much electricity in terms of Faraday is required to produce
 - (a) 20 g of Ca from molten CaCl_2 ? (Atomic mass of Ca = 40)
 - (b) 40 g of Al from molten Al_2O_3 ? (Atomic mass of Al = 27)

OR

- B.(i) Equilibrium constant (K_c) for the given cell reaction is 10. Calculate E_{Cell}^0 and ΔG^0 for the given reaction at 25°C:



- (ii) Predict the products of electrolysis of a dilute solution of H_2SO_4 at Platinum electrode.

32. **Attempt either option A or B** 5

- A.(i) Draw the geometrical isomers of the complex $[\text{Pt}(\text{NH}_3)_2\text{Cl}_2]$.

- (ii) On the basis of crystal field theory, write the electronic configuration for d^4 ion if $\Delta_o < P$.

- (iii) Write the hybridization and shape of $[\text{CoF}_6]^{3-}$. (Atomic number of Co = 27)

- (iv) When a coordination compound $\text{CoCl}_3 \cdot 6\text{NH}_3$ is mixed with AgNO_3 , 3 moles of AgCl are precipitated per mole of the compound. Write
 - (a) Structural formula of the complex.
 - (b) IUPAC name of the complex.

OR

- B.(i) What is ambidentate ligand?

- (ii) What type of isomerism is shown by the complex $[\text{Cr}(\text{H}_2\text{O})_6]\text{Cl}_3$?

- (iii) Draw figure to show the splitting of d-orbitals in an octahedral crystal field.

- (iv) $[\text{NiCl}_4]^{2-}$ is paramagnetic while $[\text{Ni}(\text{CO})_4]$ is diamagnetic though both are tetrahedral. Why? (Atomic number of Ni = 28)

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

- A.(i) Illustrate the following name reactions giving a chemical equation in each case:

(a) Clemmensen reaction (b) Cannizzaro's reaction

- (ii) Describe how the following conversions can be brought about:

(a) Propanone to propene
(b) Ethylbenzene to benzoic acid
(c) Ethanal to But-2-enal

OR

- B.(i) Illustrate the following name reactions:

(a) Hell-Volhard-Zelinsky reaction (b) Cross aldol condensation

- (ii) An organic compound with the molecular formula $\text{C}_9\text{H}_{10}\text{O}$ forms 2,4-DNP derivative, reduces Tollen's reagent and undergoes Cannizzaro reaction. On vigorous oxidation, it gives 1,2-Benzenedicarboxylic acid. Identify the compound and write equations for the reactions involved.