DELHI PUBLIC SCHOOL
SAIL TOWNSHIP,RANCHI
QUALIFYING EXAMINATION (2024-25)

Class - XII **Subject – Accountancy**
Time – 3 Hours **Maximum Marks - 80**

General Instructions:
1. There are 34 questions in the question paper. All questions are compulsory.
2. Question nos. 1 to 20 carry 1 mark each.
3. Question nos. 21 to 24 carry 3 marks each.
4. Question nos. 25 to 30 carry 4 marks each.
5. Question nos. 31 to 34 carry 6 marks each.
6. There is no overall choice.
7. Attempt all parts of a question together.

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1. Net profit of the firm is Rs.49500. Manager is entitled to a commission of 10% on profit before charging his commission. Manager's commission will be [1]
   (a) Rs. 4950
   (b) Rs. 4500
   (c) Rs. 5500
   (d) Rs. 495

2. A,B and C are partners in the ratio of 5:3:2 Before B's salary of Rs.17000 Firm's profit is Rs.97000. How much in total B will receive from the firm? [1]
   (a) Rs. 17000
   (b) Rs. 40000
   (c) Rs. 24000
   (d) Rs. 41000

3. If a fixed amount is withdrawn by a partner on the last day of each quarter, interest on total amount is charged for --------- months [1]
   (a) 6
   (b) 4.5
   (c) 7.5
   (d) 3

4. Which of the following items cannot be recorded in profit and loss Appropriation Account? [1]
   (a) Interest on capital
   (b) Interest on drawing
   (c) Rent to partner
   (d) Partner's salary

5. A,B and C are partners sharing profits in ratio of 3:2:1. They agree to admit D into the firm A,B and C agreed to give $1/3^{rd}$, $1/6^{th}$, $1/9^{th}$ share of their profit. The share of profit of D will be [1]
   (a) $\frac{1}{10}$
   (b) $\frac{11}{54}$
   (c) $\frac{12}{54}$
   (d) $\frac{13}{54}$

6. X and Y are partners sharing profits in the of 4:3 Z is admitted for $1/5^{th}$ share and he brings in Rs.140000 as his share of goodwill in cash of which Rs.120000 is credited to X and remaining amount to Y. New Profit sharing ratio will be [1]
   (a) 4:3:5
   (b) 2:2:1
   (c) 1:2:2
   (d) 2:1:2

7. When the Balance Sheet is prepared after the new partnership agreement the assets and liabilities are recorded at [1]
   (a) Historical
   (b) Current cost
   (c) Realisable value
   (d) Revalued Figures

8. When a new partner does not bring his share of goodwill in cash the amount debited to [1]
   (a) Cash A/c
   (b) Premium A/c
   (c) Current A/c of the new partner
   (d) Current A/c of the old partner

9. If at the time of admission there is some unrecorded liability it will be [1]
   (a) Debited to Revaluation A/c
   (b) Credited to Revaluation A/c
   (c) Debited to Goodwill A/c
   (d) Credited to Partners Capital A/c

10. Goodwill of a firm of A and B is valued at Rs.30000. It is appearing in the books at Rs.12000. C is admitted for ¼ share. What amount he is supposed to bring for goodwill? [1]
   (a) Rs. 3000
   (b) Rs.4500
   (c) Rs. 7500
   (d) Rs.10500

11. A and B are partners sharing profits in the ratio of 5:3 A surrenders $1/4^{th}$ of his share and B surrenders 1/5 of his share in favour of C a new partner. What is the sacrificing ratio [1]
   (a) 4:5
   (b) 5:4
   (c) 12:25
   (d) 25:12

12. On retirement of a partner, goodwill will be credited to the capital Account of [1]
    (a) Retiring Partner
    (b) Remaining partners
    (c) All partners
    (d) None of the above

13. A,B and C are partners sharing profits in the ratio of 1/4: 3/10: 9/20. The new ratio on the retirement of C will be [1]
    (a) 6:5
    (b) 5:6
    (c) 4:3
    (d) 4:10

14. B, P and L sharing profits in the ratio 4:3:2. B retires, P and L decided to share profits in future in the ratio of 5:3. Gaining ratio will be [1]
    (a) 11:21
    (b) 21:11
    (c) 11:15
    (d) 13:1

15. A,B and C are partners with profit sharing ratio 4:3:2 B retires and goodwill was valued Rs.108000. If A and C share profits in 5:3, find out the goodwill shared by A and C in favour of B [1]
    (a) Rs.22500 and Rs.135000
    (b) Rs.16500 and Rs.19500
    (c) Rs.67500 and Rs.40500
    (d) Rs. 19500 and Rs.16500

16. At the time of retirement of a partner profit on revaluation will be credited to [1]
    (a) Capital Account of remaining partner
    (b) Capital Account of all partners in the old profit sharing ratio
    (c) Capital Accounts of remaining partners in their new profit sharing ratio
    (d) Capital Accounts of remaining partners in their new profit sharing ratio

17. A,B and C partners in 3:4:2. B wants to retire from the firm. The profit on revaluation on that date was Rs.36000 New ratio of A and C is 5:3 profit on revaluation will be distributed as [1]
    (a) A Rs.16000, B Rs.12000, C Rs.8000
    (b) A Rs.12000, B Rs.16000, C Rs.8000
    (c) A Rs.22500, C Rs.13500
    (d) A Rs.23625, C Rs.12375

18. Gaining Ratio means: [1]
    (a) Old Ratio – New Ratio
    (b) New Ratio – Old Ratio
    (c) Old Ratio – Sacrificing Ratio
    (d) New Ratio – Sacrificing Ratio

19. Revaluation Account or profit and loss Adjustment A/c is a [1]
    (a) Real A/c
    (b) Personal A/c
    (c) Nominal A/c
    (d) Goodwill

20. Interest on capital will be paid to the partners if provided for in the partnership deed but only out of ___ [1]
    (a) Profit
    (b) Reserve
    (c) Accumulated profits
    (d) Goodwill

21. Calculate interest on drawing @ 12% p.a. for the year ended 31.03.2024 in each of the following cases:
    (a) A partner withdraw Rs.5000 pm on first day of every month
    (b) A partner withdraw Rs.7000 pm on last day of every month
    (c) A partner withdraw Rs.6000 pm on middle day of every month [3]

22. (i) What are the two items appearing on the credit side of partners capital account if capital are fixed
    (ii) What are two items appearing on the debit side of partner's capital account if capital are fixed
    (iii) In the absence of partnership deed how will you treat interest on partner's loan and interest on partner's capital. [3]

23. A and B are partners sharing profits and losses in the ratio of 3:2. Their fixed capitals were Rs.300000 and Rs.100000 respectively. They admitted c for ¼ share. He will bring Rs.200000 as capital and his share of goodwill in cash. 50% of goodwill withdraw by A and B. Pass journal entries to record goodwill only. [3]

24. A, B and C were partners sharing profit and losses in the ratio of 5:3:2. C retired. His share is calculated Rs.500000. A and B decided to pay him Rs.580000 in full settlement. Pass journal entries in the books of firm to record the above transaction. [3]

25. A, B and C were partners of an architect firm sharing profits in the ratio of 2:2:1. Their partnership deed provided the following:
    (i) A monthly salary of Rs.15000 each to A and B
    (ii) C was guaranteed a profit of Rs.500000 and A guaranteed that he will earn an annual fee of Rs.200000. Any deficiency arising because of guarantee to C will be borne by A and B in the ratio of 3:2

    During the year ended 31.03.2024 A earned fee of Rs.175000 and the profits of the firm amounted to Rs.1500000. Showing your workings clearly prepare profit and loss appropriation account for the year ended 31.03.2024. [4]

26. P, Q and R sharing profits and losses in the ratio of 3:2:1, decided to share future profits and losses in the ratio 4:3:2 with effect from 01.04.2024. Following is an extract of the Balance sheet as at 31.03.2024

Liabilities	Amount (Rs.)	Assets	Amount (Rs.)
Workmen Compensation Reserve	60000		

    Show the accounting treatment under the following alternative: -
    (a) If there is no other information
    (b) If a claim on account of workmen's compensation is estimated at Rs.24000
    (c) If claim on account of workmen's compensation is estimated at Rs.60000
    (d) If a claim on account of workmen's compensation is estimated at Rs.75000 [4]

27. Capital employed Rs.1200000

Normal rate of return 10%

Actual profit Rs.150000

Calculate goodwill
(a) on the basis of two years purchase of super profit
(b) On the basis of capitalisation method [4]

28. A and B are partners sharing profit and losses in the ratio of 3:2. They admitted C for ¼ share. He brings Rs.500000 as capital and Rs.40000 as premium for goodwill out of his share Rs.50000. Goodwill withdrawn by A and B. Pass journal entries in the book of firm to record the above transactions. [4]

29. Pass journal entries to record the following transactions on the admission of a new partner
(a) Land and Building undervalued by Rs.200000
(b) Plant and machinery overvalued by Rs.100000
(c) Rs.15000 to be provided for on unforeseen liability
(d) Sundry Debtors appeared in the books at Rs.1,50000. They are estimated to provide not more than 1,30000. [4]

30. X, Y and Z were partners in a firm sharing profits in the ratio of 3:2:1 Z retired and the new profit sharing ratio between X and Y was 1:2. On Z retirement the goodwill of the firm was valued Rs.30000. Pass journal entries for the treatment of goodwill on Z's retirement [4]

31. A and B were partners in a firm sharing profits and losses in the ratio of 3:1. On 31.03.2024 their Balance sheet was as follows

Balance sheet of A and B as at 31.03.2024

Liabilities	Amount (Rs.)	Assets		Amount (Rs.)
Outstanding Expenses	3000	Bank		40000
Bills payable	20000	Stock		60000
Sundry creditors	140000	Bills Receivable		70000
General Reserve	80000	Debtors	100000	
Capitals		Debtors	5000	95000
A	200000	Furniture		110000
B	300000	Land and Building		283000
		Machinery		85000
	743000			743000

On the above date C was admitted as a new partners for 1/5 share in profits on the following terms:
(i) C will bring Rs.200000 as her capital and Rs.160000 as her share of goodwill premium
(ii) Stock will be appreciated by Rs.1500
(iii) Debtors of Rs.5000 will be written off as bad debts and a provision of 10% for bad and doubtful debts will be maintained

Prepare
(i) Revalution Account
(ii) Partners capital Account [6]

32. B,P and T were partners in a firm sharing profits and losses in the ratio of 5:3:2. On 31.03.2024 their Balance sheet was as follows:

Liabilities	Amount (Rs.)	Asset	Amount Rs.
Creditors	140000	Bank	144000
General Reserve	200000	Stock	66000
Workmen's Reserve		Debtors 150000	
Fund	90000	Less: Provision 20000	130000
Capitals		Furniture	70000
B	400000	Machinery	220000
P	200000	Land and Building	500000
T	100000		
	1130000		1130000

On the above B retired from the firm on the following terms:

(i) Goodwill of the firm will be valued at Rs.360000 and B's share will be adjusted without opening goodwill account
(ii) Furniture will be reduced to Rs.60000
(iii) A claim of Rs.100000 was admitted for workmen compensation
(iv) B was paid Rs.20000 through cheque and balance was transferred to his loan account

Prepare
(i) Revaluation Account
(ii) Partners' capital Account [6]

33. P and Q are partners in a firm sharing profit and losses in the ratio of 2:3. Their fixed capitals on 01.04.2023 were Rs.600000 and Rs.800000 respectively. As per partnership deed both partners are to get monthly salary of Rs.25000 each and interest on capital @8% p.a. They are to be charged interest on drawings @10% p.a. Drawings during the year ended 31.03.2024 were P Rs.10000 pm and Q Rs.120000 during the year. Firm incurred a loss of Rs.100000 during the year before above adjustments

Pass journal entries and prepare profit and loss Appropriation Account for the year ended 31.03.2024 [6]

34. A,B and C were partners in a firm sharing profit and losses in the ratio of 3:2:1. On 31.03.2024 their Balance sheet was as follow:

Balance sheet as at 31.03.2024s:

Liabilities	Amount (Rs.)	Assets	Amount (Rs.)
Capital		Fixed Assets	150000
A	50000	Current Assets	65000
B	40000		
C	30000		
Reserve Fund	18000		
creditors	27000		
Employees provident fund	50000		
	215000		215000

From 01.04.2024 they decided to share future profits equally. For this purpose the following were agreed upon:-

(i) Goodwill of the firm was valued Rs.300000
(ii) Fixed Assets will be depreciated by 10%
(iii) Expenses of Rs.3000 were paid by the firm for getting the value of fixed assets certified

Pass necessary journal entries for the above transaction in the books of the firm [6]

DELHI PUBLIC SCHOOL
SAIL TOWNSHIP,RANCHI
QUALIFYING EXAMINATION (2024-25)

Class - XII | **Subject – Mathematics (Applied)**

Time – 3 Hours | **Maximum Marks - 80**

General Instructions:

1. This Question paper contains - **five sections A, B, C, D and E.** Each section is compulsory. However, there are internal choices in some questions.
2. **Section A** has 18 MCQ's and 02 Assertion-Reason based questions of 1 mark each.
3. **Section B** has 5 Very Short Answer (VSA)-type questions of 2 marks each.
4. **Section C** has 6 Short Answer (SA)-type questions of 3 marks each.
5. **Section D** has 4 Long Answer (LA)-type questions of 5 marks each.
6. **Section E** has 3 source based/case based/passage based/integrated units of assessment (4 marks each) with sub parts.

SECTION A (1×20=20)

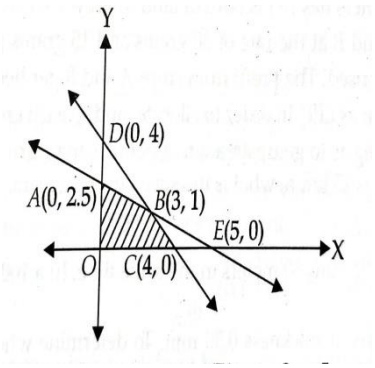
1. Besides non-negativity constraint the figure given below is subject to which of the following constraints

(a) $x + 2y \leq 5, x + y \leq 4$

(b) $x + 2y \geq 5, x + y \leq 4$

(c) $x + 2y \geq 5, x + y \geq 4$

(d) $x + 2y \leq 5, x + y \geq 4$



2. If A is an invertible matrix of order 2 and det$A$ = 4, then the value of det (A^{-1}) is

(a) 4 (b) $\frac{1}{4}$ (c) 16 (d) $\frac{1}{16}$

3. Let X be a discrete random variable whose probability distribution is given below:

$X = x_i$	0	1	2	3	4	5	6	7
$P(X = x_i)$	0	2k	2k	3k	k^2	$2k^2$	$7k^2$	2k

The value of k is

(a) $\frac{1}{10}$ (b) -1 (c) $-\frac{1}{10}$ (d) $\frac{1}{5}$

4. An automatic machine produces 20000 pins per day. On rare occasion, it produces a perfect pin whose chance is $\frac{1}{10000}$. Assuming Poisson distribution, the mean and the variance of the number of pins are ….. and ….. respectively.

(a) $\sqrt{2}, \sqrt{2}$ (b) 2, 2 (c) 2, 4 (d) 4, 2

5. If the mean of a binomial distribution is 16, then the standard deviation lies in the interval

(a) [0, 4) (b) (0, 4] (c) [0, 2] (d) (0, 2]

6. For what value of x, $\begin{vmatrix} 2x & 5 \\ 8 & x \end{vmatrix} = \begin{vmatrix} 6 & -2 \\ 7 & 3 \end{vmatrix}$

(a) 6 (b) -6 (c) ± 6 (d) 3

7. If$x \in N$and $\begin{vmatrix} x+3 & -2 \\ -3x & 2x \end{vmatrix} = 8$, then value of x given by

(a) ± 2 (b) 2 (c)-2 (d) $2, 4$

8. The normal distribution curve is symmetrical about

(a) $X = \mu$ (b) $X = \sigma$ (c)$X = \frac{\mu}{\sigma}$ (d) $X = \frac{\sigma}{\mu}$

9. The corner points of the feasible region for an L.P.P. are (0, 3), (1, 1) and (3, 0). If the objective function is Z = px +qy, p, q > 0, then the condition on p and q so that the minimum of Z occurs at (3, 0) and (1, 1) is

(a) p = 2q (b) p = q/ 2 (c) p = 3q (d) p = q

10. The graph of the inequality 2x + 3y > 6 is

(a) half plane that contains the origin
(b) half plane that neither contains origin nor the points of the line 2x + 3y = 6
(c) whole XOY-plane excluding the points on the line 2x +3y = 6
(d) entire XOY-plane

11. A Linear Programming Problem is as follows:

Minimise Z = 2x + y

Subject to the constraints $x \geq 3, x \leq 9, y \geq 0, x - y \geq 0, x + y \leq 14$, the feasible region has

(a) 5 corner points including (0, 0) and (9, 5)
(b) 5 corner points including (7, 7) and (3, 3)
(c) 5 corner points including (14, 0) and (9, 0)
(d) 5 corner points including (3, 6) and (9, 5)

12. If $A = \begin{bmatrix} 4 & 1 \\ 3 & 2 \end{bmatrix}$and $I = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$, then $A^2 - 6A$ is equal to

(a) $3I$ (b) $-5I$ (c) $5I$ (d) None of these

13. If $A = \begin{bmatrix} 0 & 1 \\ 0 & 0 \end{bmatrix}$, then A^{2024} is equal to

(a) $\begin{bmatrix} 0 & 1 \\ 0 & 0 \end{bmatrix}$ (b) $\begin{bmatrix} 0 & 2024 \\ 0 & 0 \end{bmatrix}$ (c) $\begin{bmatrix} 0 & 0 \\ 0 & 0 \end{bmatrix}$ (d) $\begin{bmatrix} 2024 & 1 \\ 0 & 2024 \end{bmatrix}$

14. For what values of a and b the matrix $A = \begin{bmatrix} 0 & 2b & -2 \\ 3 & 1 & 3 \\ 3a & 3 & -1 \end{bmatrix}$ is symmetric:

(a) $a = 1, b = 1$ (b) $a = -\frac{2}{3}, b = \frac{3}{2}$

(c) $a = -\frac{3}{2}, b = \frac{2}{3}$ (d) $a = -\frac{1}{3}, b = \frac{1}{2}$

15. Let A be a matrix of order 3 x 3 such that | adj A | = 81, then | A | is equal to

(a) 9 only (b) – 9 only (c) 81 (d) 9 or – 9

16. If A and B are two skew-symmetric matrices of same order then AB is

(a) Always symmetric a matrix (b) Always a skew-symmetric matrix

(c) A symmetric matrix if A and B commute (d) None of these

17. If A is a 3 x 3 matrix, $|A| \neq 0$ and $|3A| = k|A|$, then value of k is

(a) 3 (b) 9 (c) 27 (d) 81

18. In an LPP, if the objective function $Z = ax + by$ has the same maximum value on two corner points of the feasible region, then the number of points at which Max. Z occurs is

(a) 0 (b) 2 (c) finite (d) infinite

ASSERTION -REASON TYPE QUESTIONS

These type of questions consists of two statements.

Statement I is called Assertion (A) and Statement II is called Reason (R). Read the given Statements carefully and choose the correct answer from the four options given below:

a) Both the Statements are true and Statements II is the correct explanation of Statement I.

b) Both the Statements are true and Statement II is not the correct explanation of Statement I.

c) Statement I is true, Statement II is false.

d) Statement I is false, Statement II is true.

19. **Assertion(A) :** If the order of A is 3 x 4, order of B is 3 x 4 and the order of C is 5 x 4, then the order of (A'B)C' is 4 x 5.

Reason(R) : The multiplication of an m x n matrix by n x p matrix gives a matrix of order m x p. Also, A be a matrix of order m x n, then the order of transpose matrix is n x m.

20. **Assertion (A):** If the difference between mean and variance of a binomial distribution is 1 and the difference of their squares is 5, then the probability of success is $\frac{1}{3}$.

Reason(R): For a binomial distribution of n trials, mean = np and variance = npq, where p = probability of success and q = probability of failure.

SECTION B(2×5=10)

21. Find the value of $2a + 5b - c$, if $A = \begin{bmatrix} 0 & -3 & 38 \\ a-8 & 0 & 5b \\ -c+2 & 2 & 0 \end{bmatrix}$ is a skew-symmetric matrix.

22. If $x = -9$ is a root of $\begin{vmatrix} x & 3 & 7 \\ 2 & x & 2 \\ 7 & 6 & x \end{vmatrix} = 0$, then find the other two roots.

OR,

If $A = \begin{bmatrix} x & 2 \\ 2 & x \end{bmatrix}$ and $|A^3| = 125$, then find the value(s) of x.

23 .For the Binomial distribution $B\left(8, \frac{1}{4}\right)$, find

(i) Mean

(ii) Standard deviation.

24. How many times must a man toss a fair coin so that the probability of having at least one head is more than 80% ?

OR,

The probability of getting no misprint in a page of a book is e^{-4}. What is the probability that a page contains 2 misprints ?

25. If the points (a, 0), (0, b) and (1, 1) are collinear, prove that a + b = ab.

SECTION C(3×6=18)

26. Two cards are drawn simultaneously from a well-shuffled pack of 52 cards. Find the probability distribution of number of kings.

OR,

A particular river near a small town floods and overflows twice in every 10 years om an average. Assuming that the Poisson distribution is appropriate, what is the mean expectation? Also, calculate the probability of 3 or less overflow floods in a 10 years interval.

27. If$A = \begin{bmatrix} 3 & -5 \\ 4 & 2 \end{bmatrix}$, then find

(i) A^{-1}

(ii) |adj$A$|

(iii) A(adj A)

28. Express the matrix $A = \begin{bmatrix} 2 & 4 & -6 \\ 7 & 3 & 5 \\ 1 & -2 & 4 \end{bmatrix}$ as the sum of a symmetric and skew symmetric matrix.

29. Solve the following linear programming problem graphically:
Minimize $Z = 3x + 5y$ subject to the constraints: $x + 2y \geq 10, x + y \geq 6, 3x + y \geq 8, x, y \geq 0$.

30. If a random variable X follows Poisson's distribution such that $P(X = 2) = 9P(X = 4) + 90P(X = 6)$. Find the mean and variance of X.

31. Using properties of determinants, prove that $\begin{vmatrix} 1+a & 1 & 1 \\ 1 & 1+b & 1 \\ 1 & 1 & 1+c \end{vmatrix} = abc + bc + ca + ab$

OR,

Using properties of the determinants, prove that:

$$\begin{vmatrix} 1+a^2-b^2 & 2ab & -2b \\ 2ab & 1-a^2+b^2 & 2a \\ 2b & -2a & 1-a^2-b^2 \end{vmatrix} = (1+a^2+b^2)^3.$$

SECTION D(5×4=20)

32. A farmer has a supply of chemical fertilizer of type A which contains 10% nitrogen and 6% phosphoric acid and of type B which contains 5% nitrogen and 10% phosphoric acid. After soil test, it is found that at least 7 kg of nitrogen and same quantity of phosphoric acid is required for a good crop. The fertilizer of type A costs Rs.5 per kg and the type B cost Rs.8 per kg. Using linear programming , find how many kilograms of each type of the fertilizer should be bought to meet the requirement and for the cost be minimum. Find the feasible region in the graph.

33. In a game, a man wins Rs.5 for getting a number greater than 4 and loses Rs.1 otherwise, when a fair die is thrown. The man decided to throw a die thrice but to quit as and when he gets a number greater than 4. Find the expected value of the amount he wins/loses.

OR,

Four rotten oranges are accidently mixed with 12 good ones. Four oranges are drawn at random from the mixed lot. Let X denote the number of rotten oranges. Find the probability distribution of X. Also find the mean and variance of X.

34. The equilibrium conditions for three competitive markets are described as given below, where p_1, p_2 and p_3 are the equilibrium price for each market respectively:

$$p_1 + 2p_2 + 3p_3 = 85$$
$$3p_1 + 2p_2 + 2p_3 = 105$$
$$2p_1 + 3p_2 + 2p_3 = 110$$

Using Cramer's rule find the values of the equilibrium prices.

OR,

Using properties of determinants, prove that $\begin{vmatrix} \frac{(a+b)^2}{c} & c & c \\ a & \frac{(b+c)^2}{a} & a \\ b & b & \frac{(c+a)^2}{b} \end{vmatrix} = 2(a+b+c)^3.$

35. Use product $\begin{bmatrix} 1 & -1 & 2 \\ 0 & 2 & -3 \\ 3 & -2 & 4 \end{bmatrix}\begin{bmatrix} -2 & 0 & 1 \\ 9 & 2 & -3 \\ 6 & 1 & -2 \end{bmatrix}$ to solve the system of linear equations

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

SECTION E(4×3=12)

36. Mr. Ravi a owner of a factory lives in Mumbai. In his factory, he manufactures razor blades. There is a small chance that $\frac{1}{500}$ for any blade to be defective. The blades are in the packet of 10.

    Based on the above information, answer the questions below:

    (i) Find the probability that pocket contain no defective blade.

    (ii) Find the probability that pocket contain one defective blade.

    (iii) Find the approximate number of packets containing no defective blade, when there are 10000 packets in a consignment.

    (iv) Find the approximate number of packets containing one defective blade, when there are 20000 packets in a consignment.

37. Sneha rides her bike at 25 km/h. She has to spend Rs.2 per km on diesel and if she rides it at faster speed at 40 km/h, the diesel cost increases to Rs.5 per km. She has a maximum of Rs.100 to spend on diesel and travel a maximum distance in one hour time. Let she travels x km with 25 km/h and y km with speed 40 km/h.

    Based on the above information, answer the questions below:

    (i) Write the objective function for given LPP.

    (ii) Write the set of constraints for given LPP.

    (iii) Write the corner points of feasible region.

    (iv) Find maximum value of objective function.

38. A school wants to award its students for the values of honesty, regularity and hard work with a total cash award of Rs.6000. Three times the award money for hard work added to that given for honesty amounts to Rs.11,000. The award money given for honesty and hard work together is double the one given for regularity.

    Based on the above information, answer the questions below:

    (i) If Rs.x is awarded to honesty, Rs.y to regularity and Rs.z awarded to hard work, write the equations related to the given problem in terms of x, y and z.

    (ii) What is the matrix equation representing the above situation?

    (iii) What is the value of | A |, where A is the coefficient matrix formed using the above situation?

    (iv) What are the values of x, y, z in this case?

DELHI PUBLIC SCHOOL
SAIL TOWNSHIP, RANCHI
QUALIFYING EXAMINATION (2024-25)

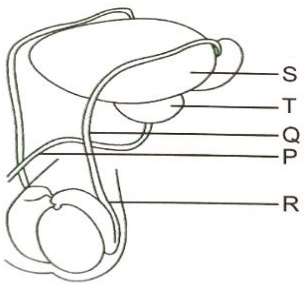
Class - XII | **Subject – Biology**
Time – 3 Hours | **Maximum Marks- 70**

General Instructions:

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

SECTION –A

1. Seeds of an orange, when taken out and squeezed, show many embryos of different sizes and shapes. The reason for this is that many embryos have developed from:
   a. Egg cells fusing with different male gametes forming embryos.
   b. PEN fusing with different male gametes forming embryos.
   c. Nucellar cells dividing and developing into embryos.
   d. Synergids dividing and developing into embryos.
2. The source organ and function of hormone FSH are
   a. Anterior pituitary, corpus luteum formation.
   b. Posterior pituitary, Graafian follicle formation.
   c. Anterior pituitary, follicular development.
   d. Hypothalamus, Primary oocyte formation.
3. A human male decides to adopt a surgical method for contraception. Identify the point in the diagram where a cut would be made and tied



   a. Point S
   b. Point R
   c. Point Q
   d. Point P

4. In *Pisum sativum*, the pod colour may be green (G) or yellow (g). What percentage of offsprings with green pod colour trait would be obtained in a cross of Gg x Gg?
   a. 25%
   b. 50%
   c. 75%
   d. 90%

5. Which of the following seeds have remained alive for the longest period?
   a. *Phoenix dactyliferia*
   b. *Striga asiatica*
   c. *Magnifera indica*
   d. *Yucca gigantea*

6. A human ovum completes its second meiosis
   a. At the time of fertilisation
   b. When the sperm touches the zona pellucida
   c. When the sperm gains entry into the cytoplasm of the ovum
   d. When the acrosome of the sperm releases the enzymes on corona radiata

7. Given below are two columns. In column I, the names of four contraceptive devices are given and in column II, the modes of action of contraceptives are given. Select the option, where the contraceptive devices are correctly matched with their respective mode of action.

Column I (Contraceptive devices)	Column II (Modes of action)
P. Lippes loop	I. Inhibition of ovulation
Q. Multiload 375	II. Phagocytosis of sperms in the uterus
R. Subcutaneous implants	III. Causes thickening of cervical mucus
S. Saheli	IV. Makes cervix hostile to sperms

   a. P-II, Q-IV,R-III, S-I
   b. P-I, Q-II, R-III, S-IV
   c. P-III, Q-I, R-IV, S-II
   d. P-IV, Q-II, R-III, S-I

8. In Antirrhinum, RR is phenotypically red flowers, rr is white and Rs is pink. Select the correct phenotypic ratio in F_1 generation, when a cross is performed between RR x Rr:
   a. 1 red: 2 Pink: 1 white
   b. 2 Pink: 1 white
   c. 2 Red: 2 Pink
   d. All pink

9. Which of the following structures is well developed in a mature seed of black pepper?
   a. Perisperm
   b. Thalamus
   c. Sepals
   d. Peduncle

10. Match Column I with Column II and select the correct option.

Column I	Column II
A. Acrosome	1. Motility of sperm towards the egg.
B. Head	2. Powerhouse of the sperm; contains a number of mitochondria.
C. Tail	3. Contains the genetic material.
D. Middle piece	4. Contains enzymes to dissolve the egg envelopes

a. A-3, B-4, C-1, D-2
b. A-4, B-3, C-1, D-2
c. A-4, B-3, C-2, D-1
d. A-3, B-4, C-2, D-1

11. Hormones released in human females only during pregnancy are
a. hCG, hPL, Progesterone
b. Relaxin, hCG, hPL
c. hCG, hPL, Oxytocin
d. hPL, Thyroxine, hCG

12. Identify the set of correct statements:
A. The flowers of *Vallisneria* are colourful and produce nectar.
B. The flowers of waterlily are not pollinated by water.
C. In most of water-pollinated species, the pollen grains are protected from wetting.
D. Pollen grains of some hydrophytes are long and ribbon like.
E. In some hydrophytes, the pollen grains are carried passively inside water.

Choose the correct answer from the options given below:

(1) B, C, D and E only
(2) C, D and E only
(3) A, B, C and D only
(4) A, C, D and E only

Question numbers 13 to 16 consist of two statements, Assertion (A) and Reason (R). correct Answer these questions selecting appropriate option given below:

(a) Both assertion and reason are true, and the reason is the correct explanation of the assertion.
(b) Both assertion and reason are true, but the reason is not the correct explanation of the assertion.
(c) Assertion is true but reason is false.
(d) Assertion is false but reason is true.

13. **Assertion:** A species of wasp and a fig species cannot complete their life cycle without each other.
Reason: While the visiting wasp comes to lay eggs in the fig inflorescence, the flower of fig gets pollinated in return.

14. **Assertion:** FSH acts upon ovarian follicles in female and Leydig cells in male.
Reason: Growing ovarian follicles secrete estrogen in female while interstitial cells secrete androgen in male human being.

15. **Assertion:** Lactational amenorrhea is the natural method of contraception.
Reason: It increases the phagocytosis of sperm.

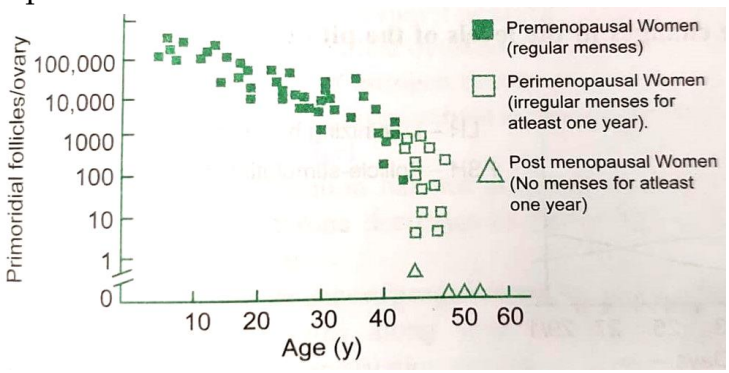
16. **Assertion:** The progenies of a test cross can be easily analysed to predict the genotype of the test organism.
Reason: In a typical test cross, an organism showing a recessive phenotype is crossed with a recessive parent instead of self-crossing.

SECTION –B

17. Both nucellus and endosperm have abundant reserve food materials. How is their food reserve utilised in angiosperms?

18. The graph given below shows the number of primordial follicles per ovary in women at different ages. Study the graph and answer the questions that follow.

(a) What is the average age of the women at the onset of menopause?
(b) At what age are maximum primordial follicles present in the ovary according to the given graph?



19. Why is 'Saheli' considered an effective contraceptive for women to space children?

20. A single pea plant in your kitchen garden produces pods with viable seeds, but the individual papaya plant does not. Explain.

21. In a flowering plant, a microspore mother cell produces four male gametophytes while a megaspore mother cell forms only one female gametophyte. Explain..

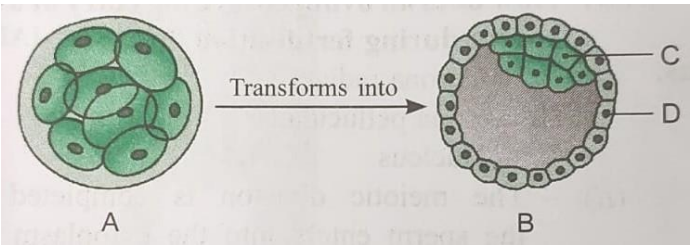
OR

Geitonogamous flowering plants are genetically autogamous, but functionally cross-pollinated. Justify

SECTION –C

22. Majority of angiosperms have hermaphrodite flowers, but self-pollination is discouraged by them. Explain any three outbreeding devices that they have developed to achieve this.

23. Study the given diagram:



A is an embryonic stage that gets transformed into B, which in turn gets implanted in the endometrium in human females.

(a) Identify A, B and its parts C and D.

(b) State the fate of C and D in the course of embryonic development in humans.

24. (a) List any four major causes of increasing population in our country that you would like to speak to your fellow students.

(b) Write any two steps that would stress upon, to control the population explosion.

25. Differentiate between the following:
    a. Dominance and Recessive
    b. Homozygous and Heterozygous
    c. Monohybrid and Dihybrid

26. Where are the following structures present in a male gametophyte of angiosperms? Mention the function of each of them
    a. Germ pore
    b. Sporopollenin
    c. Generative cell

27. (a) Draw a sectional view of seminiferous tubule of a human. Label the following cells in the seminiferous tubule:
    I. Cells that divide by mitosis to increase their number
    II. Cells that undergo meiosis I
    III. Cells that undergo meiosis II
    IV. Cells that help in the process of spermiogenesis

(b) Mention the role of Leydig cells

28. Spermatogenesis in human males is a hormone-regulated process. Justify.

OR

Explain the events in a normal woman during her menstrual cycle on the following days;
    a. Ovarian events from 13-15 days
    b. Ovarian hormones level from 16-23 days
    c. Uterine events from 24-29 days(if fertilisation has not occurred)

SECTION –D

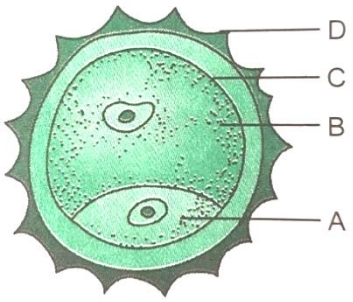
Read the following passage and answer the questions that follow:

29. The pollen grains represent the partially developed male gametophyte of angiosperms. They show an amazing variety of architecture, when observed under a microscope. They are generally spherical and measure about 25-50 micrometres in diameter. Each pollen grain has a prominent two layered wall. Pollen grains are well-preserved as fossils.As the ovules transform into seeds, the ovary develops into a fruit after fertilisation in angiosperms; these two processes occur simultaneously. The fruits may be fleshy fruits or dry fruits. The fruits may be true fruits or false fruits while some others may be parthenocarpic fruits. Seedless fruits can be induced to develop by the application of auxins and gibberellins

    a. How many pollen grains are formed from a pollen mother cell? [1]
    b. What are germ pores in a pollen grain? [1]
    c. How many cells are present in a pollen grain, at the time of its release from the anther? Name them. [2]

OR

c. Refer to the figure given and match the parts (with their names) labelled with their characteristics mentioned.



1. It is made of a highly-resistant organic material.
2. It is spindle-shaped in outline and has dense cytoplasm with a prominent nucleus.
3. It has vacuolated cytoplasm and an irregularly-shaped nucleus.
4. It is made of pectin and cellulose.

30. A large number of couples all over the world are infertile. Such infertile couples could be assisted to have children through certain special techniques, commonly called 'Assisted Reproductive Technologies' (ART).

    (a) Give the technical term for each of the methods described below:
        (i) Tranfer of ovum collected from a donor into the fallopian tube of another female.
        (ii) An embryo is formed in the laboratory by directly injecting the sperm into the ovum
    (b) Name two assisted reproductive technologies, where fertilisation is *in vivo*.
    (c) Name and explain the two methods of embryo transfer following *in vitro* fertilisation

OR

(c) What is artificial insemination? Mention the conditions when it becomes necessary.

SECTION –E

31. (a) Draw a diagrammatic sectional view of a mature anatropous ovule and label the following parts in it
    I. That develops into seed coat.
    II. That develops into embryo after fertilisation.
    III. That develops into endosperm in an albuminous seed.
    IV. Through which the pollen tube gains entry into the embryo sac.
    V. That attaches the ovule to placenta.

    (b) Describe the process of pollination in *Vallisneria.* [5]

    OR

    (a) Draw a diagram of an enlarged view of T.S of one microsporangium and label the following parts
    (i) Tapetum
    (ii) Middle layers
    (iii) Endothecium
    (iv) Sporogenous tissue
    (b) Mention the characteristic feature and function of tapetum
    (c) Explain the following giving reasons
    (i) Pollen grains are well preserved as fossils
    (ii) Pollen tablet are in use by people these days.

32. (a) Draw a labelled diagrammatic view of human male reproductive system.
    (b) Differentiate between:

    (i) Vas deferens and Vasa efferentia
    (ii) Spermiogenesis and spermiation [5]

    OR

    (a) Describe the events of spermatogenesis with the help of a schematic representation.
    (b) Write two differences between Spermatogenesis and Oogenesis

33. a. Explain a monohybrid cross, taking seed coat colour as a trait in *Pisum sativum.* Work out the cross upto F_2 generation.
    b. State the laws of inheritance that can be derived from such a cross.
    c. You are given a tall pea plant and asked to determine its genotype. Name and explain the cross you will carry out to find the possible genotype of the given tall pea plant [5]

    OR

    Work out a monohybrid cross upto F_2 generation, between two pea plants and two *Antirrhinum* plants, both having contrasting traits with respect to colour of flower. Comment on the patterns of inheritance in the crosses carried above.

DELHI PUBLIC SCHOOL
SAIL TOWNSHIP,RANCHI
QUALIFYING EXAMINATION (2024-25)

Class - XII **Subject – Business Studies**
Time – 3 Hours **Maximum Marks - 80**

General Instructions:-

Read the following instructions very carefully and strictly follow them:

1. This question paper contains 34 questions. All questions are compulsory.
2. Marks are indicated against each question.
3. Answers should be brief and to the point.
4. Answers to questions carrying three marks may be from 50 to 75 words.
5. Answers to questions carrying four marks may be in about 150 words.
6. Answers to questions getting six marks maybe in about 200 words.
7. Attempt all parts of a question together.

1. 'Bubbly Bee' enterprise recently launched its new range of balloons with inbuilt lights on the occasion of Diwali and set a target of 10% Return on Investments (RoI). The Managing Director, Mr. Samant integrated the efforts of all the three departments i.e. purchase, production and sales at different levels for achieving the target harmoniously. The product was an instant hit and'Bubbly Bee' enterprise was able to achieve its target. The characteristics of coordination discussed in the above case is….
   (a) Coordination is a continuous process.
   (b) Coordination is multidimensional.
   (c) Coordination requires ethical code of conduct.
   (d) Coordination is an all-pervasive function. [1]

2. The one best way to perform a task should be identified and implemented. Identify the technique of scientific management defined in this sentence.
   (a) Method study
   (b) Time study
   (c) Fatigue study
   (d) Standardization and Simplification of work [1]

3. A leading pizza chain recently introduced 'momo pizza' a combination of pan pizza with momos, are the second most loved street food of India after Golgappas. They wanted to be the first company to take advantage of this opportunity rather than losing it to competitors. The point of importance of understanding business environment discussed above is -------
   (a) Tapping useful resources
   (b) Identifying opportunities and getting the first mover advantage
   (c) Improvement in performance
   (d) Coping with rapid changes [1]

4. Tanu has launched a new perfume in the name of 'Mehak'. She has used hoardings, banners newspapers etc., to popularise 'Mehak'. Which marketing tool has been preferred by Tanu to boost sales of 'Mehak'?
   (a) Advertisement
   (b) Sales Promotion
   (c) Personal Selling
   (d) Public Relations [1]

5. When the focus is on lowering the cost by undertaking large scale production and distribution to increase sales, then business is relying on…..
   (a) Production concept
   (b) Product concept
   (c) Selling concept
   (d) Marketing concept [1]

6. Which function of the marketing relates to the planning of use of promotional tools?
   (a) Market planning
   (b) Market research
   (c) Physical distribution
   (d) Branding [1]

Naveen finished his post graduation in commerce and decided to join the business being managed by his father alone. After joining he found that the products of his business are lacking in competition to the available products in the market. The products in the market were cheaper and technologically superior. He decided to improve the quality of the products, using new technology and automated machines. He applied for licence and patent of the products of the company. He hired managers to enter customer designed products and as per the prevailing customs and traditions. Gradually the products of the firm were in demand.
With reference to the above paragraph, answer the following questions:-

7. Highlight the component of business environment in the above mentioned case:
   (a) Economic environment
   (b) Technological environment
   (c) Social environment
   (d) Political environment [1]

8. Obtaining licence and patents for the business relates to which aspect of business environment?
   (a) Economic environment
   (b) Social environment
   (c) Legal environment
   (d) Technological environment [1]

9. The decision to produce as per the prevailing demand, keeping in view various customs and traditions relates to which part of the business environment?
   (a) Economic environment
   (b) Political environment
   (c) Social environment
   (d) Technological environment [1]

10. To upgrade the business as to be competitive, installing automated machines and new technology refers to…..
   (a) Technological environment
   (b) Political environment
   (c) Social environment
   (d) Economic environment [1]

11. International Airtel Ltd. supports local schools with logistical and financial help, capacity building of school teachers and for infrastructure development. Which business objective is satisfied through this function?
    (a) Social objective
    (b) Organizational objective
    (c) Personal objective
    (d) None of the above [1]

12. The Principle of management are set to be flexible as:
    (a) They aim at influencing behaviour of human beings
    (b) They are general guidelines to action , but do not provide readymade solutions to management problems.
    (c) They can be modified by the manager when the situation so demands
    (d) Their application is dependent upon the prevailing situation at a particular point of time. [1]

13. Mohan limited has lowered the price of its product to Rs. 80 per unit from Rs. 100 per unit. The firm now operating just at break even. This has been done to increase the market share. Which element of marketing mix is active in this case ---
    (a) Place
    (b) Product
    (c) Price
    (d) Promotion [1]

14. The price fixed for a product must cover---
    (a) Fixed cost
    (b) Variable cost
    (c) Both of these
    (d) None of these [1]

15. Recruitment and Selection of the personnel is ….
    (a) Planning
    (b) Organising
    (c) Directing
    (d) Staffing [1]

16. "Flavours of South" is a famous chain of South Indian restaurants. It believes in complete cooperation between labour and management. Its management encourages the employees for their constructive suggestions. They take their employees into confidence for all important decisions. Identify the related principle.
    (a) Science, not rule of thumb
    (b) Harmony, not discord
    (c) Cooperation not individualism
    (d) Development of each and every person to his or her greatest efficiency and prosperity [1]

17. Hariom is working in a company where he is responsible for implementing the plans, at which level of management he is working?
    (a) Top level
    (b) Middle level
    (c) Supervisory level
    (d) None of the above [1]

18. The principle of management given by Fayol which aims at preventing overlapping of activities is---
    (a) Division of work
    (b) Unity of command
    (c) Unity of direction
    (d) Order [1]

19. Hema is one of the most successful managers of our company Kobe Ltd. She uses her creativity and initiative in handling challenging situations at work. The knowledge gained by her during her student days at a renowned management institute as well as through her observation and experience over the years is applied by Hema in a skillful manner in the context of the realities of a given situation. She often reads books and other literature in various fields of management to keep her knowledge updated.
    An aspect of the nature of management is being highlighted in the above description.
    Identify the aspect—
    (a) Existence of theoretical knowledge
    (b) Personalised application
    (c) Creative application
    (d) All of the above. [1]

20. **Assertion(A):** There should be a balance between authority and responsibility.
    Reason(R) : The manager should assign minimum authority to his subordinate to carry out his responsibility.
    (a) Both the statements(A) and (R)are correct and (R) is the right explanation of (A).
    (b) Both the statements (A} and (R) are correct but (R) is not the right explanation of (A).
    (c) Statement (A) is correct but statement (R) is incorrect.
    (d) Both statements (A) and (R) are incorrect. [1]

21. Jasdeep, a dealer in school uniforms decided to maximise his profit by using different aggressive promotional efforts.
    (i) Identify the marketing management philosophy adopted by Jasdeep.
    (ii) Explain this philosophy on the basis of (a) Main focus ; (b) Means and ends. [3]

22. XYZ Power Ltd. set up a factory for manufacturing solar lanterns in a remote village as there was no reliable supply of electricity in rural areas. The revenue earned by the company was sufficient to cover the cost and the risks. The demand for lanterns was increasing day by day so the company decided to increase production to generate higher sales. For this they decided to employ people from nearby villages as very few job opportunities were available in that area. The company also decided to open schools and creches for the children of its employees.
    Identify and explain the objectives of management discussed above. [3]

23. Rama automobiles aims to produce and sell 1,00,000 cars in 2016. To achieve this objective the production department strives for timely production and sales department takes all possible steps to sell them. Due to combined efforts of all the departments the company is able to achieve its target.
    (a) Which significance of management is highlighted in the given paragraph?
    (b) Mention & explain two other points of importance of management. [3]

24. Hemant, Guddu and Toshita were friends from college days and presently they were doing different kinds of business. They regularly meet and discuss their business ideas and exchange notes on customer satisfaction, marketing efforts , product designing, selling techniques, social concerns etc. In one of such meetings, Hemant drew the attention of Guddu and Toshita towards the exploitation of consumers. He told that most of the sellers were exploiting the consumers in various ways and were not paying attention towards the social, ethical and ecological aspects of marketing, whereas he wasn't doing so. Guddu told that they were under pressure to certify the consumers but stated that consumers would not buy or not buy enough unless they were adequately convinced and motivated for the same.
    Toshita, stressed that company cannot achieve its objectives without satisfying the needs of the customers. It was the duty of the businessmen to keep customers satisfaction in mind because business is run on the resources made available by the society. She further stated that she herself was taking into consideration the needs of the customers.
    Identify and explain various types of thinking that guided Hemant,Guddu Toshita in the marketing efforts of their business, by quoting the relevant lines from the given para. [3]

25. Rajveer works as a Plant Superintendent in a carpet making factory. To complete their export orders on time, the production manager asks him to make the workers work overtime whereas the finance manager is strictly against this practice because it will increase the cost of production. Moreover Rajveer feels that since the company is manufacturing handmade carpets as well as machine made carpets there is a lot of overlapping of activities. Therefore there should be two separate divisions for both of them where in each division should have its own in-charge, plans and execution resources.
    In the context of the above case:-
    (a) Identify and explain the principle of management which is being violated.
    (b) Also identify the principle of management that Rajveer feels should be implemented in the factory.
    (c) Give any two differences between principles of management as identified in part (a) and part (b) respectively [4]

26. 'Scientific management means knowing exactly what you want men to do and seeing that they do it in the best and cheapest way'. Taylor developed various techniques for application of scientific management principles and was able to achieve three- fold increase in productivity in Bethlehem Steel Company, where he worked. One of the techniques helped him to determine the number of workers to be employed; frame suitable incentive schemes and determine labour costs. Another technique recognises those workers who are able to accomplish / exceed the fair day's work and is based on the premise that efficiency is the result of joint efforts of the managers and the workers. Quoting the lines from the above paragraph identify and explain the two techniques of Scientific Management. [4]

27. Karan and Kunal as students of management course were asked to prepare a project report on applicability of principles of management in real business situations. To conduct the survey Kunal had selected an outlet of a popular chain of fast-food restaurant whereas Karan visited a nearby departmental store. When Kunal presented his report to the class Karan realised that their observations were matching on various grounds in both the business units, work is divided into small tasks, and each is performed by a trained employee. A set of rules were predetermined and communicated to the employees for compliance and there is a fixed place for everything, and all the employees have been allotted individual's space. Moreover, the managers encourage a spirit of mutual trust and belongingness among the employees so that the need for imposing penalties is reduced.
    In the context of the above case: -
    Identify and explain the various principles of management being described above with suitable examples [4]

28. After winning the Lok Sabha election, Prime Minister Mr Narendra Modi launched a campaign of Swachh Bharat and invited various celebrities to be part of this abhiyan. This spread awareness among the people in society and in general people started becoming more careful and aware about the cleanliness around their area. To continue its impact, a new service tax for Swachh Bharat abhiyan was also started. The government is planning to import new and better technology to adopt new methods of treating the garbage and waste. State & explain the various dimensions of business environment in the above para quoting the relevant lines. [4]

29. Timeline watch manufacturing company is a renowned company marketing watches, which performs various activities like market analysis, product designing or merchandising, packaging, warehousing, branding, pricing, promotion, and selling. The company maintains good customer relations through various follow – up activities. This helps the company in procuring repeat sales orders.
    (a) Name & explain the concept related to the activities mentioned in the above paragraph.
    (b) Explain any two features of the concept identified in part (a). [4]

30. As a publisher, you have published a new book on the marketing management. How will you determine the price of this book. Explain. [4]

31. Choco Ltd. offers a wide variety of Chocolate products. It has an action programme of not selling its products by their generic name but under different names like Choco-silk bar,Choco-munchy and Choco-crunchy etc. for different customer segments. All these names have great popularity and acceptability in the markets. As a part of the company policy the products were offered at reasonable and affordable prices for targeting mass customer base. During the festive season the company launched massive promotional campaign to increase its revenue and achieve its communication objectives. The company introduced free gifts for the customers. Their on-ground sales team delivers the product not only to the departmental stores but also to small shops, so that all segments of customers can easily get the products. They also provide information and support services to customers to ensure repeat sales. From the viewpoint of the management function, briefly explain any four activities of marketing which the firm will be involved in, apart from the above mentioned ones it is already performing. [6]

32. Consumer goods company manufacturing electrical goods has been facing a lot of problems for the last one year. Its margins are under pressure and its profits and the market share are declining. For this state of affairs production department blames the marketing department for not meeting sales targets and marketing department blames the production department for producing goods which are not of good quality,meeting customers expectations. The finance department blames both the production and marketing departments for declining return on investment and bad marketing.
    What steps should be taken to bring the company on track, explain in detail. [6]

33. Explain the following;-
    (a) Functional Foremanship
    (b) Scalar Chain
    Use pictorial representation to explain both concepts. [6]

34. Explain the meaning and features of demonetisation, in detail. [6]

DELHI PUBLIC SCHOOL
SAIL TOWNSHIP,RANCHI
QUALIFYING EXAMINATION (2024-25)

Class - XII | **Subject – Chemistry**
Time – 3 Hours | **Maximum Marks - 70**

General Instructions: **Read the following instructions carefully and follow them :**

(i) This Question Paper contains 33 questions. All questions are compulsory.
(ii) Question paper is divided into FIVE sections – Section A, B, C, D and E.
(iii) Section A – question number 01 to 16, are multiple choice type questions. Each question carries 01 mark.
(iv) Section B – question number 17 to 21, is very short answer type questions. Each question carries 02 marks.
(v) Section C – question number 22 to 28, is short answer type questions. Each question carries 03 marks.
(vi) Section D – question number 29 and 30, are case-based questions. Each question carries 04 marks.
(vii) Section E – question number 31 to 33, is long answer type questions. Each question carries 05 marks.
(viii) There is no overall choice given in the question paper. However, an internal choice has been provided in few questions in all the sections except Section – A.
(ix) Use of calculator is NOT allowed.

SECTION – A

[1X16]

1. An azeotropic solution of two liquids, has boiling point lower than either of the two liquids, when it :
   (a) show no deviation from Raoult's Law.
   (b) show a positive deviation from Raoult's Law.
   (c) show a negative deviation from Raoult's Law.
   (d) is saturated.

2. 1 mole of liquid A and 2 moles of liquid B, make a solution having total vapour pressure 40 torr. The vapour pressure of pure A and pure B are 45 torr and 30 torr respectively. The above solution :
   (a) is an ideal solution.
   (b) shows a positive deviation.
   (c) shows a negative deviation.
   (d) is a maximum boiling azeotrope.

3. The amount of solute (molar mass 60 gm/mol) that must be added to 180 gm of water, so that the vapour pressure of water is lowered by 10 % is :
   (a) 30 gm
   (b) 60 gm
   (c) 120 gm
   (d) 12 gm

4. 0.5 M solution of urea is isotonic with :
   (a) 0.5 M NaCl solution.
   (b) 0.5 M Sugar solution.
   (c) 0.5 M $BaCl_2$ solution.
   (d) 0.5 M solution of benzoic acid in benzene.

5. Which of the following statements about solutions of electrolytes is not correct ? :
   (a) Conductivity of solution depends upon size of the ions.
   (b) Conductivity depends upon viscosity of the solution.
   (c) Conductivity does not depend upon salvation of ions present in solution.
   (d) Conductivity of solution increases with temperature.

6. For the cell $Cu/Cu^{2+} || Ag^{+} / Ag$, E^0 cell = + 0.46 V. If the concentration of Cu^{2+} ion doubled then E^0 cell will be :
   (a) halved.
   (b) doubled.
   (c) four times.
   (d) remains same.

7. Two Faraday of electricity is passed through a solution of $CuSO_4$. The mass of copper deposited at the cathode is (atomic mass of Cu = 63.5 u) :
   (a) 02 gm
   (b) 127 gm
   (c) 6.35 gm
   (d) 63.5 gm

8. Standard electrode potential of three metals X, Y & Z are -1.2 V, +0.5 V and -3.0 V respectively. The reducing power of these metals will be :
   (a) Y > Z >X
   (b) X > Y > Z
   (c) Z > X > Y
   (d) Y >X > Z

9. If the salt bridge is removed from two half cell, the voltage :
   (a) Drops to Zero
   (b) Does not change
   (c) Increases gradually
   (d) Increases rapidly

10. Disaccharides that are reducing in nature are :
   (a) Sucrose & Lactose
   (b) Sucrose & Maltose
   (c) Lactose & Maltose
   (d) Sucrose, Lactose & Maltose

11. Glycogen is a polymer of α – D glucose stored in the :
   (a) Liver, kidney and brain of animal
   (b) Kidney, lungs and stomach of animals
   (c) Brains, liver and muscles of animals
   (d) Stomach, muscles & lungs of animals

12. The linkage present in nucleic acid is :
    (a) glycosidic
    (b) peptide
    (c) phosphodiester
    (d) All of these

Direction: For questions number 13 to 16, two statements are given, One labelled as Assertion (A) & other labelled as Reason (R) . Select the correct answer to these questions from the codes (A), (B), (C) and (D), as given below :

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

13. **Assertion:** When NaCl is added to water a depression in freezing point is observed.
    Reason: The lowering of vapour pressure a solution causes depression in freezing point.

14. **Assertion:** The molecular mass of acetic acid determined by depression in freezing point in benzene and water is found different.
    Reason: Water is polar and benzene is non polar.

15. **Assertion:** Electrolysis of NaCl solution gives chlorine at anode instead of O_2.
    Reason : Formation of oxygen at anode requires over voltage.

16. **Assertion:** Mercury cell does not give steady potential.
    Reason: In the cell reaction , ions are not involved in solution.

SECTION – B

17. (i) Arrange the following solutions in increasing order of their Van't Hoff factor :

    0.1 M $CaCl_2$, 0.1 M KCl, 0.1 M $Al_2(SO_4)_3$

    (ii) Define molal elevation constant. **[1X2]**

18. Derive a relation between relative lowering of vapour pressure and mole fraction of solute. **[2]**

19. Write the formulation for the galvanic cell in which the reaction takes place.
    $Cd\ (s) + 2Ag^+\ (aq) \rightarrow Cd^{2+}\ (aq) + 2\ Ag(s)$
    Identify the Cathode & anode reaction in it. **[2]**

    OR

    The standard electrode potential for Daniell Cell is 1.1 V. Calculate the standard Gibb's energy for the reaction :

    $Zn + Cu^{2+}\ (aq) \rightarrow Zn^{2+} + Cu(s)$

20. Write the reactions occur at cathode & anode of $H_2 – O_2$ fuel cell. Mention two points of it's advantages. **[2]**

21. Explain, What is meant by ? **[2]**

    (i) peptide linkage. (ii) glycosidic linkage.

SECTION – C [3 X 7 =21]

22. (a) Write the structural & functional difference between DNA & RNA (two points only).

(b) A man is suffering from muscular weakness and fragility of RBC, which kind of food intake should be increased ? **[2+1]**

23. Account for the following :

(a) Vitamins B & Vitamin C should be taken in regular diet.

(b) Amino acids show amphoteric behaviour.

(c) Hydrolysis of sucrose is known as inversion of sucrose. **[1x3]**

24. State Henry's Law. Explain the following phenomena with the help of Henry's law.

(a) At higher altitude people suffer from anoxia resulting inability to think.

(b) Scuba diver used to carry oxygen diluted with helium. **[3]**

25. Define Osmotic pressure. How is it that measurement of osmotic pressure is more widely used for determining molar masses of macro molecules than the elevation in boiling point or depression in freezing point of their solutions ? **[1+2]**

26. **Answer the following :** **[1x3]**

(i) What is the role of $ZnCl_2$ in a dry cell ?

(ii) Why is alternating current used for measuring resistance of an electrolytic solution ?

(iii) Why does the conductivity of solution decreases with dilution ?

27. State Faraday's first law. How many moles of mercury will be produced by electrolysing 1.0 M $Hg(NO_3)_2$ solution with a current of 2 ampere for 3 hours ? (At mass of Hg = 80 gm/mole). **[3]**

OR

(a) Define Molar conductivity.

(b) Conductivity of 2.5×10^{-4} M methanoic acid is 5.25×10^{-5} S cm^{-1}. Calculate it's molar conductivity and degree of dissociation.

Given $\lambda^0_{H^+} = 349.5$ S cm^2 mol^{-1} & $\lambda^0_{HCOO^-} = 50.5$ S cm^2 mol^{-1}

28. (i) The Chemistry of corrosion of iron is essentially an electro chemical phenomenon. Explain the reaction occurring during the corrosion of iron in the atmosphere. **[3]**

(ii) Using the E^0 value of X & Y predict which is better for coating of iron to prevent rust & why?

Given $E^0_{Fe^{2+}/Fe} = -0.44$ V

$E^0_{X^{2+}/X} = -2.36$ V

$E^0_{Y^{2+}/Y} = -0.14$ V

SECTION - D

Direction : The following questions are Case – based questions. Read the passage carefully and answer the questions that follow : [1X4]

29. The properties of the solutions which depend only on the number of solute particles, but not on the nature of solute are called colligative properties. Relative lowering in vapour pressure is also an example of colligative properties. Rohan has performed an experiment in which, he prepared a sugar solution and inferred the data given.
    Lowering in vapour pressure : 0.061 mm of Hg.
    Vapour pressure of water at 20 ^{0}C : 17.5 mm of Hg.
    Answer the following questions :
    (a) What will be the relative lowering of vapour pressure for the given solution ?
    (b) Find the vapour pressure of the solution.
    (c) What will be the mole fraction of sugar in solution ?
    (d) How relative lowering in vapour pressure is a colligative property ?

30. Living systems are made up various complex biomolecules like carbohydrates, proteins, nucleic acids , lipids etc.
    Carbohydrates are optically active polyhydroxy aldehydes or ketones or molecules which provide such units on hydrolysis. They are broadly classified into monosaccharides, oligo saccharides & polysaccharides. Another bimolecules are amino acid & proteins etc.
    Proteins are polypeptide Structures & shapes of proteins can be studied at four different levels i.e primary, secondary , tertiary & quaternary.

    Answer the following questions : [1X4=4]
    (a) What is the result of hydrolysis of protein ?
    (b) Which amino acids are called essential amino acids ?
    (c) What are the common types of secondary structures of proteins ?
    (d) Write any two forces, which stabilise the secondary and tertiary structures of protein.

SECTION - E

31. (a) What is meant by limiting molar conductivity ? **[1+1+1+2]**
    (b) Why it is not possible to determine Λ_m^0 for a weak electrolyte by extrapolating the molar conductance versus $C^{1/2}$ curve for weak electrolyte ?
    (c) Predict the product of electrolysis of aqueous solution of $AgNO_3$ using platinum-electrode.
    (d) Calculate the emf of the following cell at 298 K.
    Al/Al^{3+} (0.001 M) || Ni^{2+} (0.1 M) /Ni
    Given E^0 Al^{3+} / Al = - 1.66 V
    E^0 Ni^{2+}/ Ni = - 0.25 V

    OR

    (a) Arrange the following metals in the order, in which, they displace each other : Al, Cu, Fe, Mg & Zn.
    Given : $E^0_{Al\,3+/\,Al}$ = - 1.66 V, $E^0_{Cu\,2+\,/\,Cu}$ = 0.34 V , $E^0_{Fe\,2+\,/\,Fe}$ = - 0.44 V , $E^0_{Mg\,2+\,/Mg}$ = - 2.37 V , $E^0_{Zn\,2+/\,Zn}$ = - 0.76 V
    (b) Predict on the basis of electrode potential , if the reaction between Ag^+ & Cu is feasible.
    $E^0_{Cu\,2+\,/\,Cu}$ = + 0.34 V, $E^0_{Ag+\,/\,Ag}$ = + 0.80 V.

(c) Predict the product of electrolysis of dilute H_2SO_4 using platinum electrode.

(d) Represent a galvanic cell for the following cell reaction and also calculate the emf of the cell.

Sn^{4+} (1.5M) + Zn → Sn^{2+} (0.50M) +Zn^{2+} (2.0).

The standard potential E^0 of the cell is 0.89 V.

(Log 2 = 0.3010, log 3= 0.4771)

32. (a) Why is Glycol and water mixture is used in car radiators, in cold countries ?

(b) Give one example, each of solid in gas &liquid in gas solution.

(c) Under what condition non-ideal solutions, show negative deviation ?

(d) When 25.6 gm of Sulphur was dissolved in 1000 gm of benzene , the freezing point lowered by 0.512 K. Calculate the formula of Sulphur (Sx).

Given K_f for Benzene = 5.12 K Kg mol^{-1}.

Atomic mass of Sulphur = 32 g mol^{-1} **[1+1+1+2]**

OR

(a) Will the elevation in boiling point be same, if 0.1 mol of sodium chloride or 0.1 mol of sugar is dissolved in 1 litre of water ? Explain.

(b) Write two characteristic of an Ideal solution.

(c) Why the solubility of gas, decreases with rising temperature ?

(d) Determine the osmotic pressure of solution prepared by dissolving 25 mg of K_2SO_4, in 2 litre of water at 25^0C, assuming that, it is completely dissociated. [Molar mass of K_2SO_4 = 174 gm mol^{-1}].

33. **Answer any five questions :** **[1X5]**

(a) What happens when , glucose reacts with nitric acid ? (Write Reaction).

(b) Give one structural difference between Amylose & Amylopectin.

(c) What are Anomers ?

(d) What are the product of hydrolysis of maltose?

(e) Write the name of the disease, caused by the deficiency of Vitamin B_{12} .

(f) If one Strand of DNA, has the sequence : ATGCTTCA . What is the sequence of bases in complementary strand?

(g) What is meant by reducing sugar?

DELHI PUBLIC SCHOOL
SAIL TOWNSHIP,RANCHI
QUALIFYING EXAMINATION (2024-25)

Class - XII | **Subject – Computer Science**

Time – 3 Hours | **Maximum Marks - 70**

General Instructions:

(i) This question paper contains five sections, **Section A to E.**

(ii) **All** questions are compulsory.

(iii) **Section A** has **18** questions carrying **1** mark each.

(iv) **Section B** has **7** Very Short Answer type questions carrying **2** marks each.

(v) **Section C** has **5** Short Answer type questions carrying **3** marks each.

(vi) **Section D** has **3** long Answer type questions carrying **5** marks each.

(vii) **Section E** has **2** questions carrying **4** marks each.

(viii) All programming questions are to be answered using Python Language only.

SECTION-A

1.	Which of the following is not a keyword? (a) break (b) continue (c) pass (d) Except	1
2.	Which of the following is a valid identifier in python? (a) TRUE (b) true (c) return (d) global	1
3.	What will be the output of the following python code? N=[10,20,30,40,50,60] print(N[::-2]	1
4.	What is length of the tuple shown below? T=((((‘a’,1),’b’,’c’),’d’,2),’e’,3) (a) 3 (b) 7 (c) 8 (d) 1	1
5.	What will be the output of the following Python code? >>>t=(1,2,4,3) >>>t[1:-1] (a) (1, 2) (b) (1, 2, 4) (c) (2, 4) (d) (2, 4, 3)	1
6.	Which of the following can add an element in a list. (a) append (b) insert (c) + (d) all of these	1
7.	What is the value of this expression, 2**2**3 (a) 256 (b) 64 (c) 1024 (d) None	1
8.	Which function is used to round off the value to its nearest integer which greater than or equal to the given number. (a) floor() (b) ceil () (c) round( ) (d) None	1

9.	What will be the following expression be evaluated to in Python? **True and not False or True and False** (a) True (b) False (c) Error (d)None	1
10.	The values of a dictionary can be a mutable type. True/False:____	1
11.	Which function is used to return a value of the dictionary? (a) len( ) (b) get( ) (c) keys( ) (d) None	1
12.	What is the output of math.ceil(-4.4)? (a) 4 (b) -4 (c) -5 (d) 5	1
13.	Which of the following will generate error? (a) def check(x=100,y=10,z): (b) def check(x,y,z=1): (c) def check(x=100,y=10,z=1): (d) def check(x,y=10,z=1):	1
14.	What is the output of the following python code? >>>6*3+4**2//5-8 (a) 13 (b) 14 (c) Error (d)None	1
15.	This function header fun(x,y=2) is an example of _____ Parameter (a) Sequential (b) Default (c) Positional (d) Variable length	1
16.	What will be the output of the following Python code? x = 50 def func(x): print('x is', x) x = 2 print('Changed local x to', x) func(x) print('x is now', x) (a) x is 50 Changed local x to 2 x is now 50 (b) x is 50 Changed local x to 2 x is now 2 (c) x is 50 Changed local x to 2 x is now 100 (d) None	1
	Q.No. 17 & 18 contain two statements: Assertion and Reasoning. Each question has four choices- (a), (b), (c), (d)-only one of which is correct. In the light of these statements, choose the most appropriate option. (a) Both A and R are true and R is the correct explanation of A. (b) Both A and R are true but R is not the correct explanation of A. (c) A is true but R is false. (d) A is false but R is true.	

17.	Assertion (A): The randint() method returns an integer from the specified range. Reasoning (R): The syntax for randint() is: random.randint(start: stop)	1
18.	Assertion (A): The output of print(math.factorial(4.5)) shall generate an error. Reasoning (R): This factorial() function belongs to the statistics module in Python.	1

SECTION-B

19.	Name the error for the following cases: (a) x=[1,2,3] print(x[4]) (b) a=20 print(A)	2
20.	Differentiate between 'break' and 'continue' keywords with suitable examples.	2
21.	Find the output for the following: a=10 b=20 def change(): global b a=45 b=56 print(a) change() print(a) print(b) (a) 45 20 56 (b) 45 10 56 (c) 45 45 56 (d) None of these	2
22.	>>> x="DPS School".split() >>>print(x) Predict the Output of x	2
23.	What possible outputs(s) are expected to be displayed on screen at the time of execution. import random AR=[20,30,40,50,60,70] FROM=random.randint(1,3) TO=random.randint(2,4) for K in range(FROM,TO+1): print (AR[K],end="#") (i) 10#40#70# (ii) 30#40#50# (iii) 50#60#70# (iv) 40#50#70# v) None	2

24.	Find the output:-
	def show(n):
	  if n%2==0:
	  return n+1
	  else:
	  return n+2
	if show(10)%2==0:
	  print("Even")
	else:
	  print("Odd")
		2

25.	Write a user defined function count(s), which should return total number of digits from the string 's'.	2

SECTION-C

26.	Write a function in python named as primesum(n) which accepts a list of numbers 'n' and return the sum of all the prime numbers.	3
27.	Write a function in python named as check(s) which count total number of words starts with a vowel character of the sentence 's' passed as parameter.	3
28.	Consider a List (L,n) consist of 'n' number of email ids of the different users in a list L. Create a function countgmail(L), which should return how many users' are having the mail server in "gmail.com".	3
29.	Write a program to create list having 'n' number of integers, randomly pick one number(by using random function) and display its all possible factors. Ex: L=[4,5,10,6], if randomly picked value is 10 then its possible factors are 1,2,5,10.	3

30.	What are the possible outcome(s) expected from the following Python code? Also, specify the maximum and minimum values which can be obtained.
	import random
	p = 'MY PROGRAM'
	i = 0
	while p[i]!='R':
	  l= random.randint(0,3) +5
	  print (p[l],end='-')
	  i += 1
	(i) R-P-O-R- (ii) O-R-A-G- (iii) P-O-R-Y- (iv) A-G-R-M-
		3

SECTION-D

31.	(a) Differentiate between 'return' and 'break' keyword.
	
	(b) Write the output of the following Python code:
	
	def fun(s):
	  res=""
	  for i in s:
	  if i.islower():
	  res=res+'@'
	  elif i.isupper():
	  res=res+'#'
	  elif i.isdigit():
	  res=res+str(int(i)+1)
	  else:
	  res=res+i
	  return res
	print(fun("Python3.7IDLE"))
		2+3

32.	(a) Write the output of the code given below:
	a=50
	def change(x):
	  global a
	  if a%2!=0:
	  x+=a
	  else:
	  x-=a
	  return x
	x=30
	print(change(45),end="-")
	print(change(48),end="$")
	
	(b) Write a program to shift the negative number to the right and the positive numbers to the left so that the resultant list looks like
	Ex: Original List: [10,2,-,2,3,-4]
	Output: [10,2,3,-2,-4]
		2+3

33.	(a) Write a program to enter the name of your friend and display all the unique characters of it. Ex:- Name: Raman Output: Ramn (b) Write a program to enter a phone number and find all the even digits of the number. Ex: Ph.No.: 8051153194 Output:- 8,4	2+3

SECTION-E

34.	Write a program to read elements of a list and perform the following tasks: (a) The program should ask for the position of the element to be deleted from the list. Write a function to delete the element at the desired position in the list. (b) The program should ask for the value of the element to be deleted from the list. Write a function to delete the element of this value from the list. (c) Read a list of n elements. Pass this list to a function which reverses this list without creating a new list.	4
35.	Write a program to input names of 'n' students, total marks, average and result, and store in nested list and create following functions (a) Result ( ): Display name, marks, average and assign result as "pass" if average is more than 32 and "fail" if less than 33 (b) Display( ): Display name, total marks and average of all students (c) Search( ): Accept name and display other details if found and display the message 'not found' if does not exist. (d) Merit_List ( ): Display students getting average marks above 74	4

DELHI PUBLIC SCHOOL

SAIL TOWNSHIP, RANCHI

Qualifying Examination 2024

Mathematics (Core)

Class - XII **Subject – Mathematics**
Time – 3 Hours **Maximum Marks - 80**

General Instructions:

1. **This question paper contains - five sections A, B, C, D and E. Each section is compulsory. However, there are internal choices in some questions.**
2. **Section A has 18 MCQ's and 2 Assertion Reason based questions of 1 mark each.**
3. **Section B has 5 Very Short Answer (VSA) type questions of 2 marks each.**
4. **Section C has 6 Short Answer (SA) type questions of 3 marks each.**
5. **Section D has for long answer LA type questions of 5 marks each.**
6. **Section E has 3 source based / case based / passage-based / integrated units of assessment (4 marks each) with sub-parts.**

SECTION A
(Multiple Choice Questions)
Each question carries 1 mark

1. If A and B be two events such that P(A) = 0·2, P(B) = 0·4 and P(A ∩ B) = 0·08, then P(A | B) is
   (a) 0·02 (b) 0.2 (c) 0·4 (d) 0·08

2. Corner points of the feasible region for an LPP are(0,2),(3,0),(6,0),(6,8) and (0,5) .Let F=4x+6y be the objective functions. The minimum value of F occurs at.
   (a) (0,2) Only
   (b) (3,0) Only.
   (c) the midpoint of the line segment joining the points, (0,2) and (3,0) only .
   (d) any point on the line segment joining the points (0,2) and (3,0).

3. Corner points of the feasible region determined by the system of linear constraints are (0,3),(1,1) and (3,0). Let $Z = px + qy$, where $p, q > 0$ Conditions on p and q, so that the minimum of Z occurs at (3,0) and (1,1) is.
   (a) $p = 2q$ (b) $p = q/2$ (c) $p = 3q$. (d) $p = q$

4. If A and B are two events such that $P(A) \neq 0$ and $P(A|B) = 1$,then
   (a) $A \subset B$ (b) $B \subset A$ (c) $B = \phi$ (d) $A = \phi$

5. If A and B be two events such that P(A) = 1/2, P(B) = 1/3 and $P(A|B) = 1/4$, then $P(A' \cap B')$ equals
   (a) 1/12 (b) 3/4 (c) 1/4 (d) 3/16

6. A bag contains 5 red and 3 blue balls. If 3 balls are drawn at random without replacement the probability of getting exactly one red ball is
   (a) 45/196 (b) 135/392 (c) 15/56 (d) 15/29

7. Two students A and B are trying to solve a question independently. Problem will be solved by A is 1/2 and solved by B is 1/3.Which one is the correct option for solving the question by exactly one of the student ?
   (a) 1/2 (b) 2/3 (c) 1/6 (d) None

8. Let R be a relation on the set N of natural numbers defined by nRm iff n divides m. Then R is
   (a) reflexive and symmetric. (b) symmetric, and transitive
   (c) reflexive, and transitive, but not symmetric. (d) equivalence relation

9. Consider a set A= { p,q,r }. A relation R is defined on the set A such that R = {(p, p),(q, q),(r, r) }. Then R is
(a) Reflexive only. (b) reflexive and symmetric, but not transitive
(c) reflective and transitive, but not symmetric (d) reflection, symmetric, and transitive all.

10. $|\vec{b} \times \vec{c}|$ = Area of a parallelogram and $\vec{a}$ is another vector .
$\vec{a}.(\vec{b} \times \vec{c})$ = Volume of a parallelopiped. Now select the correct option for
$\hat{\imath}.(\hat{\jmath} \times \hat{k}) + \hat{\jmath}.(\hat{k} \times \hat{\imath}) + \hat{k}.(\hat{\imath} \times \hat{\jmath})$ is
(a) 0 (b) -1 (c) 1 (d) 3

11. If $\vec{a} = \hat{\imath} + \hat{\jmath} - \hat{k}$, $\vec{b} = -\hat{\imath} + 2\hat{\jmath} + 2\hat{k}$ *and* $\vec{c} = -\hat{\imath} + 2\hat{\jmath} - \hat{k}$, then a unit vector normal to the vector $\vec{a} + \vec{b}$ and $\vec{b} - \vec{c}$ is
(a) $\hat{\imath}$ (b) $\hat{\jmath}$ (c) $\hat{k}$ (d) None

12. If θ is the angle between the vectors $2\hat{\imath} - 2\hat{\jmath} + 4\hat{k}$ and $3\hat{\imath} + \hat{\jmath} + 2\hat{k}$, then $\sin\theta$ is
(a) $2/3$ (b) $\frac{2}{\sqrt{7}}$ (c) $\frac{\sqrt{2}}{7}$ (d) $\sqrt{\frac{2}{7}}$

13. If $\vec{a} = \lambda\vec{b}$ then which option is **not** correct?
(a) $\vec{a} \times \vec{b} = 0$ (b) $\vec{a} \perp \vec{b}$ (c) $\hat{a} = \hat{b}$ (d) $\vec{a} \parallel \vec{b}$

14. If θ is the angle between any two vectors $\vec{a}$ and $\vec{b}$, then $|\vec{a}.\vec{b}| = |\vec{a} \times \vec{b}|$ when θ is equal to
(a) 0 (b) $\frac{\pi}{4}$ (c) $\frac{\pi}{2}$ (d) π

15. Select the **incorrect** option in the domain of three-dimensional geometry for $x = y = z$.
(a) It is a straight line passing through origin . (b) It is equiangular with the co-ordinate axes
(c) It's parametric equation is $(x = \lambda, y = \lambda, z = \lambda)$. (d) It is a point where x, y and z are same.

16. The straight line $\frac{x-1}{2} = \frac{y-3}{4} = \frac{z-5}{0}$ is
(a) parallel to x- axis (b) parallel to y- axis (c) parallel to z- axis (d) perpendicular to z-axis

17. The angle between the straight lines $\frac{x+1}{2} = \frac{y-2}{5} = \frac{z+3}{4}$ and $\frac{x-1}{1} = \frac{y+3}{2} = \frac{z-3}{-3}$ is
(a) 45^0 (b) 30^0 (c) 60^0 (d) 90^0

18. Let R = {(2,3)} be the relation over the set A= {2, 3, 5} . Then R is
(a) Reflexive (b) Symmetric (c) Transitive (d) None

ASSERTION - REASON BASED QUESTIONS

In the following questions a statement of **Assertion (A)** is followed by a statement of **Reason (R)** . Choose the correct answer out of the following choices.

a) **Both A and R** are true and **R** is the correct explanation of **A**.
b) **Both A and R** are true, but **R** is not the correct explanation of **A**
c) **A** is true, but **R** is false.
d) **A** is false, but **R** is true.

19. **Assertion (A)** : Following equation is a straight line given in vector form
$\vec{r} = 2\hat{i} + \hat{j} - 4\hat{k} + \lambda(\hat{i} - \hat{j} - \hat{k})$.
Reason (R) : It is the position vector of current point with arbitrary constant λ.

20. **Assertion (A)** : A relation R is defined in a society in such a way that $x\ R\ y$ means 'x is wife of y'. This relation R is not Transitive.
Reason (R): If xRy and $yRz \Rightarrow xRz$. Then relation R is Transitive.

SECTION B

This section comprises of very short answer type questions (VSA) of 2 marks each.

21. Find a unit vector perpendicular to each of the vector $2\vec{a} + \vec{b}$ and $\vec{a} - 2\vec{b}$, where $\vec{a} = 3\,\hat{\imath} + 2\hat{\jmath} + 2\hat{k}\ and\ \vec{b} = \hat{\imath} + 2\hat{\jmath} - 2\hat{k}$.

    OR,

    Find the angle between the lines $\vec{r} = (3\,\hat{\imath} + 2\hat{\jmath} - 4\hat{k}) + \lambda(\hat{\imath} - 2\hat{\jmath} - 2\hat{k})$ and $\vec{r} = (5\hat{\jmath} - 2\hat{k}) + \mu(3\,\hat{\imath} - 2\hat{\jmath} + 6\hat{k})$.

22. Mention two conditions for an LPP for which, optimum value is not possible.
23. If A and B are two events such that $P(A) = \frac{1}{4}$, $P(B) = \frac{1}{2}$, $and\ P(A \cap B) = \frac{1}{6}$. Find
    (i) $P($ neither A nor $B)$
    (ii) $P($ A or B exclusively)
24. Two shooters are firing on a target. Probability of hitting the target by the shooter A is ¼ and hitting the target by the shooter B is ½. Find
    (i) $P($ neither A nor $B)$
    (ii) $P($ A or B exclusively)
25. A relation R is defined on a set $A = \{1,2,3\}$. Give the
    (i) Smallest Equivalence Relation
    (ii) Largest Equivalence Relation on the set A.

SECTION C

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

26. If $\vec{a} = \hat{\imath} + \hat{\jmath} + \hat{k}\ and\ \vec{b} = \hat{\jmath} - \hat{k}$, find a vector $\vec{c}$ such that $\vec{a} \times \vec{c} = \vec{b}\ and\ \vec{a}.\vec{c} = 3$.
27. If $\vec{a}$, $\vec{b}$, $\vec{c}$ are three vectors, such that $\vec{a} + \vec{b} + \vec{c}$ =0 and $|\vec{a}| = 2, |\vec{b}| = 3$, $|\vec{c}| = 5$, then find the value of $\vec{a}.\vec{b} + \vec{b}.\vec{c} + \vec{c}.\vec{a}$.
28. If $\vec{a}$, $\vec{b}$, $\vec{c}$ are the position vectors of the vertices A, B and C of the triangle ABC. Show that area of the triangle ABC is $\frac{1}{2}|\vec{a} \times \vec{b} + \vec{b} \times \vec{c} + \vec{c} \times \vec{a}|$. Deduce the condition for points $\vec{a}$, $\vec{b}$, $\vec{c}$ to be collinear.
29. Find the shortest distance between the lines, whose vector equations are

    $\vec{r} = (\hat{\imath} + \hat{\jmath}) + \lambda(2\,\hat{\imath} - \hat{\jmath} + \hat{k})$ and $\vec{r} = (2\,\hat{\imath} + \hat{\jmath} - \hat{k}) + \mu(6\,\hat{\imath} + 3\hat{\jmath} - 3\hat{k})$.

    OR,

    Find the image of the point (1,6,3) in the line $\frac{x}{1} = \frac{y-1}{2} = \frac{z-2}{3}$. Also find the distance of the point from the given line.

30. In a hostel 60% of the students read Hindi newspaper, 40% read English newspaper and 20% read both Hindi and English newspapers. A student is selected at random.
    (i) Find the probability that she reads neither Hindi nor English newspapers.
    (ii) If she reads Hindi newspaper, find the probability that she reads English newspaper.
    (iii) if she reads English newspaper, find the probability that she reads Hindi newspaper.
31. Find the expected value of head, when a coin is tossed three times. Also supply the most probable outcome in this experiment.

SECTION D

This section comprises of long answer type questions (LA) of 5 marks each.

32. A doctor is to visit a patient. From the experience, it is known that the probabilities that he will come by train, bus, scooter or by other means of transport are 3/10, 1/5, 1/10 and 2/5. The probability that he will be late are 1/4 ,1/3 and 1/12,if he comes by train ,bus and scooter respectively but if he comes by other means of transport ,then he will not be late. When he arrives, he is late. What is the probability that he comes by train.

33. Minimize and maximize: $Z = 5x + 10y$

Subject to: $x + 2y \leq 120,$

$x - 2y \geq 10$

$x + y \geq 60$

$x \geq 0, y \geq 0$

34. A relation R is defined in the set N X N as follows:
For all (a, b) and (c, d) belongs to N X N , (a, b) R (c, d) means ad = bc . Prove that R is an equivalence relation in N X N.
Or,
Show that the relation R defined in the set A of all triangles as $R = \{(T_1, T_2): T_1 \text{ is similar to } T_2\}$ is an equivalence relation. Consider three right angled triangles T_1 with sides 3,4,5; T_2 with sides 5,12,13 and T_3 with sides 6,8,10. Which triangle among T_1, T_2 and T_3 are related?

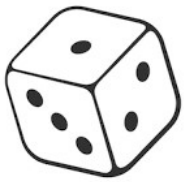
35. Find the shortest distance between two skewed lines $\frac{x+1}{7} = \frac{y+1}{-6} = \frac{z+1}{1}$ and $\frac{x-3}{1} = \frac{y-5}{-2} = \frac{z-7}{1}$

SECTION E

This section comprises of 3 case - study / passage-based questions of 4 marks each with four sub – parts carrying 1 mark each .

Case - Study 1 : Read the following and answer the questions given below.

36. A biased die is tossed and respective probabilities for various faces to turn up are the following :



Face	1	2	3	4	5	6
Probabilities	0.1	0.24	0.19	0.18	0.15	k

Based on the above information answer the following questions

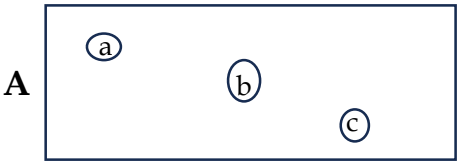
(i) What is the value of k ?

(ii) If a face showing an even number has turned up, then what is the probability that it is the face with 2 or 4?

(iii) What is the probability for $P(2 \leq X < 4)$?

(iv) If the die is not biased and the face showing an even number has turned up, then what is the probability that it is the face with 2 or 4?

37. A binary relation R is defined on a finite set A = {a,b,c},



i.e. R ⊆ A x A then answer following questions:

(i) How many relations are possible in A ?

(ii) Among all possible relations on A, few are equivalence relations? How many equivalence relations are possible on the set A?

(iii) If R1 and R2 are two possible equivalence relations on the set A. Is R1 R2 essentially an equivalence relation?

(iv) Give an example of a relation on A so that it should be reflexive and symmetric but not transitive.

38. The equation of motion of a rocket are $x = 2t\ , y = -4t, z = 4t,$ where 't' is given in seconds and distance is measured in kilometers.

Based on the above information, answer the following:

(i) Specify the path of the Rocket.

(ii) Find the position of the rocket after 10 seconds.

(iii) Find the distance of the rocket from the origin , after 10 seconds

(iv) Find the distance of the Rocket from the line $\vec{r} = (20\,\hat{\imath} - 10\hat{\jmath} \mp 40\hat{k}) + \mu(10\,\hat{\imath} - 20\hat{\jmath} + 10\hat{k})$ after 10 seconds.

DELHI PUBLIC SCHOOL
SAIL TOWNSHIP,RANCHI
QUALIFYING EXAMINATION (2024-25)

Class - XII | **Subject – Economics**
Time – 3 Hours | **Maximum Marks - 80**

General Instructions

i. This Question Paper contains two parts:
- **Part A – Macro Economics (40 marks)**
- **Part B – Indian Economic Development (40 marks)**

ii. Question No. 1 – 10 and 18-27 are very short answer questions carrying 1 mark each.They are required to be answered in one word or one sentence each.

iii. Question No. 11-12 and 28-29 are short answer questions carrying 3 marks each. Answers to them should not normally exceed 60 - 80 words each.

iv. Question No. 13-15 and 30-32 are short answer questions carrying 4 marks each. Answers to them should not normally exceed 80 - 100 words each.

v. Question No. 16–17 and 33-34 are long answer questions carrying 6 marks each. Answers to them should not normally exceed 100-150 words each.

SECTION-A (Macro Economics)

1. "The value of all goods and services can be expressed in monetary units."
On the basis of the given statement, identify the function performed by money: [1]
(a) Medium of exchange
(b) Store of value
(c) Unit of account
(d) Standard of deferred payments

2. For a closed economy, which one of the following is correct? [1]
(a) GDP = GNP (b) GDP > GNP (c) GDP < GNP (d) GDP+GNP = 0

3. Calculate Real GDP, if GDP Deflator = 125 and Nominal GDP = Rs. 15,000 crores. [1]

OR

Net Domestic Fixed Capital Formation + Change in Stock = _____
(Fill in the blank)

4. Read the following statements- Assertion (A) and Reason (R). Choose one of the correct alternatives given below: [1]
Assertion (A): Factor income from abroad is not a part of domestic factor income of India.
Reasons (R): It is not generated within the domestic territory of India.
(a) Assertion (A) is true but Reason (R) is false
(b)Assertion (A) is false but Reason (R) is true
(c) Both (A) and (R) are true and Reason (R) is correct explanation of Assertion (A)
(d) Both (A) and (R) are true but Reason (R) is not the correct explanation of Assertion (A)

5. From the following pair of terms and statements in column I and column II, choose the correct pair of statement. [1]

	Column I		**Column II**
(A)	Expected Obsolescence	(i)	Consumption of fixed capital
(B)	The total addition made to the stock of capital	(ii)	Capital Loss
(C)	The actual addition made to the stock of capital	(iii)	Gross Investment
(D)	Unexpected Obsolescence	(iv)	Net Investment

(a) A-i (b) B-ii (c) C-iii (d) D-iv

6. Sugar is always a Final Good. Defend or refute the statement. [1]

7. Money supply is a _____ concept. [1]

(Choose the correct alternative)

(a) Stock (b) Flow
(c) Deposit (d) Credit

8. When the value of initial deposits are Rs. 500 crores and Legal Reserve Ratio is 10%, then the value of total deposits will be:

(a) 200 crores (b) 2000 crores (c) 5000 crores (d) 500 crores [1]

9. Read the following statements carefully and choose the correct alternative from the following: [1]

Statement 1: All producer goods are capital goods.

Statement 2: Transfer payments are included in the estimation of national income.

(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.

10. Read the following statements carefully and choose the correct alternative from the following: [1]

Statement 1: Real flow is also called Money flow

Statement 2: Households manufacture goods and services in the economy.

(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

11. State the meaning of the following:

(i) Normal Resident (ii) Operating Surplus (iii) Consumer Goods [3]

OR

Mention the situations in which following equations will hold true:

(i) Value of Output is equal to Value Added
(ii) National income at current price = National income at constant price
(iii) Profit = Dividend

12. A farmer grows a bushel of wheat and sells it to a miller for Rs. 400.The miller turns the wheat into flour and then sells the flour to a baker for Rs.800. The baker uses the flour to make bread and sells the bread to the households for Rs. 1200.The households eat the bread. What is the value added at each stage of production? What is the GDP? [3]

13. 'Reserve Ratio and Credit Creation are inversely related.' Do you agree with the given statement? Justify your answer with a suitable numerical example. [4]

OR

If Legal Reserve Ratio is 0.2 and new deposits are Rs. 1,000, explain the process of money creation by commercial banks.

14. (a) What are Externalities? Give an example of a positive externality and its impact on welfare of the people.
(b) 'The growth rate of real GDP is often used as an indicator of the general health of the economy'. Comment. [4]

15. Giving reasons, state whether the following will be included in National Income or not.
(i) Commission on sale of second – hand goods
(ii) Expenditure on advertisement by a firm.
(iii) Purchase of shares in the stock market
(iv) School fees paid by students [4]

16. **(a)** Given the following data, find '**Operating Surplus**' and '**Net Exports**': [6]

Particulars	**(Rs. in Crore)**
Wages and Salaries	2400
National Income	4200
Net factor income from abroad	200
Gross domestic capital formation	1100
Mixed income of self employed	400
Private final consumption expenditure	2000
Net Indirect taxes	150
Government final consumption expenditure	1000
Consumption of fixed capital	100
Profits	500

(b) Rohit purchases a generator for his office. Giving reasons, answer the following questions:
(i) Purchase of a generator by Rohit is an intermediate expenditure.
(ii) Expenditure on the maintenance of the generator is an intermediate expenditure.

OR

(a) Discuss briefly, the circular flow of income in a two-sector economy with the help of a suitable diagram.
(b) State the steps pertaining to the estimation of National Income by Value Added Method.

17. (a) Money acts as a Standard measure of Deferred Payments. Discuss this function of money.
(b) What is Money Supply? What items are included in the M1 measure of money supply? [3+3]

SECTION-B (Indian Economic Development)

18. From the following pair of terms and statements in column I and column II, choose the correct combination. [1]

	Column I		**Column II**
(A)	Capitalist Economy	(1)	Growth with social justice
(B)	Long Period goal	(2)	Means of transport and communication
(C)	Economic infrastructure	(3)	Focus on agricultural growth
(D)	First Five-Year Plan	(4)	Private ownership of the means of production

	A	**B**	**C**	**D**
(a)	**2**	**4**	**1**	**3**
(c)	**3**	**1**	**4**	**2**

	A	**B**	**C**	**D**
(b)	**4**	**1**	**2**	**3**
(d)	**1**	**3**	**2**	**4**

19. During colonial period, estimates of _____ on national income and per capita income were considered very significant. [1]
(Choose the correct alternative)
(a) Dadabhai Naoroji (b) William Digby (c) V.K.R.V. Rao (d) R.C. Desai

20. Read the following statements- Assertion (A) and Reason (R). Choose one of the correct alternatives given below: [1]
Assertion (A): 1921 is regarded as the 'Year of the Great Divide'.
Reasons (R): After 1921, the total population in India never declined.
(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A)
(b) Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A)
(c) Assertion (A) is true but Reason (R) is false.
(d) Assertion (A) is false but Reason (R) is true

21. Read the following statements- Assertion (A) and Reason (R). Choose one of the correct alternatives given below: [1]
Assertion (A): The achievements of India's industrial sector during the first seven plans are impressive indeed.
Reasons (R): The land ceiling policy was adopted to reduce the concentration of land ownership in a few hands.
(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A)
(b) Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A)
(c) Assertion (A) is true but Reason (R) is false.
(d) Assertion (A) is false but Reason (R) is true

22. Identify which of the following indicates Demographic conditions during colonial rule.
(Fill up the blank with correct alternative) **[**1]
(a) High Life Expectancy (b) High Infant Mortality Rate
(c) Extremely high literacy rate (d) Low birth rate

23. _____ is the Chairman of GST Council. [1]
(a) Prime Minister (b) Finance Secretary
(c) Finance Minister (d) Home Minister
(Fill up the blank with correct alternative)

OR

The first five-year plan was launched for a period from _____
(a) 1948 – 1953 (b) 1959- 1964 (c) 1951-1956 (d) 1955-1960

24. _____ was considered as a necessity to reduce foreign dependency and avoid foreign interference. [1]

(a) Equity (b) Discriminatory tariff policy (c) Self Reliance (d) Land Settlement System
(Fill up the blank with correct alternative)

25. The Policy of _____ is another name for Inward Looking Trade Strategy. [1]
(a) Import Promotion (b) Import Substitution
(c) Import Stabilisation (d) None of these
(Fill up the blank with correct alternative)

26. Schedule_____ comprise of industries which would be owned by Public Enterprises only.
(a) A (b) B (c) C (d) None of these [1]
(Fill up the blank with correct alternative)

27. What do you mean by Marketed Surplus? [1]

28. Why was public sector given a leading role in industrial development during the planning period? Explain. [3]

29. Enumerate the drawbacks of the Zamindari system prevalent under the British rule. [3]

OR

Farm subsidies put a huge burden on the government finances, but are necessary for the poor and marginal farmers. Justify the statement.

30. **(a)** Critically appraise some of the shortfalls of the industrial policy pursued by the British Colonial Administration.
(b) Highlight the Salient features of India's Pre-Independence Occupational Structure. [4]

31. **(a)** Mention the good and bad impacts of inward-looking trade strategy. [4]
(b) Why is Modernisation as a planning goal very important?

32. Mention any four components of institutional reforms in Indian Agriculture. [4]

OR

Goals of equity was fully served by abolition of intermediaries in agriculture in the post – independence period of India. Do you agree with the given statement? Support your answer with valid arguments.

33. (a) What were the features of the Industrial Policy of 1956?
(b) Why was Green Revolution implemented and how did it benefit the farmers? [3+3]

OR

(a) What was the two fold motive behind the systematic de- industrialisation effected by the British in Pre- independent India?
(b) Were there any positive contributions made by the British in India? Discuss.

34. **Read the following hypothetical text and answer the given questions:**

The performance of Indian economy during the first seven five year plans was satisfactory if not very impressive. On the eve of independence, India was industrially a backward country. But during the period of first seven five year plans our industries became far more diversified with the stress being laid on the public investments in industrial sector.

The policy of import substitution led to protection of the domestic industries against the foreign producers but we failed to promote a strong export surplus. Although public sector expanded to a large extent but it could not bring desired level of improvement in the secondary sector. Excessive government regulations prevented the natural trajectory of growth of entrepreneurship as there was no competition, no innovation and no modernization on the front of the industrial sector.

Many Public Sector Undertakings incurred huge losses due to operational inefficiencies, red tapism, poor technology and other similar reasons. These PSU's continued to function because it was difficult to close a government undertaking even if it is a drain on the country's limited resources.

So the need for reform of economic policy was widely felt in the context of changing global economic scenario to achieve desired growth in the country.

(I)

(i) Which of the following was not a reason for the public sector to play a major role in the phase of Indian Economic Planning? [1]

(a) Private entrepreneurs lacked sufficient capital for investment.

(b) Government aimed at social welfare.

(c) The market was big enough to encourage private industrialists for investment.

(d) The government wanted to protect the indigenous producers from the foreign competition.

(ii) Inward looking trade strategy aimed at_____. [1]

(iii) State whether the given statement is true or false:. [1]

Mechanisation of the Indian agriculture was one of the causes of Green Revolution in India.

(iv) Read the following statements- Assertion (A) and Reason (R). Choose one of the correct alternatives given below: [1]

Assertion (A): Many Public Sector undertakings incurred huge losses due to operational inefficiencies.

Reasons (R): Red-tapism was one of the reasons for continuation of such enterprises

(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A)

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

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

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

(II)

Mention any two features of Small Scale Industries which aimed to accelerate the industrial growth during the planning period. [2]

DELHI PUBLIC SCHOOL SAIL TOWNSHIP RANCHI

Qualifying Examination

2024-25

Class - XII | **Subject - English Core**

Max. Time – 3 Hrs. | **Maximum Marks - 80**

General Instructions:

- **The Question Paper contains THREE sections-READING, WRITING and LITERATURE.**
- **Attempt questions based on specific instructions for each part.**
- **Adhere to the prescribed word limit while answering.**

SECTION -A : READING SKILLS (22 Marks)

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

(1) **Cloud computing is computing in which large groups of remote servers are networked to allow the centralized data storage and online access to computer services or resources. Clouds can be classified as public, private or hybrid.**

(2) **As a metaphor for the internet, the 'cloud' is a familiar cliché, but when combined with 'computing', the meaning gets bigger and fuzzier. Cloud computing encompasses any subscription based on pay per use service that, in real time over the internet, extends IT's existing capabilities.**

(3) **In a cloud computing system, there's a significant workload shift. Local computers no longer have to do all the heavy lifting when it comes to running applications. The network of computers that make up the cloud handles them instead. Hardware and software demands on the user's side decrease. The only thing the user's computer needs to be able to run is the cloud computing system's interface software, which can be as simple as a Web browser and the cloud's network takes care of the rest.**

(4) **Cloud computing is typically defined as a type of computing that relies on sharing computer resources rather than having local servers for personal device to handle applications.**

(5) **In cloud computing, the word 'cloud' is used as a metaphor for 'the internet', so the phrase cloud computing means 'a type of internet-based computing', where different services -such as servers, storage and applications – are delivered to an organisation's computers and devices through the Internet.**

(6) **Cloud computing can be compared to grid computing, a type of computing where unused processed cycles of all computers in a network are harnessed to solve problems too intensive for any stand-alone machine. The goal of cloud computing is to apply traditional supercomputing or high-performance computing power, normally used by military and research facilities, to perform tens of trillions of computations per second, in consumer-oriented applications such as financial portfolios, to deliver personalised information, to provide data storage or to power large, immersive computer games. It relies on restricting sharing of resources to achieve coherence and economies of scale, similar to utility over a network. At the foundation of cloud computing is the broader concept of converged infrastructure and shared services. To do this, cloud computing uses networks of large groups of servers typically running low-cost PC technology with specialised connections to spread data – processing chores across them. This shared IT infrastructure contains large pools of systems that are linked together. Often, virtualisation techniques are used to maximise the power of cloud computing.**

(7) **It's only in recent years that companies have started renting servers and storage instead of purchasing hardware and running it at huge costs. And with more organisations especially those that rely on India's outsourcing infrastructure transferring some of their IT work onto the cloud, companies such as Tata Consultancy Services (TCS), Infosys, and Wipro have stepped up to facilitate that ship. They have positioned themselves as enablers between owners and renters.**

(8) **A report published by IT research and advisory firm Gartner estimates that in India alone the market for cloud-based services will rise by a third to $557 million this year and more than triple by 2018. Cloud computing will become even more prominent in the coming years, with the predicated rapid, continued growth of major global cloud data centres.**

Based on your understanding of the passage, answer the following questions.

(i) **'Clouds' can be classified as –** **(1 mark)**

(a) external, internal and ambiternal.
(b) public, private and hybrid
(c) external, internal and hybrid
(d) public, private and ambiternal

(ii) **What is the 'significant workload shift' in cloud computing system? Answer in 40-50 words.** **(2 marks)**

(iii) **Cloud computing is comparable to –** **(1 mark)**

(a) Mainframe Computing
(b) Cluster Computing
(c) Hybrid Computing
(d) Grid Computing

(iv) **In cloud computing, the word 'cloud' is used as a _____ for the Internet.** **(1 mark)**

(v) **What is grid computing?** **(1 mark)**

(a) combination of public and private clouds.
(b) connects to multiple end clients so that users can assess apps concurrently.
(c) where unused processed cycles of all computers in a network are harnessed to solve problems.
(d) None of the above options.

(vi) **Who published the report, 'In India alone the market for cloud- based services will rise by a third to $557 million this year and more than triple by 2018.'?** **(1 mark)**

(vii) **Which word from paragraph (6) means exactly the same as ' long-established'.** **(1 mark)**

(a) harnessed
(b) immersive
(c) traditional
(d) processed

(viii) **Identify the word from the given options that means opposite to 'infrastructure'.** **(1 mark)**

(a) derangement
(b) architecture

(c) framework
(d) construction

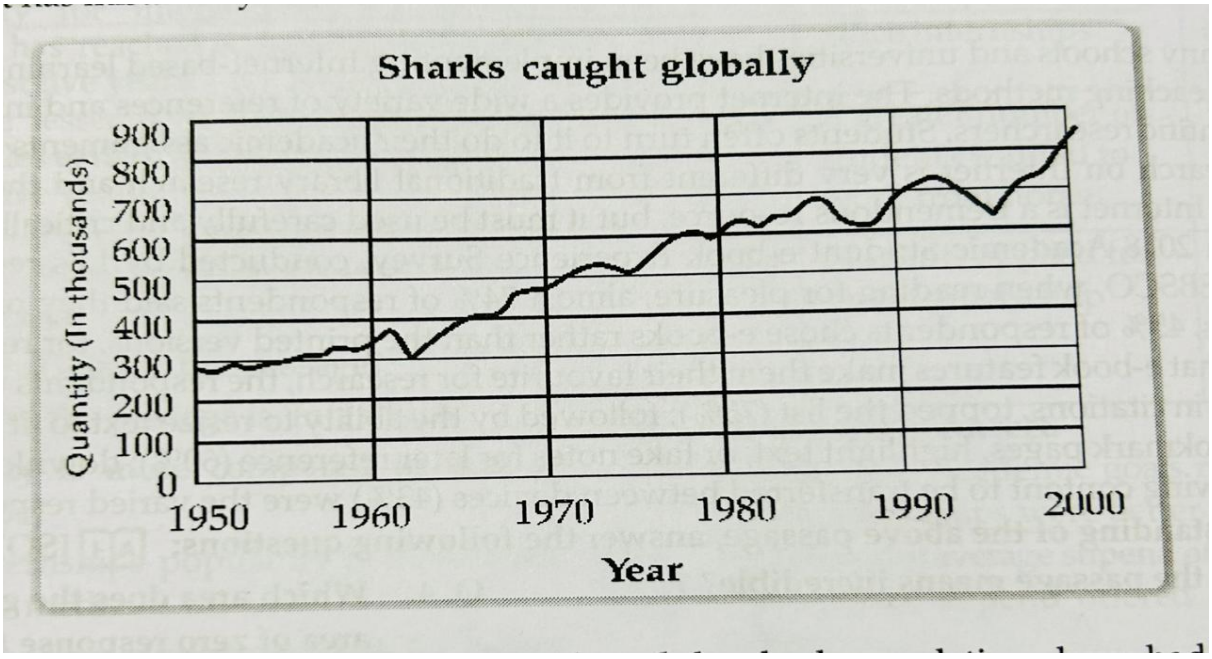
(ix) Cloud computing will become inconspicuous in the coming years. True/False (1 mark)

(x) Provide an appropriate title for the above passage and justify it. Answer in 40-50 words. (2 marks)

2. Read the following passage carefully and answer the questions that follow. (10 Marks)

(1) Andy Dehart is a shark expert and TV presenter who lives in the United States of America. He has had a lifelong interest in sharks and is always trying to look for ways to educate the public about them. Many people think that sharks have little or no intelligence, but Andy points out that recent studies have shown that many shark species possess powerful problem-solving abilities and social skills. "Sharks do not want to attack humans," he asserts. "There is no shark species that eats humans as part of its regular diet. In most shark attack cases, the shark leaves after realizing that it has mistakenly bitten a human and not its intended prey."

(2) In Andy's opinion, all shark fishing should be stopped until the shark populations have had time to grow again. We will then need to do a better job of managing the fishing of sharks. However, even if the direct fishing of sharks is stopped, many will still be killed when they are caught up in the nets of boats fishing for other species of fish.



(3) When Andy was a boy, his father worked for a national oceanic organization, and Andy travelled with him all over the Caribbean. He grew up by the coast and he has been connected with the sea for as long as he can remember. He also lived near one of the best aquariums in America. Andy then went on to build a career working with sharks in an aquarium environment. More recently, he has been involved with television and the making of programmes about the sharks.

(4) Andy and his wife had their first child two years ago. They were amused and amazed to see how useful their work with animals has been useful in bringing up their daughter.

They know how to observe her behaviour and teach her how to do things by rewarding her.

(5) Andy loves sharks and is very passionate about their survival and protection. He feels extremely lucky to have had opportunities working at the National Aquarium and the television station which presents the Nature Channel. He never wastes a moment in either place that could be spent educating people about sharks. He does admit that it is probably not possible for everyone to love sharks as he does. However, he does hope to persuade people personally or through the media, to respect sharks and the critical role they play in our environment. His main objective is to keep spreading awareness that sharks are not dangerous man-eaters but essential creatures in our oceans, as they provide ecological balance and help to control other species.

Based on your understanding of the passage, answer the following questions.

(i) What proves that Sharks may be intelligent? Answer in about 40-50 words. (2 marks)

(ii) Why does Andy believe that Sharks only attack humans by mistake? (1 mark)

(iii) How did Andy's work help him and his wife when bringing up their daughter? (1 mark)

(a) They knew how to teach her things by rewarding her.
(b) They taught her by reprimanding her.
(c) They taught her to observe behaviour of others.
(d) Connection of animals to the daughter's keenness.

(iv) According to the graph, how many sharks were caught in 1990? (1 mark)

(v) Which word in para 5 means the opposite of 'safe'? (1 mark)

(a) Critical
(b) Objective
(c) Balance
(d) None of these

(vi) How will sharks be killed even if fishing of sharks is stopped? (2 marks)

(vii) Which word in the passage means having, showing, or caused by strong feelings or beliefs? (1 mark)

(viii) In the graph given, over the period of five decades, how much increase do we find in the number of sharks caught? (1 mark)

(a) 4,60,000
(b) 5,60,000
(c) 2,60,000
(d) 9,60,000

SECTION – B : CREATIVE WRITING SKILLS (18 Marks)

3. As the Secretary of Kailasha Housing Society, Palam Vihar, Kurnool, draft a notice in not more than 50 words apprising the residents about the suspension of water supply for eight hours (10 am to 6 pm) on 26th of June for cleaning of the water tank. You are Karan Kumar/Karuna Bajaj.
(4 Marks)

4. You are Asma/Ashish, the Head Girl/Head Boy of Apex International School. Your school is going to release the annual magazine shortly. Draft a notice for the notice board of your school in not more than 50 words inviting the budding wordsmiths of your school to submit their write-ups.
(4 Marks)

5. Attempt ANY ONE of two, in about 120-150 words. **(5 Marks)**

A. You are Bharat/Bharati, an IT Professional. You want to raise awareness about the rising incidences of cyber-crimes. Write a letter to the editor of Cyber magazine "Info News", highlighting the issue and suggesting measures to prevent such happenings.

OR

B. As they say, in a democracy, the government is of the people, for the people and by the people. Elections and other political processes are pivotal to the quality of a country's governance. Elections can either greatly advance or set back a country's long-term democratic development. As Ritesh/Raveena draft a letter to the editor highlighting the importance of voting and urging common people to make their vote count in the upcoming Elections.

6. Attempt ANY ONE of two, in about 120-150 words. **(5 Marks)**

A. You are Vipin/Vineeta. You have just visited a glass factory which employs children. You have witnessed the awful condition of the children there and their place of work. You also recount the child labourers engaged in carpet and cracker industry, brick-kilns, road-side restaurants and as domestic helps. In spite of strict laws you find it appalling that many people in educated society want the practice of child labourers to continue to fulfil their selfish motives. Write an article in about 120-150 words advocating a total ban on 'child-labour'.

OR

B. Education doesn't mean only providing degree. Schools play an important role to inculcate moral values in students. Using the following verbal inputs write an article on the topic "Value Education in School." You are Meera/Manoj.

- Education must be value based
- Part of curriculum in school education up to secondary level
- Young boys and girls going astray-reduced to walking computers.
- Material prosperity – only aim of life
- Steps taken in school-assembly – 5 mins. Talk regarding importance of morals and values in life
- Special prizes awarded to most disciplined student, well behaved student, integrity club, guest lectures, etc.

SECTION – C : LITERATURE (40 Marks)

7. Read the given extracts and answer the questions for ANY ONE of the two, given. **(6 Marks)**

A. ……and felt that old
familiar ache, my childhood's fear,
but all I said was, see you soon, Amma,

all I did was smile and smile and smile…..

(i) Select the option that is NOT true about the lack of punctuation at the end of line 1 in the extract.

(a) Creates a sense of continuity and flow that connects the line with the second Line.
(b) Encourages the reader to continue reading seamlessly without any pause.
(c) Creates a sense of anticipation and expectation for the reader
(d) Slows down the flow of emotions.

(ii) The poetess has used the word 'smile' repeatedly in the last line to …..

(a) put on a brave front by hiding her fear behind a smile.
(b) cover up her pain and fear of losing her mother.
(c) Both (a) and (b)
(d) Only (a)

(iii) 'Old familiar ache' and 'my childhood's fear' allude to the trauma that the poetess had undergone during her childhood. True/False

(iv) 'smile and smile and smile…..' is an example of

(a) anaphora
(b) repetition
(c) paradox
(d) dramatic irony

(v) …….. is the author of the above lines.

(vi) What is the speaker's emotional state when smiling at the mother?

(a) confused and disoriented
(b) frightened and disturbing
(c) alarming and unnerving
(d) reassuring and comforting

OR

B. Those who prepare green wars,
wars with gas, wars with fire,
victory with no survivors,
would put on clean clothes
and walk about with their brothers
in the shade, doing nothing.
What I want should not be
confused
with total inactivity.
Life is what it is about;
I want no truck with death.

(i) The types of wars the poet talks about are

(a) verbal wars
(b) technological warfare
(c) nuclear war

(d) war against environment

(ii) 'Have no truck with death' means

(a) will not die of the truck accident
(b) remove poverty and illiteracy
(c) will not drive a truck
(d) have no association or deal with death

(iii) 'Victory with no survivors' is a fine specimen of irony. True/False

(iv) 'Clean clothes' symbolize ……

(v) When the poet says that he does not want total inactivity he simply is trying to imply physical inactivity or outward inactivity and not ……..because he wants the entire humanity to introspect and retrospect their actions.

(vi) The lines are an extract from..

(a) The Roadside Stand
(b) Keeping Quite
(c) Keeping Quiet
(d) My Mother at Sixty-six

8. Read the given extracts and answer the questions for ANY ONE of the two, given. (5 Marks)

A. He said I was unhappy. That made my wife kind of mad, but he explained that he meant the modern world is full of insecurity, fear, war, worry and all the rest of it, and that I just want to escape. Well, who doesn't? Everybody I know wants to escape, but they don't wander down into any third level at Grand Central Station. But that's the reason, he said, and my friends all agreed. Everything points to it. they claimed. My stamp collecting, for example; that's a 'temporary refuge from reality.' Well, maybe, but my grandfather didn't need any refuge from reality; things were pretty nice and peaceful in his days, from all I hear, and he started my collection.

(i) Why did Sam's verdict make Charley's wife 'mad'?

(a) It made it difficult for her to accept that Charley would consult a psychiatrist.
(b) It seemed to suggest to her that she was the cause of Charley's unhappiness.
(c) It made her aware of Charley's delicate state of mind.
(d) It offended her that Charley and Sam collectively accused her.

(ii) Sam's explanation to the reaction of Charley's wife was _____ in nature

(a) critical
(b) aggressive
(c) clarifying
(d) accusatory

(iii) Select the option that signifies the condition of people of the 'modern world' mentioned in the extract.

(1) unsure
(2) lazy

(3) offensive
(4) anxious
(5) afraid

(a) (1) and (3)
(b) (2) and (5)
(c) (2), (3) and (4)
(d) (1), (4) and (5)

(iv) Why didn't Charley's grandfather need refuge from reality?

(a) He was too busy to bother.
(b) He had chosen to deny his reality.
(c) He lived in peaceful times.
(d) He was a very secure person.

(v) Select the option that displays a cause-effect set.

	cause	effect
A.	Charley's stamp collecting	Wandering into the third level

	cause	effect
B.	Everybody wants to escape	Modern world full of insecurity

	cause	effect
C.	Charley's wandering into the third level	Charley's stamp collecting

	cause	effect
D.	Modern world full of insecurity	Everybody wants to escape

OR

B. The dewan followed his orders. He found the right girl from a state which possessed a large number of tigers. Maharaja Jung Jung Bahadur killed five or six tigers each time he visited his father-in-law. In this manner, ninety-nine tiger skins adorned the walls of the reception hall in the Pratibandapuram palace.

(i) Why did the Maharaja get married?

(a) For begetting children
(b) For encroaching the estate of his father-in-law
(c) For going to honeymoon
(d) For killing rest of the tigers

(ii) What was Maharaja's preference for marrying a girl?

(a) She must be tall
(b) She must have blond hair
(c) She must have tigers in her estate
(d) She must have been poor

(iii) Which literary device has been used in the last line?

(a) Transferred epithet
(b) Oxymoron

(c) Pun
(d) Alliteration

(iv) What does the narrator mean by 'Ninety-nine tiger skins adorned the wall'?
(a) The Maharaja had bought ninety-nine tiger skins
(b) The Maharaja had killed ninety-nine tigers
(c) The Maharaja had decorated his palace walls with ninety-nine tiger skins
(d) Both (b) and (c)

(v) Kalki has penned the above lines. True/False

9. Read the given extracts and answer the questions for ANY ONE of the two, given. (7 Marks)

A. M. Hamel went on to talk of the French language, saying that it was the most beautiful Language in the world – the clearest, the most logical; that we must guard it among us and never forget it, because when people are enslaved, as long as they hold fast to their language it is as if they had the key to their prison. Then he opened a grammar book and read us our lesson. I was amazed to see how well I understood it. All he said seemed so easy, so easy!

(i) Which of the following can be attributed to M. Hamel's declaration about the French language?
(a) subject expertise
(b) Nostalgic pride
(c) Factual accuracy
(d) Patriotic magnification

(ii) Read the quotes given below
I. Those who know nothing of foreign languages, know nothing of their own. -- Johann Wolfgang Goethe
II. Language is the road map of a culture. It tells you where its people come from and where they are going. – Rita Mae Brown
III. A poor man is like a foreigner in his own country. – Ali Ibn Abi Talib
IV. The greatest propaganda in the world is our mother tongue, that is what we learn as children and which we learn unconsciously. That shapes our perceptions for life. –Marshal Mcluhan
Choose the option that might best describe M. Hamel's viewpoint.
(a) Option (i)
(b) Option (ii)
(c) Option (iii)
(d) Option (iv)

(iii) "I was amazed to see how well I understood it."
Pick the evidence which explains why Franz found the grammar lesson 'easy' that day.

(iv) Complete the sentence appropriately.
Language holds key of liberation because ……

(v) What suggestion does the speaker give to the listeners?

(vi) M. Hamel, a Prussian, had contributed his forty years of meritorious services to the people of Alsace. True/False

(vii) The above lines are an extract from …….

OR

B. "I will learn to drive a car," he answers, looking straight into my eyes. His dream looms like a mirage amidst the dust of streets that fill his town Firozabad, famous for its bangles. Every other family in Firozabad is engaged in making bangles. It is the centre of India's glass-blowing industry where families have spent generations working around furnaces, welding glass, making bangles for all the women in the land it seems. Mukesh's family is among them. None of them know that it is illegal for children like him to work in the glass furnaces with high temperatures, in dingy cells without air and light; that the law, if enforced, could get him and all those 20,000 children out of the hot furnaces where they slog their daylight hours, often losing the brightness of their eyes. Mukesh's eyes beam as he volunteers to take me home, which he proudly says is being rebuilt.

(i) The simile 'dream looms like a mirage amidst the dust of streets' indicates that Mukesh's dream was: ……

(ii) 'I will learn to drive a car,' he answers, looking straight into my eyes. This sentence highlights that Mukesh was ……

I.	**determined**	**II.**	**valiant**
III.	**ambitious**	**IV.**	**Stern**
V.	**fearless**	**VI.**	**Hopeful**

(a) 1 & 5
(b) 2 & 4
(c) 2 & 5
(d) 3 & 6

(iii) Which of the following statements is NOT TRUE with reference to the extract?
(a) Children work in badly lit and poorly ventilated furnaces.
(b) The children are unaware that it is forbidden by law to work in the furnaces.
(c) Children toil in the furnaces for hours which affects their eyesight.
(d) Firozabad has emerged as a nascent producer of bangles in the country.

(iv) Every other family in Firozabad is engaged in making bangles, indicates that :…….

(v) What efforts can help Mukesh materialize his dream of becoming a car driver?

(vi) The statement, "None of them know that….." highlights that……..

(vii) Mukesh-
(a) belongs to the community of refugees.
(b) has a dream to work as an airplane pilot.

(c) wants to drive a car
(d) lives in the outskirts of Delhi.

10. Answer ANY FOUR of the following five questions, in about 40-50 words. (4x2=8)

(i) Kamala Das has poignantly expressed the pain of separation both literally and metaphorically in "My Mother at Sixty-six." Elucidate.

(ii) Douglas's mother (ironically) thought that Y.M.C.A. was safe for learning to swim. What are your views.

(iii) 'Garbage to them is gold.' Why does the author say so about the ragpickers of Seemapuri?

(iv) 'You realise the true value of a thing only on losing it.' Comment on this statement in the light of the story, 'The Last Lesson.'

(v) What is the 'sadness' that Pablo Neruda refers to in the poem?

11. Answer ANY TWO of the following three questions, in about 40-50 words. (2x2=4)

(i) 'It is easy to judge others and give advice, but much more difficult to apply it to ourselves.' Elaborate with reference to the character of Sam in 'The Third Level.'

(ii) The manner of his (Tiger King's death) is a matter of extraordinary interest. Comment.

(iii) Do you think that the third level was a medium of escape for Charley? Why?

12. Answer ANY ONE of the following two questions, in about 120-150 words. (5 Marks)

A. It could be said that the poem 'Keeping Quiet' presents the poet's philosophy for a different kind of world. If you were asked to highlight elements of Neruda's vision that resonate in your specific social, political and cultural context, which three main ideas would you engage with?

OR

B. Douglas's 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:

Sir
Subject: Negligence on Premises
This is with reference to the incident of near fatal drowning of my son, William on your premises. We were….

13. Answer ANY ONE of the following two questions, in about 120-150 words. (5 Marks)

A. Even today many of us believe in superstitions. An astrologer predicted about 'The Tiger King' that he would be killed by a tiger. He 'killed' one hundred tigers yet was himself 'killed' by a wooden tiger. How did the superstitious belief prevail.

OR

B. Why did Charley think that Grand Central Station was growing like a tree, pushing out new corridors and staircases like roots?

DELHI PUBLIC SCHOOL
SAIL TOWNSHIP, RANCHI
QUALIFYING EXAMINATION (2024-25)

Class - XII **Subject – Fine Art Painting /Graphics**
Time – 2 Hours **Maximum Marks - 30**

General Instructions:
- Section-A: Attempt all Questions (Each Question will carry 1 Mark)
- Section-B: Attempt all Questions (Each Question will carry 2 Marks)
- Section-C: Attempt any two Questions (Each Question will carry 6 Marks)

SECTION-A

Select the right answer from the given options: **[1x8=8]**

1. A. The oldest Rajput painting is_____.
   (1) Chaurpanchshika.
   (2) Love story of Lour Chand.
   (3) Mugdha Nayika.
   (4) Rasamanjari.

B. **Assertion (A):** 'Bharat meets Rama at Chittrakuta' painting was painted by Guman.
Reason (R): This is the most beautiful painting belongs to Kangara sub school.
(1) Both A and R are true and R is the correct explanation of A
(2) Both A and R are true, R is not the correct explanation of A
(3) A is true, but R is false
(4) A is false, but R is true

C. **Assertion (A):** Basohli school emerged due to the sweet union of Pahari folk art and Mughal miniature technique.
Reason (R): Although none of the painters of Basohli sub school were from the Mughal court.
(1) Both A and R are true and R is the correct explanation of A
(2) Both A and R are true, R is not the correct explanation of A
(3) A is true, but R is false
(4) A is false, but R is true

D. Mark True or False ?
(1) Anand Coomar Swami was the first Art historian who scientifically classified Rajasthani painting in his book titled Rajput Painting 1916.
(2) In his 1968 article on the Pahari painting, B. N. Goswamy revealed that the style of these paintings depended not on the region but on the family of Pahari painters. He emphasized the role of family networks in shaping artistic styles.

E. **Assertion (A):** Love and devotion of the divine couple are shown in the painting.
Reason (R): The painting is based on the Rasikapriya poetry of Kalidasa.
(1) Both A and R are true and R is the correct explanation of A
(2) Both A and R are true, R is not the correct explanation of A
(3) A is true, but R is false
(4) A is false, but R is true

F. **Assertion (A):** Female beauty is the most important feature of Kishangarh sub school.
Reason (R): Both the patron and painters of the Kishangarh school were worshipers of female beauty.

(1) Both A and R are true and R is the correct explanation of A
(2) Both A and R are true, R is not the correct explanation of A
(3) A is true, but R is false
(4) A is false, but R is true

G. Match the columns and choose the correct answer from options given below.

(1) Nimat- Nama	(a) The book of ritual
(2) Ragmala	(b) Book donation (distribute Books)
(3) Kalapasutra	(c) Book of delicacies.
(4) Sastradana	(d) Necklace of Musical modes.

H. **Assertion (A):** Manuscript. (Manu – means man made, and script- means writing.)
Reason (R): Calligraphy is the art or practice of writing letters and words in a decorative style.

(1) Both A and R are true and R is the correct explanation of A
(2) Both A and R are true, R is not the correct explanation of A
(3) A is true, but R is false
(4) A is false, but R is true Reason (R)

SECTION-B :

(Short answer type questions)

The answer to this question is expected around 80 to 100 words [2x5=10]

2. In the same scene happiness, respect for elders, sacrifice of own comforts for others. Forgiveness is shown.
Name of the artist and medium of painting.
Explain the painting, based on the above statement.

OR

What were the Mughal's influences on Rajasthani school miniature painting?

3."Beauty in the depiction of women, is the chief achievement of this school".
Name the school, and evaluate the aesthetic grandeur of this painting.
Why this painting is called (Bani – Thani)

OR

Evaluate the significant role of the artist Nehal Chand & Raja Sawant Singh. In the evolution of Rajput art of miniature painting in context of his famous painting.

4. Describing the rural and urban background the painting from Kangra school depicts the people of Gokul moving towards the prosperous Vrindavan .
Identify the painting and write the title and name of the painter.
Describe the compositional arrangement of this painting.

OR

Write a short note on the Salient features of Pahari School.

5. Write short note on Pala (Eastern) India miniature painting.

OR

Write short note on the Jain (Western) Indian miniature painting.

6. Why do you like or dislike the Rajasthani School of Art?

OR

How did the central India miniature painting evolved?

SECTION-C

Attempt any two questions from the given options (Long answer type questions)
An answer to this question is expected in around 200 words [6x2=12]

7. In this painting, Radha and Krishna has been depicted symbolically in the form of the human Soul and God. The sub school of this painting is Bikaner. The painting shows two episodes of love and devotion of the divine couple.
   (1) Identify the painting and its artist.
   (2) Explain the subject matter in brief.
   (3) Describe compositional arrangement.

8. A refined and purified form of Indian traditional art is known as the Rajasthani School of art.
   (1) Appreciate the role of Mewar in the Rajasthani School of art through the painting.
   (2) Based on the above statement, explain some important characteristics of the Rajasthani School of art. (Any Six)

9. In the Basholi School, the coordination of the ornamental form of nature and the elements of folk art are seen together, which was filled with reverence and devotion by the painters of Basholi by filling them with the colour of divine and selfless love .
   (1) From your course of study identify the painting and name of the painter.
   (2) Describe the artistic features of the painting in your own words.
   (3) Write a short note of the origin and development of the Pahari School of Art.

DELHI PUBLIC SCHOOL
SAIL TOWNSHIP, RANCHI
QUALIFYING EXAMINATION (2024-25)

Class - XII | **Subject – Geography**
Time – 3 Hours | **Maximum Marks - 70**

GENERAL INSTRUCTIONS:
1. This question paper contains **32**questions. **All** questions are c**ompulsory**.
2. This question paper is divided into **five** sections. **Sections-A, B, C, D and E.**
3. ***Section A*** - Question number **1 to 20** are Multiple Choice type questions carrying 1 mark each.
4. ***Section B*** **-** Question number **21 and 22** are Source based questions carrying 3 marks each.
5. ***Section C*** - Question number **23 to 25** are Short Answer type questions carrying 3 marks each. Answer to these questions shall be written in 80 to 100 words.
6. ***Section D*** **-** Question number **26 to 30** are Long Answer type questions carrying 5 marks each. Answer to these questions shall be written in 120 to 150 words.
7. ***Section E*** **-** Question number **31 and 32** are Map based questions.

SECTION – A
(Q. Nos. 1 to 20 are Multiple Choice Questions.)

1. Who among the following defined "Human geography is the study of the changing relationship between the unresting man and the unstable earth"? [1]
   (A) Ratzel
   (B) Paul Vidal de la Blache
   (C) Ellen C. Semple
   (D) Griffith Taylor

2. Which one of the following is not an approach in human geography? [1]
   (A) Areal differentiation
   (B) Spatial organisation
   (C) Regional analysis
   (D) Quantitative revolution

3. Consider the following and choose the correct answer with the help of given options. [1]

Sub-fields of Human Geography	Interface with Sister Disciplines of Social Sciences
I. Geography of Leisure	1. Women's Studies
II. Gender Geography	2. Sociology
III. Geography of Marketing	3. Epidemiology
IV. Medical Geography	4. Economics

Options:

	I	**II**	**III**	**IV**
(A)	2	1	4	3
(B)	2	3	4	1
(C)	4	3	2	1
(D)	4	1	2	3

4. Consider the following statements and choose the correct answer with the help of given options. [1]

I. The term population distribution refers to the way people are spaced over the earth's surface.

II. Ninety per cent of the world population lives in about twenty per cent of its land area.

Options:

(A) Both the statements are true.

(B) Only statement I is true.

(C) Only statement II is true

(D) Both the statements are wrong**.**

5. Who said about the population of Asia that "Asia has many places where people are few and few place where people are very many"? [1]

(A) Ralph Waldo Emerson

(B) George B. Cressey

(C) Frank G. Cressey

(D) Frances Babcock

6. The first four most populous countries of the world are [1]

(A) China, India, U.S.A. and Indonesia

(B) China, India, U.S.A. and Brazil

(C) China, India, U.S.A. and Nigeria

(D) China, India, Indonesia and Brazil

7. Two statements are given below. They are Assertion (A) and Reason (R). Read both the statements carefully and choose the correct option. [1]

Assertion (A): The mountains zones in the Himalayas are scarcely populated.

Reason (R): The mountainous and hilly areas facilitate the development of transport network.

Options:

(A) (A) is correct, but (R) is false.

(B) (A) is false, but (R) is correct.

(C) Both (A) and (R) are correct and (R) is the correct explanation of (A).

(D) Both (A) and (R) are correct and (R) is not correct explanation of (A).

8. Which one of the following is the most populous state of India? [1]

(A) Bihar

(B) Uttar Pradesh

(C) West Bengal

(D) Maharashtra

9. Which one of the following is the largest linguistic group of India**?** [1]

(A) Sino – Tibetan

(B) Austric

(C) Indo – European

(D) Dravidian

10. Consider the following statements and choose the correct answer with the help of given options. [1]

Statement I: Density of population is expressed as number of persons per unit area.

Statement II: Density of population does not help in getting a better understanding of the spatial distribution of population in relation to land.

(A) Only statement I is correct

(B) Only Statement II is correct

(C) Both the statements are correct, and statement II correctly explains statement I

(D) Both the statements are correct but not related with each other

11. The population of India according to their economic status is divided into [1]
(A) Main workers, Marginal workers and Non-workers
(B) Marginal workers, Household industrial workers and Non-workers
(C) Non-workers, Agricultural labourers and Marginal workers
(D) Cultivators, Main workers and Marginal workers

12. Which of the following states has the highest percentage of rural population? [1]
(A) Bihar
(B) Uttar Pradesh
(C) Arunachal Pradesh
(D) Himachal Pradesh

13. Choose the correct pair from the following: [1]
(A) Industrial town - Madurai
(B) Educational Town - Varanasi
(C) Mining Town - Amritsar
(D) Commercial Town - Digboi

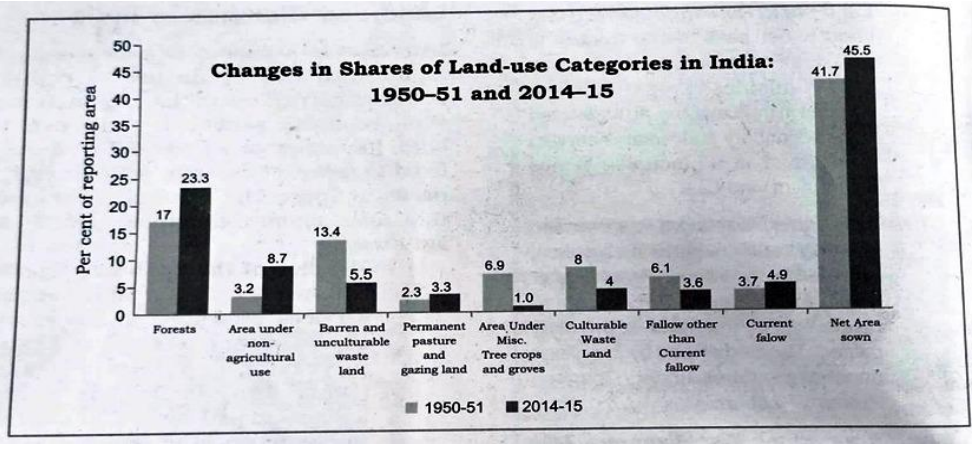
14. Which of the following is an example of 'Garrison Cantonment town'? [1]
(A) Pilani
(B) Singrauli
(C) Satna
(D) Ambala

15. According to census 2011, which of the following depicts the percentage of urban population of India? [1]
(A) 31.16 per cent
(B) 33.16 per cent
(C) 25 per cent
(D) 32 per cent

16. Which of the following areas of our country are deficient in rainfall and are drought prone? [1]
(A) North- eastern states
(B) Deccan Plateau
(C) Gangetic Plain
(D) Brahmaputra valley

17. Which of the following group of states uses the highest amount of ground water? [1]
(A) Tripura, Maharashtra and Gujarat
(B) Gujarat, Uttar Pradesh and Maharashtra
(C) Chhattisgarh, Odisha and Kerala
(D) Punjab, Rajasthan and Tamil Nadu

Study the given figure carefully and answer the Q. Nos. 18 to 20.



18. Which of these categories has recorded an increase in area from 1950-51 to 2014-15? [1]
(A) Barren and unculturable waste land
(B) Culturable waste land
(C) Current fallow
(D) Fallow other than current fallow

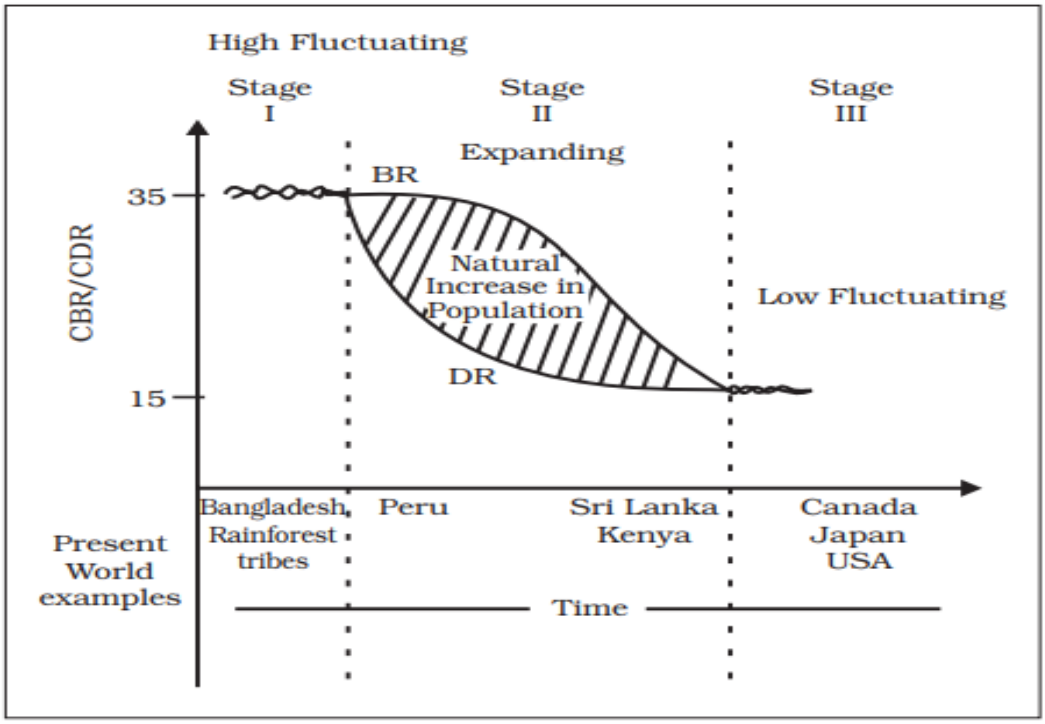
19. Any land which is left fallow for more than five years is included in which category of land-use? [1]
(A) Current fallow
(B) Culturable waste land
(C) Fallow other than current fallow
(D) Net area sown

20. Why is the rate of increase highest in case of area under non-agricultural uses? [1]
(A) Due to variability of rainfall
(B) Due to use of culturable waste land
(C) Due to the changing structure of Indian economy
(D) Due to increase in the demarcated area

SECTION - B

(Q. Nos. 21 and 22 are Source Based Questions.)

21. **Study the given figure carefully and answer the questions that follow:** [3]



Demographic Transition Theory

(21.1) What does the transition from high fluctuating stage to low fluctuating stage indicate? [1]

(21.2) How does the natural increase in population occur, as per the graph? [1]

(21.3) In which stage of Demographic Transition, population explosion took place? [1]

22. **Read the given passage carefully and answer the questions that follow:** [3]

Settlements vary in size and type. They range from a hamlet to metropolitan cities. With size, the economic character and social structure of settlements changes and so do its ecology and technology. Settlements could be small and sparsely spaced; they may also be large and closely spaced. The sparsely located small settlements are called villages, specialising in agriculture or other primary activities. On the other hand, there are fewer but larger settlements which are termed as urban settlements specialising in secondary and tertiary activities. The basic differences between rural and urban settlements are as follows:

- The rural settlements derive their life support or basic economic needs from land based primary economic activities, whereas, urban settlements, depend on processing of raw materials and manufacturing of finished goods on the one hand and a variety of services on the other.
- Cities act as nodes of economic growth, provide goods and services not only to urban dwellers but also to the people of the rural settlements in their hinterlands in return for food and raw materials. This functional relationship between the urban and rural settlements takes place through transport and communication network.
- Rural and urban settlements differ in terms of social relationship, attitude and outlook. Rural people are less mobile and therefore, social relations among them are intimate. In urban areas, on the other hand, way of life is complex and fast, and social relations are formal.

(22.1) How is rural settlement different from urban settlement? [1]

(22.2) 'Cities act as nodes of economic growth.' Justify the statement. [1]

(22.3) Social relations are formal in urban areas in comparison to rural areas. Give one reason for the same. [1]

SECTION C
(Q. Nos. 23 to 25 are Short Answer Type Questions.)

23. (a) Evaluate the dualisms that exist in Geography. [3]

OR

(b) How is 'Naturalisation of Humans' different from 'Humanisation of Nature'? [3]

24. Explain any three push factors that influence the migration of population in the world. [3]

25. (a) How have the modern towns developed in India? Explain. [3]

OR

(b) Explain the factors and conditions which are responsible for having different types of rural settlements in India. [3]

SECTION - D
(Q. Nos. 26 to 30 are Long Answer Type Questions.)

26. Analyse the economic, social and cultural factors affecting the distribution of population in the world. [5]

27. (a) Examine the different aspects of the growth of population in India during 1901-1921 and 1921-1951. [5]

OR

(b) "There are regional variation in population growth in Indian states and Union Territories". Analyse the statement. [5]

28. (a) "Dependence on erratic monsoon and lack of commercialisation are the major problems of Indian agriculture". Explain the statement. [5]

OR

(b) How vast underemployment, constraints of financial resources and indebtedness are the major problems of Indian agriculture? [5]

29. (a) What are the important strategies for agricultural development followed in the post-independence period in India? [5]

OR

(b) Explain two types of rainfed farming on the basis of adequacy of soil moisture during cropping season. [5]

30. "There is high demand of water for irrigation in agricultural sector in India." Justify the statement. [5]

SECTION - E

(Q. Nos. 31 and 32 are Map Based Questions.)

31. On the given political map of the world, seven geographical features have been marked as **A, B, C, D, E, F and G**. Identify any **FIVE** correctly with the help of the following information and write their correct names on the lines marked near them. [5]

(A) An area of subsistence gathering in North America.
(B) A major area of nomadic herding in Asia
(C) A major area of commercial livestock rearing in South America.
(D) A major area of extensive commercial grain farming in Africa
(E) A major area of mixed farming in North America
(F) An area of subsistence gathering in Asia
(G) A major area of nomadic herding in Africa

32. Locate and label any **FIVE** of the following geographical features on the given political outline map of India with appropriate symbols: [5]

(A) The state with lowest population density
(B) The state with highest population density
(C) State leading in the production of rice
(D) State leading in the production of sugarcane
(E) State leading in the production of jute
(F) State leading in the production of coffee
(G) State leading in the production of tea

Map for Q. No. 31

Map for Q. No. 32

DELHI PUBLIC SCHOOL
SAIL TOWNSHIP, RANCHI
QUALIFYING EXAMINATION (2024-25)

Class - XII **Subject – History**
Time – 3 Hours **Maximum Marks- 80**

General Instructions:

i. Question paper comprises five Sections – A, B, C, D and E. There are 34 questions in the question paper. All questions are compulsory.
ii. Section A – Question 1 to 21 are MCQs of 1 mark each.
iii. Section B – Question no. 22 to 27 are Short Answer Type Questions, carrying 3 marks each. Answer to each question should not exceed 80-100 words.
iv. Section C - Question no 28 to 30 are Long Answer Type Questions, carrying 8 marks each. Answer to each question should not exceed 300-350 words.
v. Section D – Question no.31 to 33 are Source based questions with three sub questions and are of 4 marks each.
vi. Section-E - Question no. 34 is Map based, carrying 5 marks that includes the identification and location of significant test items. Attach the map with the answer book.
vii. There is no overall choice in the question paper. However, an internal choice has been provided in few questions. Only one of the choices in such questions have to be attempted.
viii. In addition to this, separate instructions are given with each section and question, wherever necessary.

SECTION - A

1. Who was the first person to decipher Ashokan Insritptions
   A. Ashoka
   B. B. B. Lal
   C. James princeps
   D. Rakhal Das Banerjee

2. Which of the following rulers were identified through the names derived from their mother
   A. Pandavas
   B. Kouravas
   C. Kushanas
   D. Shatavahanas

3. Which of the following statement is not correct?
   A. Most Ashokan inscriptions were in the Prakrit language.
   B. Chandragupta II was the founder of Mauryan Empire.
   C. Many Kushana rulers adopted the title 'Devaputra'.
   D. An Agrahara was a land granted to Brahmana.

4. **Read the following statements and identify the correct answer**

I. It was walled

II. It was smaller but higher part of the settlement

III. It was most probably used for public purposes

A. Lower town

B. Palace town

C. Citadel

D. Middle town

5. Identify the character of Mahabharata with the help of the following information.

- Belonged to the Nishada clan
- Son of a chief
- Gave his thumb as a Fees to Dronacharya

A. Hidumba

B. Karna

C. Radheya

D. Eklavya

6. V. S. Sukhthanthar was a scholar in

A. English

B. Hindi

C. Sanskrit

D. Tamil

7. Which one of the following aspects describes the meaning of 'Tirthankaras' in Jainism?

A. Supreme Being who is the incarnation of God

B. Those who guide men and women across the river of existence

C. Those who follow the path of Vedanta asceticism

D. Those who know the ultimate truth and dharma

8. Which among the following was called as Megan during the Harappan period?

A. Meluhha

B. Behrain

C. Oman

D. Dilmun

9. Which of the following cities of the Harappan Civilisation was a centre of foreign trade via sea?

A. Kotdiji

B. Kalibangan

C. Lothal

D. Chanhudaro

10. Who among the following was the composer of 'Prayaga Prashasti'?

A. Kalidasa

B. Kalhana

C. Harisena

D. Banabhatta

11. Consider the following statements and select the correct one.
    I. Endogamy is the form of marriage within the same family unit
    II. Exogamy is the form of marriage outside the family unit
    III. patriliny is the practice in which one man has several wives
    IV. Matriliny is the practice in which one women has several husbands
    A. Only I is correct
    B. I and II are correct
    C. II and III are correct
    D. III &IV are correct

12. **Assertion (A):**Agni was the God of fire in the Vedic tradition
    Reason (R): Therefore offerings were made to agni so that in form of smoke they would reach the Gods living in the sky and invoke their blessings.
    Codes
    A. Both A and R are true and R is the correct explanation of A
    B. Both A and R are true, but R is not the correct explanation of A
    C. A is true, but R is false
    D. A is false, but R is true

13. Identify the following figure and select the correct answer

    A. Priest king
    B. Proto Shiva
    C. The dancing girl
    D. King Priest

14. **Assertion (A):** The great bath has changing rooms besides it
    Reason (R): It was a religious place as mentioned in the dharma shastra
    Codes
    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

15. Which one of the following pairs is incorrectly matched?
    A. Magadha -Most powerful Mahajanapada
    B. Gahapati -Head of the house
    C. Dipavamsa -Budhist text
    D. Vinaya Pitaka -Jaina Text

16. In which of the following countries was "Dipavamsa" written?
    A. India
    B. Srilanka
    C. Nepal
    D. China

17. **Read the following information and identify the specialists .**
    I. They are the specialists in ancient plant remains.
    II. They tried to study and understand the Harappans subsistence strategies through charred grains and plant remains.
    III. They try to recognise the subsistence strategies of the harappan people
    A. Archaeo-Botanist
    B. Archaeo-Zoologist
    C. AnthroArcheologists
    D. Archaeo-Geologists

18. Which century is often regarded as a major turning point in early Indian History and is an era associated with early states, cities etc?
    A. Fifth Century BCE
    B. Sixth Century BCE
    C. Eight Century CE
    D. Sixth Century CE

19. Select the correct statements
    I. Taxila was famous for its goldmines
    II. Arthashastra was written by Kautilya
    III. Mahavira and Buddha belonged to Ganas
    IV. Brahmi and Kharosthi scripts are not deciphered till date
    A. Only II is correct
    B. Both II and IIIare corrct
    C. Only IV is correct
    D. Both II and IV are correct

20. **Assertion (A):**Very large statues of Kushana rulers have been found from many places
    Reason (R): The Kushana rulers considered themselves as sons of God.
    Codes
    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

21. Select the most important deities mentioned in the hymns of the Rigveda
    A. Agni, Indra, Soma
    B. Agni, Ushas, Rudra
    C. Agni, Surya, Varuna
    D. Agni, Yama,Vishnu

SECTION – B

22. List the specialities of the Harappan script

23. What do you mean by Numismatics? How has it helped historians to in the reconstruction of the past?

24. How was the fate of Amaravati Stupa different from than that of the Sanchi Stupa .

25. The land grand of Prabhavati Gupta is considered as an exceptional case .Why?

26. Describe the salient features of MahaJanapadas

27. Why Mahabharata is considered as a dynamic text?

SECTION –C

28. How valuable are Inscriptions are as a source of History considering the time period between sixth century BCE to Six century CE.?Describe the limitations of the inscriptional evidences .

29. Explain the structure of Stupa. Why do you think they were built?

30. Describe the contribution of John Marshall, Director General of ASI to Indian archaeology and History.

SECTION - D

31. Read the given passage carefully and answer the questions that follow

Verses from the Upanishads

Here are two verses from the Chhandogya Upanishad, a text composed in Sanskrit c. sixth century BCE:

The nature of the self

This self of mine within the heart is smaller than paddy or barley or mustard or millet or the kernel of a seed of millet.

This self of mine within the heart is greater than the earth, greater than the intermediate space, greater than heaven, greater than these worlds.

The true sacrifice

This one (the wind) that blows, this is surely a sacrifice… While moving, it sanctifies all this; therefore, it is indeed a Sacrifice.

i. When were the given verses composed? [1]
ii. Identify the Upanishad from which the given verse is taken from. [1]
iii. Many ideas are found in the Upanishads. Mention any of its two ideologies. [2]

32. Read the following passage carefully and answer the questions that follow .

A Tiger-Like Husband

This is a summary of a story from the Adi Parvan of the Mahabharata :

The pandavas had fled into the forest .They were tired and fell asleep ;only Bhima, the second pandava ,renowned for his powers, was keeping watch. A man-eating rakshasa caught the scent of of the pandavas and sent his sister Hidimba to capture them. She fell in love with Bhima ,transformed herself into a lovely maiden and proposed to him .He refused .Meanwhile ,the rakshasa arrived and challenged Bhima to wrestling match .Bhima accepted the challenge

and killed him. The others woke up hearing the noise. Hidimba introduced herself, and declared her love for Bhima . She told Kunti : " I have forsaken my friends ,my dharma and my kin; and good lady,chosen your tiger like son for my man…whether you think me fool, or your devoted servant ,let me join you ,great lady with your son as my husband "
Ultimately Yudhishtira agreed to the marriage on condition that they would spent the day together but that Bhima would return every Night . The couple roamed all over the world during the day. In due course Hidimba gave birth to a rakshasa boy named Ghadotkacha . Then the mother and son left the Pandavas . Ghatotkacha promised to return to the Pandavas whenever they needed him Some historians suggest that the term rakshasa is used to describe people whose practices differed from those laid down in Brahmanical texts .

i) Where is the story taken from? [1]
ii) How is this story a unique example of exogamy? [1]
iii) How did Hidimba and Yudhistira interpret dharma in their context? [2]

33. **Read the given passage carefully and answer the questions that follow.**

The Anguish of the King

When the King Devanampiya Piyadassi had been ruling for eight years, the (country of the) Kalingas (present day coastal odisa) was conquered by him . One hundred thousand mem were deported and a hundred thousand were killed and many more died.
After that, now that (the country of) the Kalingas has been taken, Devanampiya (is devoted),to an intense study of Dhamma ,to the love of Dhamma and to instructing (the people) in Dhamma . This is the repentance of Devanampiya on account of his conquest of the (country of the) Kalingas

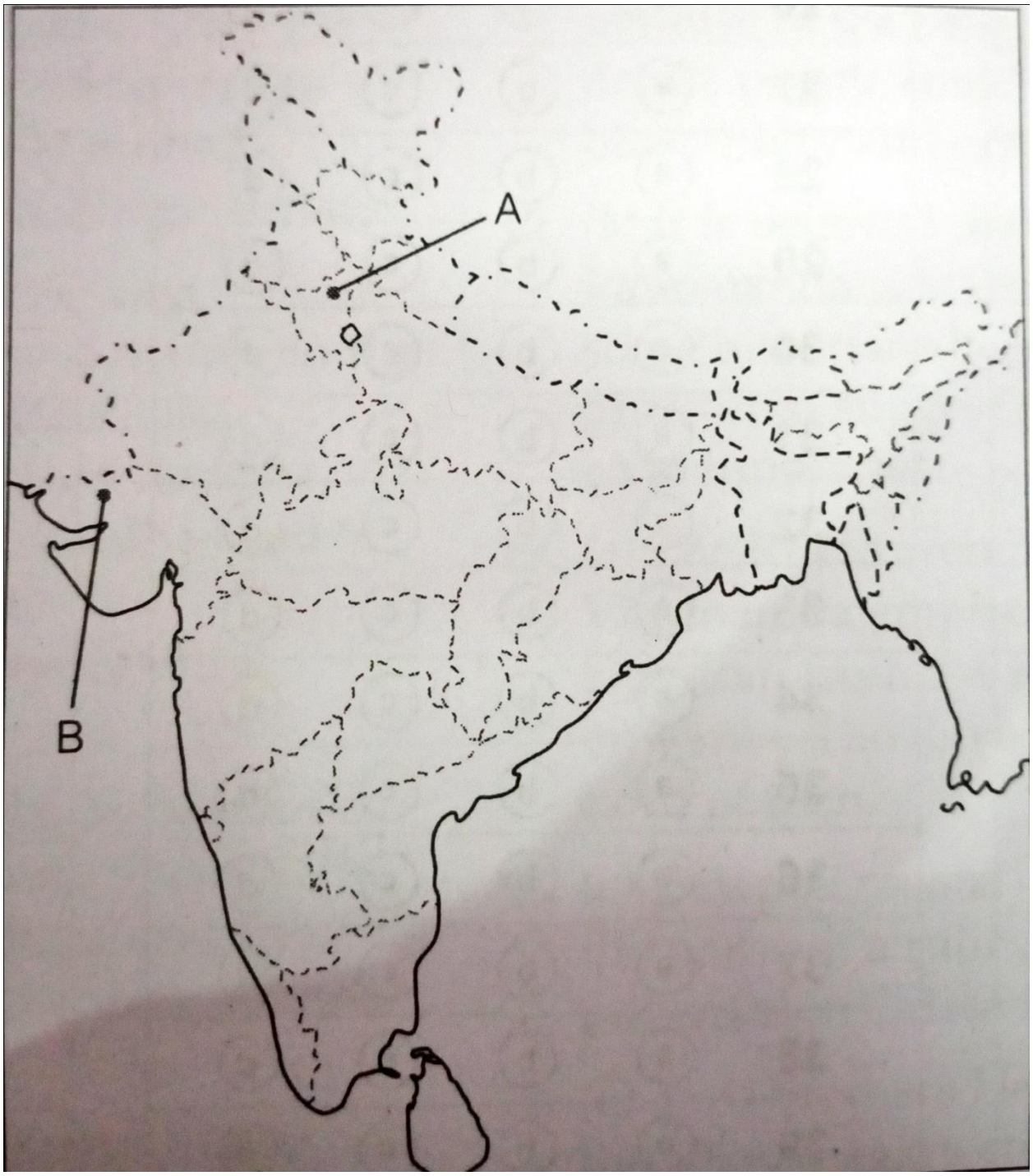
For this considered very painful and deplorable by Devanampiya that ,while one is conquering an unconquered (country) slaughter ,death and deportations of people (take place) there .

i) Who was called Devanampiya Piyadassi"? [1]
ii) Which dynasty did he belong to [1]
iii) Where did the war happen what was its effects on Devanam piyadassi? [2]

SECTION - E

34. **Map based question**

34. (A) On the given map of India Identity the major Harappan sites and write in the map itself
34. (B) On the same map locate and label the following places
i. The greatest of all Mahajanapathas
ii. The place where Mahatma Buddha got Enlightenment
iii. The place where Begams of Bhopal preserved a great Stupa


A
B

DELHI PUBLIC SCHOOL

SAIL Township, Ranchi

QUALIFYING EXAMINATION 2024

Class: XII **Max Marks: 70**

Subject: Informatics Practices **Time: 3 Hrs.**

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General Instructions:

- This question paper contains five sections, Section A to E.
- All questions are compulsory.
- Section A has 18 questions carrying 01 mark each, Total: **18 marks**
- Section B has 07 Very Short Answer type questions carrying 02 marks each, Total: **14 marks**
- Section C has 05 Short Answer type questions carrying 03 marks each, Total: **15 marks**
- Section D has 02 questions carrying 04 marks each, Total: **8 marks**
- Section E has 03 questions carrying 05 marks each, Total: **15 marks**
- All programming questions are to be answered using Python Language only.

==========

Section-A

*[Attempt all questions, Total **18X1=18 Makrs**]*

1. **Point out the correct result of the given code?:** [1]

```
x = {1: "Train", 2: "Car", 3: "Bus"}
for i in x:
        print(x[i] , ":", i)
```

[a]	1: Train 2: Car 3: Bus	**[b]**	1: Bus 2: Car 3: Train	**[c]**	Train: 1 Car: 2 Bus : 3	**[d]**	Bus : 1 Car: 2 Train: 3

2. **Find the right output:** **[**1]

```
import pandas as pd
import numpy as np
data = np.array([94,76,88])
s = pd.Series(data, index=[1,2,3])
s1=s.rename(index={1:'a', 2:'b', 3:'c'}, inplace=False)
print(s)
print(s1)
```

[a]	**[b]**	**[c]**	**[d]**
1 94 2 76 3 88 dtype: int64 none	1 94 2 76 3 88 dtype: int64 a 94 b 76 c 88	none a 94 b 76 c 88 dtype: int64	a 94 b 76 c 88 dtype: int64 1 94 2 76 3 88

	dtype: int64		dtype: int64

3. **The output of the following code is:** [1]

```
x={'a': “Asia”, 'b': ”Britain“, 'c': “Canada” , 'd': “Denmark”}
import pandas as pd
s = pd.Series(x)
print (s)
```

[a]	**[b]**	**[c]**	**[d]**
a Asia b Britain c Canada d Denmark	0 Asia 1 Britain 2 Canada 3 Denmark	‘a’ Asia ‘b’ Britain ‘c’ Canada ‘d’ Denmark	All (a, b, c)

4. **See this dictionary functions and pick the output:** [1]

```
import numpy as np
l1=[[1,2,3],[4,5,6]]
l2=[[7,8,9],[10,11,12]]
a1=np.array(l1)
a2=np.array(l2)
print(np. concatenate((a1, a2), axis=1))
```

[a]	**[b]**	**[c]**	**[d]**
[[7 8 9 1 2 3] [10 11 12 4 5 6]]	[[1 2 3 7 8 9] [4 5 6 10 11 12]]	[[7 8 9] [10 11 12] [1 2 3] [4 5 6]]	[[1 2 3] [4 5 6] [7 8 9] [10 11 12]]

5. **Find the correct output of the following code:** [1]

```
import pandas as pd
s1 = pd.Series([1,2,3,4])
s2 = pd.Series([11,12,13,14])
print(s2//s1)
```

[a]	**[b]**	**[c]**	**[d]**
0 11 1 6 2 4 3 3 dtype: int64	0 11.000000 1 6.000000 2 4.333333 3 3.500000 dtype: float64	0 0.090909 1 0.166667 2 0.230769 3 0.285714 dtype: float64	0 0 1 0 2 0 3 0 dtype: int64

6. **Find the correct output of the following code:** [1]

```
lst=[10,30,50,40,20]
lst.sort(reverse=False)
print(lst)
```

[a] [10 20 30 40 50] **[b]** [50, 40, 30, 20, 10] **[c]** [10, 20, 30, 40, 50] **[d]** [50 40 30 20 10]

7. **Using drop() function over a value of a Series, the value:** **[**1]

[a] Is Returned to another object **[b]** Remains in the Series

[c] Both are wrong **[d]** Both are correct

8. **Find the correct answer of the following code:** [1]

```
import numpy as np
L=[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12]
ar = np.array(L)
nr = ar.reshape(4, 3)
```

print(nr)

[a]	**[b]**	**[c]**	**[d]**
[[1 2 3] [4 5 6] [7 8 9] [10 11 12]]	[[1 2 3 4] [5 6 7 8] [9 10 11 12]]	[[12 11 10 9] [8 7 6 5] [4 3 2 1]]	[[12 11 10] [9 8 7] [6 5 4] [3 2 1]]

9. **Find the correct output:** [1]

```
import pandas as pd
s=pd.Series(data=[10,20,30,40], index=['a', 'b', 'c', 'd'])
print(s[2])
print(s['b'])
print(s.loc['b'])
print(s.iloc[2])
```

[a]	**[b]**	**[c]**	**[d]**
20 20 20 30	20 30 30 20	30 20 20 30	20 30 20 30

10. **_____ is the output of the following code:** [1]

```
import pandas as pd
Marks=pd.Series({'Rahul':84,'Aarush':78,'Shobhit':85, 'Krish':90})
print(Marks>85)
```

11. **Write the output of the following code:** [1]

```
import pandas as pd
a=pd.Series([78,45,89,98])
b=pd.Series([67,87,90])
student={"English":a, "Hindi":b}
df=pd.DataFrame(student)
print(df)
```

[a]

	English	Hindi
0	78	67.0
1	45	87.0
2	89	90.0
3	98	NaN

[b]

	English	Hindi
1	78	67.0
2	45	87.0
3	89	90.0
4	98	NaN

[c]

	Hindi	English
0	67.0	78
1	87.0	45
2	90.0	89
3	NaN	98

[d]

	Hindi	English
1	67.0	78
2	87.0	45
3	90.0	89
4	NaN	98

12. **Find the output of the following code is:** [1]

```
temp=[22, 23, 24, 21, 25]
n=len(temp)
for i in range(0 , n, 2):
        print(temp[i])
```

[a]	**[b]**	**[c]**	**[d]**
22 23 24 25	22 24 25	22 24	22 23 24

13. **Write the code to replace 'Cycle' by 'Bicycle' in the following dictionary:** [1]

```
x = {1: "Car", 2: "Cycle", 3: "Bus", 4: "Train"}
```

14. **Find the output:** [1]

```
import pandas as pd
s = pd.Series([10,20,30,40,50,60])
a=s.where(s <= 25)
print(a)
```

[a]	**[b]**	**[c]**	**[d]**
0 10.0 1 20.0 2 NaN 3 NaN 4 NaN 5 NaN	0 True 1 True 2 False 3 False 4 False 5 False	0 10 1 20	None of these

15. **Predict the output:** [1]

```
import numpy as np
data = np.array([5,2,7,3,9])
print (data[:])
print(data[1:3])
print(data[:2])
print(data[-2:])
```

[a]	**[b]**	**[c]**	**[d]**
[5 2 7 3 9] [3 9] [5 2] [2 7]	[3 9] [5 2] [2 7] [5 2 7 3 9]	[5 2 7 3 9] [5 2] [2 7] [3 9]	[5 2 7 3 9] [2 7] [5 2] [3 9]

16. **Pick the correct output of the following code:** [1]

```
import pandas as pd
s = pd.Series([1,2,3,4,5] ,index = ['a','b','c','d','e'])
print (s [ 'b' : 'e' ] )
```

[a]	**[b]**	**[c]**	**[d]**
b 2 c 3 d 4 e 5 dtype: int64	b 2 c 3 d 4 dtype: int64	c 3 d 4 e 5 dtype: int64	An Error will occur

17. **In rename() function of a Series, when inplace=False, then:** [1]

[a] Updates after operation reflect on the Series object and assign object gets existing values.
[b] Updates after operation reflect on the assign object and Series object keeps the original value.
[c] Updates after operation reflect on the Series object and same update work on assigned object.
[d] Updates after operation reflect neither to assign object and nor to Series object.

18. **The output of the following code is:** [1]

```
import pandas as pd
data = {'a' : 0., 'b' : 1., 'c' : 2.}
s=pd.Series(data, index=['b','c','a','x'])
print(s)
```

[a]	**[b]**	**[c]**	**[d]**
b 1.0 c 2.0	a 1.0 b 2.0	a 0.0 b 1.0	b 1.0 c 2.0

a 0.0 x NaN	c 0.0	c 2.0 x NaN	a 0.0

Section-B

*[Attempt All questions, 2 marks each, Total **7X2=14 Marks**]*

19. **Create a NumPy array of values from a list L=[[1,2,3] , [4,5,6] ,[7,8,9]] & show the output.** [2]

20. **Write a Python program to input 5 elements in a list (Lst) then find the sum those elements.** [2]

21. **Write code to print the values in descending order of the list L=[40,10,30,50,20].** [2]

22. **Write code to convert the given list into a dictionary and print the output too.** [2]
L=[[10, 'USA'] , [20, 'China'] , [30, 'UK'] , [40, 'Germany'], [50, 'India']]

23. **Write a code to create an NumPy Array from the following list, then print the value of the 2nd row & 3rd col of the array. The list is:** Lst=[[10,20,30,40,50] , [11,22,33,44,55]] [2]

24. **Write a SQL command of a table 'Employee' to:** [2]
(i) Replace the name 'Ramesh' by 'Rakesh', assume 'Name' is a field name of the table.
(ii) Delete a record of the same table whose Emp. code is 'E092', assume 'Emp_Code' is a field.

25. **Generate a Series to input your name, and print it 5 times.** [2]

Section-C

*[Attempt All questions, 3 marks each, Total **5X3=15 Marks**]*

26. **Write a code to create a Series (s) from a given dictionary (dict) and print the output of the series and also using a function, print last 5 elements of it.** dict={'a' : 0., 'b' : 1., 'c' : 2., 'd': 3.} [3]

27. **Write SQL commands as asked below based on the table PRODUCT:** [3]

ItemCode	ItemName	ItemPrice	ItemMake	ItemQty	ItemDateOfMgfc
R1000	Amlodipine	100.00	RxPharmacy	120	15/05/2015
R1001	Paracetamol	15.00	RajMedicos	90	25/12/2020
R1002	Nebistar	60.00	MyChemist	45	09/09/2019
R1003	VitaPlus	150.00	MyChemist	56	18/08/2918
R1004	Levocitrezine	110.00	RxPharmacy	47	20.10.2020

(i) Display records of a table **Product** whose Price is more than Rs 200**.**
(ii) Display records of a table **Product** in descending order on **ItemQty.**
(iii) Display different **Make** names present in the table **Product**.

28. **Write a program to create a Series of 10 elements (2,4,6……18,20), from a NumPy array using a function arange() and also generate corresponding index (1,2,3…) of the series using range() function and finally print the output of the series.** [3]

29. **Assume the following series, and answer the questions:** [3]

```
import pandas as pd
s=pd.Series([1,2,3,4,5,6,7,8], index=['a','b','c','d','e', 'f', 'g', 'h'])
```

(i) print(s['a':'d'])
(ii) print(s.iloc[1:5])
(iii) print(s.loc['b','f'])

30. **Write the output of the following DataFrame code:** [3]

```
import pandas as pd
L1=[11,'A', 12]
L2=[12, 'B', 15]
L3=[10, 'C', 14]
idx=[101,102,103]
col=['Class', 'Section', 'Roll No']
df=pd.DataFrame(data=[L1,L2, L3], index=idx, columns=col)
print(df)
```

Section-D

*[Attempt All questions, each of 4 marks. **4X2=8 Marks**]*

31. Write a program to create a DataFrame as instructed below: [4]

(i) First create a dictionary (dic) of section (A, B, C) wise top 5 average marks where section will be the keys and marks will be the list of values (user's choice) of the key. *viz* 'X':[80, 90,75,85,78]

(ii) Create a DataFrame (df) with this dictionary, **dic**

(iii) Change the index of the DF by ['a', 'b', 'c',…]

(iv) Print the final output of DF

32. Find the output and show/print: [4]

```
import pandas as pd
s = pd.Series([11, 22, 33, 44, 55, 66, 77, 88, 99, 100], index=[49, 48, 47, 46, 45, 1, 2, 3, 4, 5])
print(s.iloc[:3])
print(s.loc[:3])
print(s[s<=66])
print(s.where(s<=66))
```

Section-E

*[Attempt All questions, each of 5 marks. **5X3=15 Marks**]*

33. There are two lists L1=[10,20,30,40,50] & L2=[11,12,13,14,15], now perform the followings:

(i) Write a Python command to create two series (s1 & s2) out of the above two sets of lists. [1]

(ii) Write a Python command to concatenate the two series row wise and print. [2]

(iii) Print/show the output of the following code: [2]

```
import pandas as pd
L1={'A':100 , 'B': 400, 'C': 300}
L2={'A':111 , 'D': 444, 'C': 555}
L3={'A':123 , 'B': 400, 'E': 356}
df = pd.DataFrame([L1, L2, L3])
print(df)
```

34. Write the code/command, as asked below for a Sereis:

(i) Create a Series (sr) of the list: **deg = ["MBA", "BCA", "M.Tech", "MCA", "B.Tech"]** [1]

(ii) Sort this Seires (sr) in descending order and Print the output. [1]

(iii) Delete the 3rd element of the Series, sr from the top. [1]

(iv) Replace the index by labels ['a', 'b', 'c',…..] [1]

(v) Print the values from the 3rd value to 5th value [1]

35. Consider this table <u>Employee</u>, now write <u>SQL commands</u> to perform the tasks as given. [5X1=5]

EmpCode	EmpName	Designation	Salary	Joining Date
1001	Rahul	Accountant	25000	2011-5-25
1002	Krishna	Clerk	20000	2010-6-19
1003	Akshat	Accountant	22000	2012-7-22
1005	Nishant	Supervisor	24000	2016-4-23
1006	Sonam	Accountant	22000	2010-5-24
1007	Pihu	Manager	38000	2012-6-18

(i) Create the table **Employee** with suitable constraints as Primary Key, Not Null, Unique, Default, etc.

(ii) Print the names of different departments present in the table.

(iii) Display the records those salary is more than 20000 and joined after 2010.

(iv) Show the records of those, whose 3rd character of the Name is 's'.

(v) Increase the salary by 10000 those have joined before 2016.

###

DELHI PUBLIC SCHOOL
SAIL TOWNSHIP,RANCHI
QUALIFYING EXAMINATION (2024-25)

Class - XII | **Subject – Physical Education**
Time – 3 Hours | **Maximum Marks - 70**

GENERAL INSTRUCTIONS:-

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

SECTION-A

1. Which one of these is the Heart of management function? [1]
   (a) Organising
   (b) Staffing
   (c) Directing
   (d) None of the above

2. How much Calcium should be included in daily diet by a woman athlete? [1]
   (a) 50 mg
   (b) 100 mg
   (c) 150 mg
   (d) 200 mg

3. What is the last possibility to decide the winner in league tournament? [1]
   (a) Match is held again
   (b) Those who scored maximum number of goals
   (c) By toss
   (d) None of the above

4. What is the other name of Genu-varum? [1]
   (a) Bow legs
   (b) Flat-foot
   (c) Both “a” and “b”
   (d) None of the above

5. How many Byes will be given in knock-out tournament if the total number of teams are 79? [1]
   (a) 46
   (b) 47
   (c) 48
   (d) 49

6. Children (1-2 years of age) should get _____ hours of good quality sleep which may include a nap, with regular sleep and wake up times. [1]
   (a) 11-14
   (b) 10-13
   (c) 14-16
   (d) None of the above

7. In which year first intramural of Baseball was organised in USA [1]
   (a) 1864
   (b) 1854
   (c) 1874
   (d) 1774

8. Which postural deformity is cured by below mentioned image:- [1]

_____.

9. _____ may be defined as schedule of teams taking part in the tournament and the methods of deciding the course of competition. [1]
   (a) Bye
   (b) Tournament
   (c) Seeding
   (d) Fixture

10. Who discovered vitamin – A [1]
   (a) George Terry
   (b) Dr. McCollum
   (c) Luther Gullick
   (d) None of the above

11. What is the formula for calculating points in British Method of League Tournament? [1]
   (a) Matches won/Matches played ×100
   (b) Total points obtained/ Total Possible Points× 100
   (c) Matches draw/Matches played ×100
   (d) None of the above

12. Horse riding is helpful to cure which deformity? [1]
    (a) Bow-legs
    (b) Flat-foot
    (c) Knock-knees
    (d) None of the above

13. What is the scientific name of vitamin – B5 [1]
    (a) Thiamine
    (b) Folic acid
    (c) Biotin
    (d) Pantothenic acid

14. Female athlete triad is a syndrome characterised by:- [1]
    (a) Osteoporosis
    (b) Amenorrhoea
    (c) Eating disorder
    (d) All of the above

15. The teams defeated in all the rounds are given an additional opportunity to take part in the competition is known as_____. [1]
    (a) Consolation Tournament
    (b) Type 1 Consolation Tournament
    (c) Type 2 Consolation Tournament
    (d) All of the above

16. _____ can also be defined as the cessation of woman's menstrual cycle for more than three months or more. [1]

17. Shuttle Runs, Tag Game, Potato Race are coming under the which types of activities/games in Intramurals. [1]
    (a) Minor Games
    (b) Combative Activities
    (c) Creative Activities
    (d) Rhythmics

18. In which year for the first time WHO issued certain guidelines on Physical activity/exercise. [1]
    (a) 2010
    (b) 2012
    (c) 2014
    (d) 2005

SECTION-B

19. Discuss the WHO guidelines on physical activity for children 3-4 years of age? [2]
20. Write short note on any two of the following:- [2]
    (a) Sulphur
    (b) Sodium
    (c) Calcium

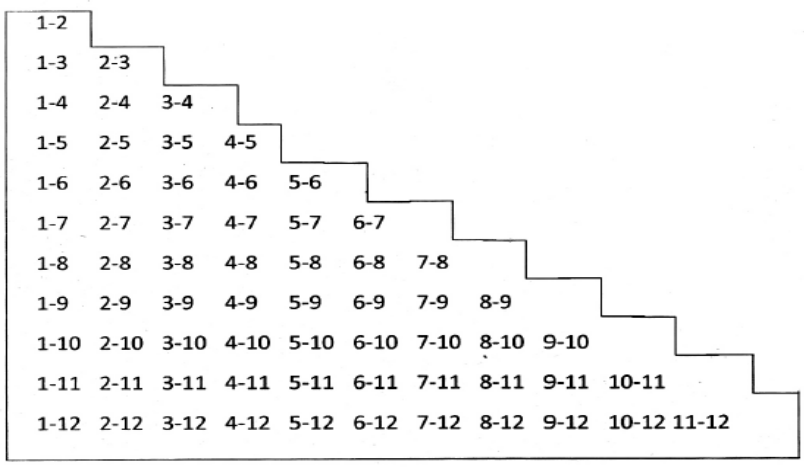
21. Define Anorexia and Bulimia Nervosa? [2]
22. Discuss the advantages of Tournament? [2]
23. Define Primary and Secondary Amenorrhoea? [2]
24. Write short note on "Run for a specific cause". [2]

SECTION-C

25. Discuss the Physical, Psychological and Social Benefits of Women's participation in sports? [3]
26. Draw a fixture of 9 teams following all the steps on the basis of knock-out tournament? [3]
27. Define Lordosis? Explain its remedies in detail. [3]
28. Explain any two of the following:- [3]
    (a) Planning
    (b) Staffing
    (c) Controlling
29. Define Balanced Diet and Nutrition. Explain functions of water in human body? [3]
30. Discuss any six objectives of Intramurals? [3]

SECTION-D

31. Answer the following questions as per the image mentioned below:- [4]



1. Identify the type of tournament/method mentioned above in the image?
2. What is the formula for calculating total number of matches in single league tournament?
3. What is the formula for calculating total number of rounds if the teams are even in the above- mentioned image.
4. How many points will be awarded to the teams who win a match in League tournament?

32. A project work was assigned to Ramesh to check the health status of all the security guards of his school. He found that more than half of them have shown a significant deformity as per the below mentioned image:- [4]

1. Identify the postural deformity?
2. Two types of spinal curve are found in this deformity. Name them?

3. Which swimming technique is best to cure this deformity:-
   (a) Freestyle
   (b) Breaststroke
   (c) Butterfly
   (d) Backstroke

4. Write any two remedies of this deformity?

33. As Mr. Anurag Thakur, Sports Minister of India has ordered to popularize the game of Kho-Kho among school students to develop their physical ability. Mr. Ujjwal Physical Education Teacher of your school has decided to conduct an Inter school Kho-Kho tournament in your school after proper drawing of fixtures on the basis of Knock-out method? [4]

   1. The Knock-out Tournament is also known as _____.
      (a) Combination Tournament
      (b) Elimination Tournament
      (c) League Tournament
      (d) None of the above

   2. How many rounds will be there if total number of teams are 26?
   3. Write any two advantages of Knock-out Tournament?
   4. The second bye is given to the:-
      (a) First team of lower half
      (b) First team of upper half
      (c) Last team of upper half
      (d) Last team of lower half

SECTION-E

34. Draw a fixture of 13 teams following all the steps on the basis of Tabular Method? [5]
35. Define Flat-foot? Explain its causes and remedies in detail. [5]
36. Explain any two of the following in brief:- [5]
   (a) Pre-Tournament Responsibilities
   (b) During Tournament Responsibilities
   (c) Post-Tournament Responsibilities

37. Explain any two of the following in brief:
   (a) Carbohydrates
   (b) Fats
   (c) Protein [5]

DELHI PUBLIC SCHOOL
SAIL TOWNSHIP,RANCHI
QUALIFYING EXAMINATION (2024-25)

Class - XII | **Subject – Physics**
Time – 3 Hours | **Maximum Marks - 70**

General Instructions:

(1) There are 33 questions in all. All questions are compulsory.
(2) This question paper has five sections: Section A, Section B, Section C, Section D and Section E.
(3) All the sections are compulsory.
(4) Section A contains sixteen questions, twelve MCQ and four Assertion Reasoning based of 1 mark each, Section B contains five questions of two marks each, Section C contains seven questions of three marks each, Section D contains two case study based questions of four marks each and Section E contains three long answer questions of five marks each.
(5) There is no overall choice. However, an internal choice has been provided in one question in Section B, one question in Section C, one question in each CBQ in Section D and all three questions in Section E. You have to attempt only one of the choices in such questions.
(6) Use of calculators is not allowed.
(7) You may use the following values of physical constants where ever necessary
i. c = 3 x 10^8 m/s
ii. me = 9.1 x10^{-31} kg
iii. e = 1.6 x 10^{-19} C
iv. ε_0 = 8.854 x10^{-12} $\boldsymbol{C^2N^{-1}m^{-2}}$
v. Avogadro's number = 6.023 X $\mathbf{10^{23}}$ per gram mole

SECTION - A

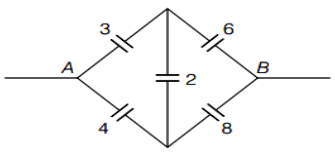
1. The unit of physical quantity obtained by the line integral of electric field is
(a) NC^{-1} (b) Vm^{-1} (c) JC^{-1} (d) $C^2N^{-1}m^{-2}$

2. Two charges of equal magnitude 'q' are placed in air at a distance 2a apart and third charge − 2q is placed at mid-point. The potential energy of the system is (ε_0 = permittivity of free space)
(a) $-\frac{q^2}{8\pi\varepsilon_0 a}$ (b) $-\frac{3q^2}{8\pi\varepsilon_0 a}$ (c) $-\frac{5q^2}{8\pi\varepsilon_0 a}$ (d) $-\frac{7q^2}{8\pi\varepsilon_0 a}$

3. If an electron is brought towards another electron, then the electric potential energy of the system
(a) increases (b) decreases (c) become zero (d) remaining the same

4. A dielectric of dielectric constant K is introduced such that half of its area of a capacitor of capacitance C is occupied by it. The new capacity is
(a) $2C$ (b) $\frac{C}{2}$ (c) $\frac{(1+K)C}{2}$ (d) $2C(1+K)$

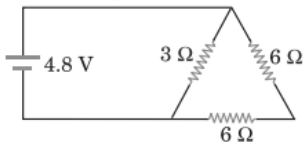
5. Effective capacitance between A and B in the figure shown below is (all capacitances are in μF)
(a) 3/14 μF (b) 14/3 μF
(c) 21μF (d) 23μF



6. Dimensional formula of capacitance is
(a) $[M^{-1}L^{-2}T^{4}A^{2}]$ (b) $[ML^{-2}T^{4}A^{2}]$
(c) $[M^{-1}L^{2}T^{-1}A^{2}]$ (d) $[ML^{-2}T^{-4}A^{2}]$

7. Which of the following quantities does not change when a resistor is heated by passing current through it?
(a) Resistance (b) Resistivity
(c) Drift velocity (d) Number of free electrons

8. The current in the given circuit is
(a) 8.4 A (b) 6.4 A
(c) 4.8 A (d) 2.0 A



9. Two spheres of radii R_1 and R_2 respectively are charged and joined by a wire. The ratio of electric fields on the surface of two spheres $\frac{E_1}{E_2}$ is

(a) $\frac{R_2^2}{R_1^2}$ (b) $\frac{R_1^2}{R_2^2}$ (c) $\frac{R_2}{R_1}$ (d) $\frac{R_1}{R_2}$

10. The electric field in a certain region is acting radially outward and is given by E= Ar. A charge contained in a sphere of radius 'a' (whose centre is at the origin of the field) will be given by
(a) $4\pi\varepsilon_0 Aa^2$ (b) $A\varepsilon_0 a^2$ (c) $4\pi\varepsilon_0 Aa^3$ (d) $\varepsilon_0 Aa^3$

11. Two positive ions, each carrying a charge q are separated by a distance d. If F is the force of repulsion between the ions, then the number of electrons missing from each ion will be (e being the charge on an electron)

(a) $\frac{4\pi\varepsilon_0 Fd^2}{e}$ (b) $\sqrt{\frac{4\pi\varepsilon_0 Fe^2}{d^2}}$ (c) $\sqrt{\frac{4\pi\varepsilon_0 Fd^2}{e^2}}$ (d) $\frac{4\pi\varepsilon_0 Fd^2}{e^2}$

12. Four charges equal to –Q are placed at the four corners of a square and a charge q is at its centre. If the system is in equilibrium, the value of q is

(a) $\frac{-Q}{4}(1+2\sqrt{2})$ (b) $\frac{Q}{4}(1+2\sqrt{2})$ (c) $\frac{-Q}{2}(1+2\sqrt{2})$ (d) $\frac{Q}{2}(1+2\sqrt{2})$

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:** The lightning conductor at the top of high building has sharp pointed ends.
Reason: The surface density of charge at sharp points is very high resulting in setting up of electric discharge.

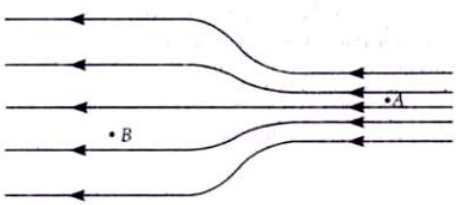
14. **Assertion:** A and B are two conducting spheres of same radius. A being solid and B hollow. Both are charged to the same potential. Then, charge on A = charge on B.
Reason: Potentials on both are same.

15. **Assertion:** Two metallic cylinders of different materials and having the same cross section are connected in series with each other. Electric field in both of them would be different when current passes through them.
Reason: When two conductors are connected in series then the same current is passed through them.

16. **Assertion:** A parallel plate capacitor is connected across battery through a key. A dielectric slab of dielectric constant K is introduced between the plates. The energy which is stored becomes K times.
Reason: The surface density of charge on the plate remains constant or unchanged.

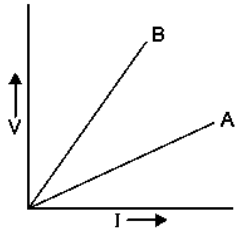
SECTION-B

17. In the electric field shown in Fig. the electric field lines on the left have twice the separation as that between those on the right. If the magnitude of the field at point A is 40 N/C ,
(a) Calculate the force experienced by a proton placed at point A.
(b) Also find the magnitude of electric field at point B.



18. Two point charges placed at a distance r in air exert a force F on each other. At what distance will these charges experience the same force F in a medium of dielectric constant k?

19. V-I graphs for parallel and series combinations of two metallic resistors are shown in figure. Which graph represents parallel combination? Justify your answer.



20. (a) Write the two characteristics of manganin which make it suitable for making standard resistance.
(b) Plot a graph showing the variation of resistivity of a conductor as a function of temperature.

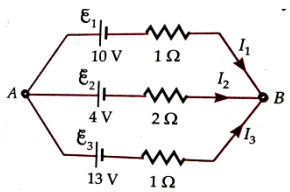
21. Two isolated metal spheres A and B have radii R and 2R respectively, and same charge q. Find the ratio of energy densities of electric field for the two spheres just outside the surface of the spheres.

OR

Plot a graph showing the variation of coulomb force (F) versus $(1/r^2)$ for each pair of charge, where r is the distance between the two charges for both pair : (1 μC, 2 μC) and (2 μC, – 3 μC).

SECTION-C

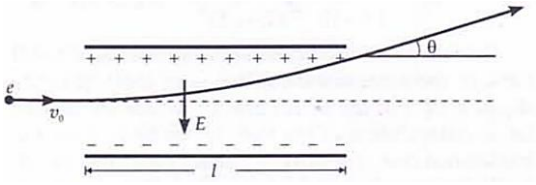
22. Use Kirchhoff's rules to determine currents I_1, I_2 and I_3 in the circuit diagrams shown.



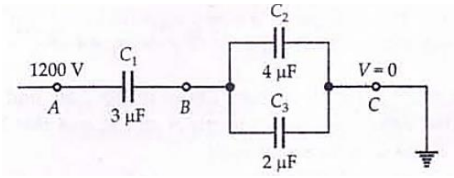
23. (a) Plot a graph showing the variation of current density (j) versus the electric field (E) for two conductors of different materials.
(b) What does the slope of this plot indicates,
(c) How can we use this graph to select suitable materials for use in making (i) standard resistance and (ii) connecting wires in electric circuits?

24. Consider the charges q, q and $-q$ placed at the vertices of an equilateral triangle of side 'a.' Find the force on each charge with the help of diagram.

25. An electric field E is set up between the two parallel plates of a capacitor, as shown in Fig. 1.40. An electron enters the field symmetrically between the plates with a speed v_o. The length of each plate is l . Show that the electron will move in a parabolic path. Also find the angle of deviation of the path of the electron as it comes out of the field.

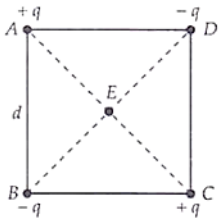


26. In the circuit shown in Figure, if the point C is earthed and point A is given a potential of + 1200 V, find the charge on each capacitor and the potential at the point B.



27. Draw equipotential surface for two point charges q_1 and q_2 for $q_1q_2>0$ and $q_1q_2< 0$ when two charges are separated by a distance d for both case.

28. Four charges are arranged at the corners of a square ABCD of side d as shown in Figure.



(i) Find the work required to put together this arrangement.
(ii) Find net potential at point E. (centre of the square)
(iii) A charge q_o is brought to the centre E of the square, the four charges being held fixed at its corners. How much extra work is needed to do this?

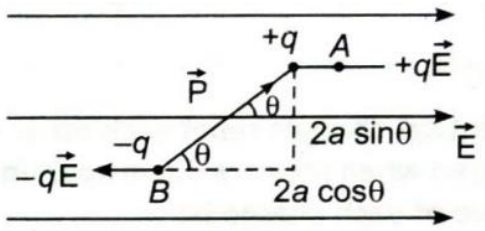
OR

(a) A dielectric slab of thickness t is introduced between the plates of a parallel plate capacitor, separated by a distance d (t <d). Derive an expression for the capacitance of the capacitor.
(b) What will be its capacitance when a conducting slab of same thickness t is introduced?

SECTION-D
Case Study Based Questions

29. **Read the following paragraph and answer the questions that follow.**

When electric dipole is placed in uniform electric field, its two charges experience equal and opposite forces, which cancel each other and hence net force on electric dipole in uniform electric field is zero. However these forces are not collinear, so they give rise to some torque on the dipole. Since, net force on electric dipole in uniform electric field is zero, so no work is done in moving the electric dipole in uniform electric field. However some work is done in rotating the dipole against the torque acting on it.



i) An electric dipole of moment p is placed parallel to the uniform electric field E. The amount of work done in rotating the dipole by 90^0 is =
(a) $2pE$ (b) pE (c) $pE/2$ (d) $-pE$

ii) An electric dipole placed in a non-uniform electric field may experience
(a) both a torque and a net force
(b) only a force but no torque
(c) only a torque but no net force
(d) no torque and no net force

iii) An electric dipole of moment p is placed in an electric field of intensity E. The dipole acquires a position such that the axis of the dipole makes an angle θ with the direction of the field. Assuming that the potential energy of the dipole to be zero when θ = ° 90, then the torque and the potential energy of the dipole will respectively be

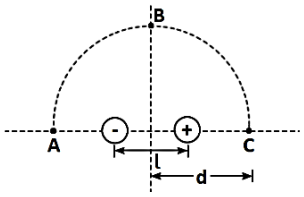
(a) $pE \sin\theta, -pE\cos\theta$ (b) $pE \sin\theta, -2pE\cos\theta$
(c) $pE \sin\theta, 2pE\cos\theta$ (d) $pE\cos\theta, -pE\sin\theta$

OR

iii) The distance between H^+ and Cl^- ions in HCl molecule is 1.28Å. What will be the potential due to this dipole at a distance of12 Å on the axis of dipole

(a) 0.13 V (b) 1.3 V (c) 13 V (d) 130 V

iv) An electric dipole is kept at the origin as shown in the diagram. The points A, B, C are on a circular arc with the centre of curvature at the origin. If the electric fields at A, B and C respectively are $\overrightarrow{E_1}$, $\overrightarrow{E_2}$, $\overrightarrow{E_3}$, then which of the following is incorrect? (d>>l)



(a) $\overrightarrow{E_1} = -\overrightarrow{E_3}$ (b) $\overrightarrow{E_1} = -\overrightarrow{E_2}/2$
(c) $\overrightarrow{E_1} = -\overrightarrow{E_3}$ (d) $\overrightarrow{E_3} = -2\overrightarrow{E_2}$

30. **Read the following paragraph and answer the questions that follow.**

Ohm's law is obeyed by many substances, but one cannot say that it is a fundamental law of nature. It is a basic law regarding flow of the current which defines resistance as constant of proportionality. The dependence of R was also discussed by Ohm's law. The potential applied across a conductor and current through it was also one of the important points discussed in this law.

i) What will be resistance across a slab if area is doubled?

(a) Resistance will be doubled. (b) Resistance will be halved.
(c) No change (d) Resistance will be zero.

ii) How does the current density 'j' vary if area is doubled?

(a) j becomes half. (b) j will be doubled.
(c) j does not vary. (d) j only depends on current.

iii) Ohm's law is true.

(a) For metallic conductors at low temperature.
(b) For metallic conductors at high temperature.
(c) For electrolytes when current passes through them.
(d) For diode when current flows.

iv) For Ohm's law is obeyed, then what is the relation between electric field (E) and drift velocity (v_d)?

(a) $v_d \propto E^2$ (b) $v_d \propto \sqrt{E}$ (c) $v_d \propto E/2$ (d) $v_d \propto E$

OR

Two nichrome wires of equal lengths but having radii in the ratio 1: 3 are connected in series across an electric cell. The drift velocities of free electrons through them will be in the ratio of

(a) 3:1 (b) 1:3 (c) 4:9 (d) 9:1

SECTION-E

31. (a) Derive an expression for drift velocity of electrons in a conductor. Hence deduce Ohm's law.
(b) A steady current flows in a metallic conductor of non-uniform cross-section. Which of these quantities is constant along the conductor: current, current density, drift speed and electric field?
(c) Plot a graph showing the variation of resistance of a conducting wire as a function of its radius, keeping the length of the wire and its temperature as constant.

OR

(a) Given the resistances of 1 Ω, 2 Ω, 3 Ω; how will you combine them to get the equivalent resistance of (i) 11/3 Ω (ii) 11/5 Ω (iii) 6 Ω (iv) 6/11 Ω. (draw circuit diagram only)

(b) A potential difference V is applied across a conductor of length L and diameter D. How are the electric field E and the resistance R of the conductor affected when (i) V is halved (ii) L is halved (iii) D is doubled. Justify your answer with the help of formula.

32. (a) A parallel-plate capacitor is charged by a battery which is then disconnected. A dielectric slab is then inserted to fill the space between the plates. Explain the changes, if any, that occur in the values of

(i) charge and surface charge density on the plates,

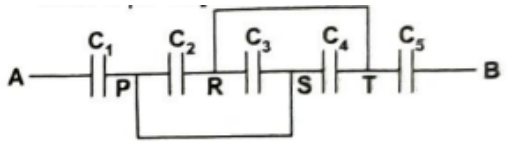
(ii) electric field between the plates,

(iii) energy stored in the capacitor.

(b) A parallel plate capacitor with air between the plates having a capacitance of 8 pF. What will be the capacitance if the distance between the plates be reduced by half and the space between them is filled with a substance of dielectric constant K = 6?

OR

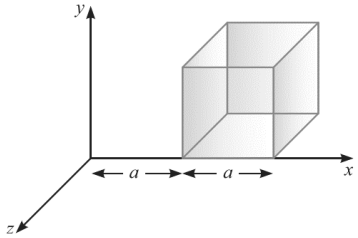
(a) Derive the expression for the capacitance of a parallel plate capacitor having plate area A and plate separation d.



(b) Find equivalent capacitance between A and B in the combination given below. Each capacitor is of 2 μF capacitance. If a dc source of 7 V is connected across AB, how much charge is drawn from the source and what is the energy stored in the network.

33. (a) Apply Gauss's theorem to derive expression for the electric field of a thin infinitely long straight line of charge, with a uniform charge density of $\lambda\ Cm^{-1}$.

(b) A cube with each side 'a' is kept in an electric field given by $E_x = Cx^{\frac{1}{2}}$, Ey = Ez = 0,(as is shown in the figure)



where C is a positive dimensional constant. Find out

(i) the electric flux through the cube, and

(ii) the net charge inside the cube.

OR

(a) Using Gauss Theorem show mathematically that for any point outside the shell, the field due to a uniformly charged spherical shell is same as the entire charge on the shell, is concentrated at the centre. Plot a graph showing the variation of electric field due to charged spherical shell.

(b) A particle of mass m and carrying charge $-q_1$ is moving around a charge $+q_2$ along a circular path of radius r. Prove that the period of revolution of the charge $-q_1$ about $+q_2$ is given by

$$T = \sqrt{\frac{16\pi^3 \varepsilon_0 mr^3}{q_1 q_2}}.$$

DELHI PUBLIC SCHOOL
SAIL TOWNSHIP, RANCHI
QUALIFYING EXAMINATION (2024-25)

Class - XII **Subject – Political Science**
Time – 3 Hours **Maximum Marks- 80**

General Instructions:

I. All questions are compulsory.
II. Question numbers 1-12 are multiple choice questions of one mark each.
III. Question numbers 13-18 are of 2 marks each. Answers to these questions should not exceed 50 words each.
IV. Question numbers 19-23 are of 4 marks each. Answers to these questions should not exceed 100 words each.
V. Question numbers 24-26 are passage, cartoon and map-based questions. Answer accordingly. Each carries 4 marks.
VI. Question numbers 27-30 are of 6 marks each. Answers to these questions should not exceed 170 words.

SECTION A (1 MARKS EACH)

1. The first general elections in 1952 involved simultaneous elections to the Lok Sabha and _____
   A. State assembly
   B. Rajya Sabha
   C. President
   D. Local Body

2. Who is the NCR of Indian Politics
   A. Nehru
   B. M.K. Gandhi
   C. Sardar Patel
   D. V.P. Menon

3. The socialist advocate ideology of:-
   A. Socialism
   B. Communalism
   C. Hindutva
   D. Democratic Socialism

4. Which state had first assembly election on the basis of UAF?
   A. Hyderabad
   B. Manipur
   C. Junagadh
   D. Awadh

5. When was State Reorganization Commission set up?
   A. 1956
   B. 1953
   C. 1948
   D. 1952

6. Who described the day of Indian Independence as "Tomorrow will thus be a day of rejoicing as well as mourning."?
   A. Jawaharlal Nehru
   B. Dr. Rajendra Prasad
   C. Mahatma Gandhi
   D. Dr. B.R Ambedkar

7. In the given question a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices
   A. Both Assertion(A) and Reason(R) are true and reason is the correct explanation of Assertion(A)
   B. Both Assertion(A) and Reason(R) are true but Reason 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

   Assertion – The World War ended when the United states dropped 2 atomic bombs on the cities of Japan
   Reason –Nuclear bombs were dropped on the Japanese cities of Hiroshima and Nagasaki in August 1945 causing Japan to surrender.

8. Mikhail Gorbachev was elected as the general secretary of Communist Party of the Soviet Union in:-
   A. 1955
   B. 1965
   C. 1975
   D. 1985

9. The North Atlantic Treaty Organization was also called as :-
   A. Eastern Alliance
   B. Western Alliance
   C. Neutrality
   D. Equi-Distance

10. Match the column:-

A. Cuba	I Capitalist
B. India	II Communist
C. China	III NAM
D. USA	IV Socialist

   A. A-II, B- I, C-III, D-IV
   B. A-IV, B- III, C-II, D-I
   C. A-III, B- IV, C-II, D-I
   D. A-II, B- III, C-I, D-IV

11. Match the following years with treaties signed:-

A. START I	I 1968
B. LTBT	II 1979
C. NPT	III 1991
D. SALT II	IV 1963

   A. A-II, B- I, C-III, D-IV
   B. A-IV, B- III, C-II, D-I
   C. A-III, B- IV, C-I, D-II
   D. A-II, B- III, C-I, D-IV

12. What was considered as the "Third Option" by the Third World countries?
    A. SAARC
    B. NAM
    C. ASEAN
    D. NIEO

SECTION B (2 marks Question)

13. Why did the one party system represented by the Communist Party become a source Of dissent and dissatisfaction among the Soviet people?
14. Mention any 3 military blocks formed by The Western Bloc.
15. Describe any 2 reasons for the Super powers to have military alliances with smaller countries during the Cold War.
16. Inspite of communal partisan India was not declared a Hindu state. How the leaders of Indian National Congress defended the adoption of secularism in India.
17. What were the major political reasons held responsible for the partition of of India?
18. What was the guiding ideology of Bhartiya Jana Sangh ?

SECTION C (4 marks question)

19. What was the task of SRC? What was it's most salient recommendation?
20. "The accommodation of regional demands and the formation of linguistic states were also seen as more democratic." Justify the statement with three suitable arguments .
21. Write a note on Arab Spring.
22. How did Sardar Patel contribute in National Integration?
23. Describe any two features of India's policy of Non- Alignment. How did this policy help India to serve its own interests?

SECTION D (Source Based 4 marks)

24. Locate the following places/ countries on the political map given blow :-
    I) Successor of USSR. [1]
    II) Place where civil war took place for 10 years. [1]
    III) Georgia, a republic which has witnessed violent secessionist movement [2]
25. Direction: Read the following Passage and Answer the Questions.
    The idea might appear simple, but it presented all kinds of difficulties. First of all, there was no single belt of Muslim majority areas in British India. There were two areas of concentration, one in the west and one in the east. There was no way these two parts could be joined. So it was decided that the new country, Pakistan, will comprise two territories, West and East Pakistan separated by a long expanse of Indian territory. Secondly, not all Muslim majority areas wanted to be in Pakistan. Khan Abdul Gaffar Khan, the undisputed leader of the North Western Frontier Province and known as 'Frontier Gandhi', was staunchly opposed to the two-nation theory. Eventually, his voice was simply ignored and the NWFP was made to merge with Pakistan.
    i. Who was Khan Abdul Gaffar Khan, and what was his stance regarding the two-nation theory and Pakistan's creation? [2]

ii. What geographical challenge did the idea of creating Pakistan face, and how was it resolved? [1]

iii. What were the two major regions that formed the territories of Pakistan, and what geographical feature separated them? [1]

26. Study the picture given below and answer the questions that follow:

1. What does the cartoon represent? [2]
2. What does the term 'Tug of war' refer to? [1]
3. Who has been shown on the branches of tree? [1]

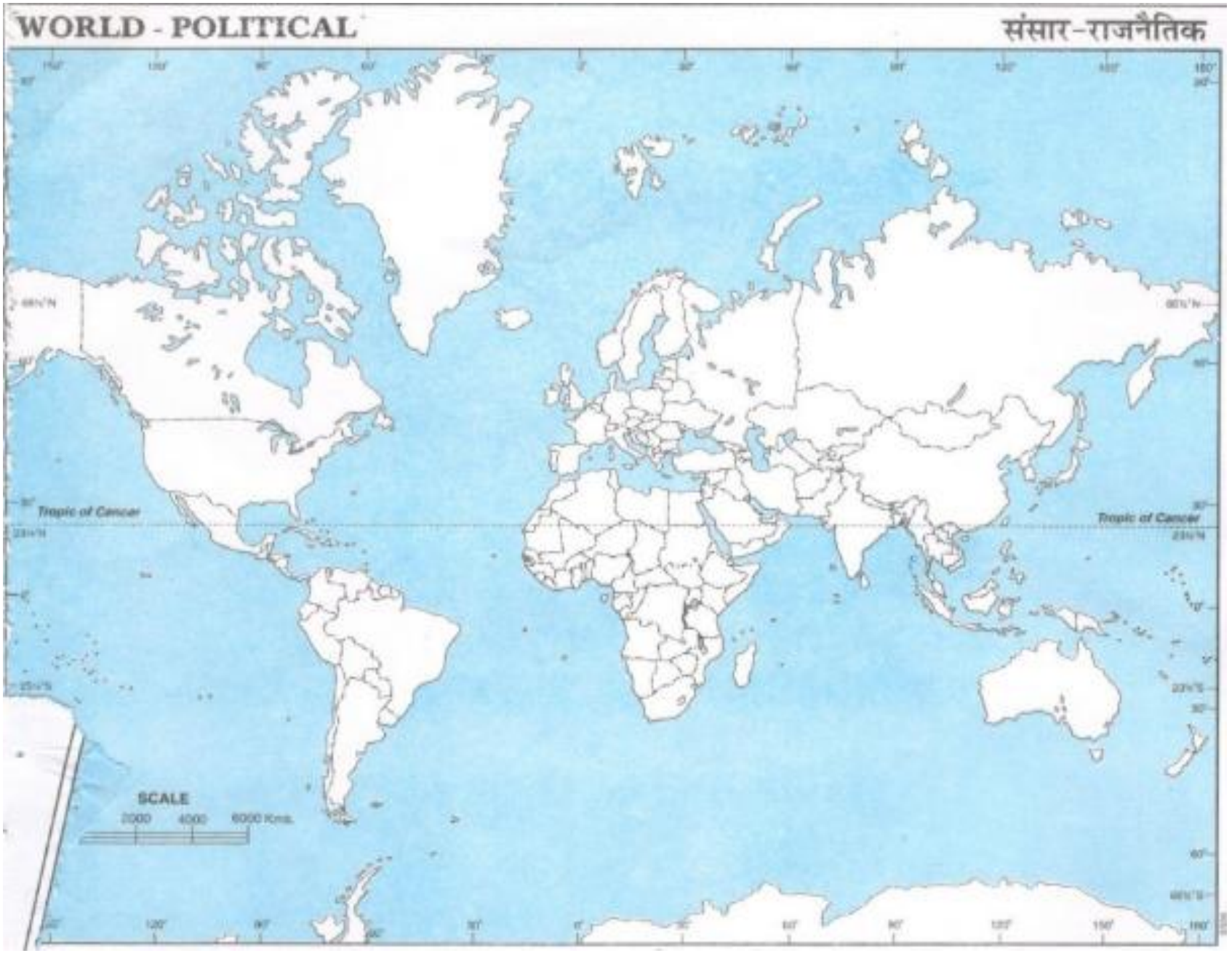
SECTION E

27. What do you mean by Shock Therapy? How far can shock therapy be called as the best way to make the transition from communist to capitalism? [6]

28. The 3 challenges faced by India at the time of independence are yet to be resolved completely. Do you agree with the statement? Give 3 reasons in support of your answer. [6]

29. What were the major Political reasons held responsible for the partition of India ? What were various consequences of Partition? [6]

30. "Congress has remained a sociological and ideological coalition for a long period." Justify the statement. Also highlight three major reasons for Dominance of congress party in first three general elections. [6]


WORLD - POLITICAL
संसार-राजनैतिक
Tropic of Cancer
Tropic of Cancer
SCALE
2000 4000 6000 Kms.

DELHI PUBLIC SCHOOL
SAIL TOWNSHIP,RANCHI
QUALIFYING EXAMINATION (2024-25)

Class - XII **Subject – Psychology**
Time – 3 Hours **Maximum Marks - 70**

General Instruction:

- All questions are compulsory and answers should be brief and to the point.
- Marks for each question are indicated against it.
- Question Nos. 1-20 in Part A are objective type questions carrying one mark each. You are requested to answer them as directed.
- Question Nos. 21- 25 in Part B are very short answer type questions carrying two marks each. Answer to each question should not exceed 30 words.
- Question Nos. 26- 29 in Part Care short answer type I questions carrying three marks each. Answer to each question should not exceed 60 words.
- Question Nos. 30-33 in Part D are short answer type II questions carrying four marks each. Answer to each question should not exceed 100 words.
- Question Nos. 34-35inPart E are long answer type questions carrying six marks each. Answer to each question should not exceed 200 words

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1. The correlation between intelligence test scores of identical twins is _____.
   i. higher when they are raised together than when they are raised apart.
   ii. greater than that for fraternal twins raised together
   iii. lower than that for any other blood relatives
   iv. the same whether they are reared together or apart
   choose the correct option:
   (a) i and iii
   (b) i and ii
   (c) iii and iv
   (d) d. i and iv

2. Some people easily adapt to their present environment, select a more favourable environment than the existing one, or modify the environment to fit their needs. Therefore, they turn out to be successful in their life. The kind of intelligence shown by them is _____.
   (a) Experiential Intelligence
   (b) Componential Intelligence
   (c) Contextual Intelligence
   (d) Emotional Intelligence

3. Scientific Research has shown that fasting has many health benefits including preventing diseases like cancer. The Indian Culture has always had the tradition of fasting on special days. Interestingly fasting also offers psychological benefits such as :
   (a) It teaches self-control
   (b) It teaches how to regulate one's needs and desires
   (c) It teaches happiness
   (d) It teaches how to survive without food.

Choose the correct option from the following:
i) a
ii) c and d
iii) a and b
iv) d

4. Rajesh was going to attend an important job interview but he got stuck in a massive traffic Jam. He is likely to experience:
   (a) Conflict
   (b) Internal Pressure
   (c) Physical Stress
   (b) Frustration

5. The following is a scale developed for measuring stressful Life Events:
   (a) The Stress Scale
   (b) Sinha's Anxiety Scale
   (c) Rosenzweig's Picture Frustration Study
   (d)

6. Brinda is a stay-at-home mother and a committed wife. She takes very good care of her home and family. So much so that she often puts others' needs ahead of herself. She wakes up at 5 am and is busy taking care of home chores, kids, and her husband throughout the day. She finds it difficult to say no to their demands and believes that she is responsible for fulfilling all of their needs. She hardly finds time to do what she wants. When her day ends at 11 pm she is exhausted. Over a period of, time Brinda finds that her irritability has increased and her energy levels are dipping. What is contributing to her Exhaustion or Stress?

   i. Poor Self –Care
   ii. Irrational beliefs, Poor Self-care, and lack of assertiveness
   iii. Inability to say No to others
   iv. Too many responsibilities

7. Amaira is a hard-working girl who shows dedication, persistence and patience. All her actions are goal directed, such qualities focus on the ___ aspect of integrative intelligence.
   (a) Social skills (b) Cognitive skills (c) Entrepreneurship (d) Emotional ability

8. Name the psychologist who proposed the concept of Intelligence.

   (a) Theodor Simon (b) Alfred Binet (c) William Stern (d) Jack Naglieri

9. How is Intelligence Quotient measured?

   (a) IQ=MA+CA*100
   (b) IQ=CA/MA+100
   (c) IQ=MA/CA*100
   (d) IQ=MA*CA*100

10. Louis Terman, who was responsible for the Stanford- Binet, adopted____ as an index of Mental development.
    (a) Mental Age (MA)
    (b) Intelligence Quotient (IQ)
    (c) Development Quotient (DQ)
    (d) Performance Quotient (PQ

11. ____ is described as the ability to bounce back in the face of stress.
    (a) Resilience (b) Coping (c) Burnout (d)Hardiness

12. Abhishek gets satisfaction only when he gets appreciation and does everything perfectly. This is an instance of:
(a) Conflict (b) Social Pressure (c) Internal Pressure (d) Social Stress

13. Calculate the MA of a 10-year-old boy who has an IQ of 120.

14. _____ is a dynamic, situation specific reaction to stress.

15. Street smart person are high on _____ intelligence.

Assertion and Reasoning:

A) A is true and R is also true.
B) A is false but R is true.
C) Both A and R is true and R is correct explanation for A.
D) Both A and R is true but R is not correct explanation of A.

16. **Assertion(A):** People with high levels of stress but low levels of illness share three characteristics which are referred to as the personality traits of hardiness.
Reason(R): Hardiness consists of 'The Three Cs' i.e., Commitment, Control and Challenge.

17. **Assertion(A):** Psychological stresses are caused when we overexert ourselves physically, lack a nutritional diet, suffer an injury or fail to get enough sleep.
Reason(R): Environmental stresses are caused by air pollution, crowding, noise, heat of the summer, winter cold or disasters such as fire or natural disasters such as earthquakes, floods, drought, land-slides, volcanic eruptions etc.

18. **Assertion (A):** People with similar intelligence take similar time to acquire knowledge or skill.
Reason (R): With proper training these abilities can be considerably enhanced.

19. **Assertion (A):** Aptitude refers to an individual's underlying potential for acquiring skills.
Reason (R): Aptitude tests are used to predict what an individual will be able to do if given proper environment and training.

20. **Assertion (A):** If pressures due to stress continue, one may suffer from mental overload.
Reason (R): This suffering from high levels of stress can rapidly cause individuals to lose their ability to make sound decisions, it leads to poor concentration, and reduces short- term memory capacity.

SECTION - B

21. Briefly summarise the concept of situationism by giving an example. [2]

22. Explain emotion- oriented coping strategies. [2]

23. How are IQ scores distributed in a population.

OR

Define creativity.

24. Explain the term burnout. [2]

25. Differentiate between psychometric approach and information processing approach. [2]

SECTION – C

26. Creativity is not just limited to a selected few, an ordinary person can also be creative". Illustrate this statement with suitable examples. [3]

27. Individuals who are categorised as having mental retardation show significant variation in their abilities, ranging from those who can be taught to work and function with special attention, to those who cannot be trained and require intuitional care throughout their lives." What are the values which can help those mentally retarded children? [3]

28. Explain the significance of exercise. [3]

OR

Which of the two, IQ and EQ, do you think would be more related to success in life and why? [3]

29. How can you differentiate between verbal and performance tests of intelligence. [3]

SECTION D

30. Describe GAS model and illustrate the relevance of this model with the help of an example.

31. Any intellectual activity involves the independent function of three neurological systems. Explain with reference to PASS Model.

OR

How does Triarchic theory help us to understand intelligence?

32. Describe how life skills can help meet life's challenges.

OR

Describe the cognitive theory of stress.

33. Read the case and answer the questions that follows:

Alfred Binet in 1905, was requested by the French government to devise a method by which students who experienced difficulty in school could be identified. Binet and his colleague, Theodore Simon began developing questions that focused on areas not explicitly taught in schools those days such as memory and attention skills are related to problem solving. Using these questions, Binet determined which were the ones that served as the best predictors of school success. Binet quickly realized that some children were able to answer more advanced questions than older children and vice versa. Based on this observation, Binet suggested the concept of mental age ora measure of intelligence test is referred to as the Binet-Simon Scale. He insisted that intelligence is influenced by many factors; it changes over time, and can only be compared in children with simila backgrounds.

i. Identify the approach on which the Binet-Simon Intelligence Scale is based. Discuss its features. [1]

ii. What did Binet concluded for intelligence? [1]

iii. "Binet quickly realized that some children were able to answer more advanced questions than older children were generally able to answer and vice versa.' Why do individuals differ in intelligence? Using examples, give reason for your answer. [1]

iv. Binet-Simon Intelligence Scale includes ____ as its major component. [1]

(a) Intelligence (b) Chronological age (c) Mental age (d) Heredity

SECTION – E

34. What is creativity and intelligence? Give some light on the relationship between them and state some important features of creativity tests. [6]

OR,

What do you understand by intellectual deficiency and intellectual giftedness? Highlight some important characteristics of gifted children.

35. Read the case and answer the questions that follows:

While there is no denying that the world loves a winner. It is important that you recognize the science of stress in your behaviour and be healthy enough to enjoy your success. Stress can strike anytime in a fashion that may leave you. Unaware of its presence in your life while a certain amount of pressure is necessary for good performance. It is important to be able to recognize your individual threshold. It is a body reaction to any demands or changes in its internal and external environment whenever there is a change in external environment such as temperature pollutants, humidity and working condition, it leads to stress. In these days of competition when a person makes-up his mind surpass what has been achieved by others leading to imbalance between demands and resources it causes psycho-social stress. It causes loss of memory. There are many stress modifiers or stress busters. Some of these are diet and manage from naturopathy, food supplement and herbs from herbal medicine, hobbies and relaxation technique.

i. The unhealthy competition prevalent in this dog-eat-dog world causes ____. [1]

(a) Psycho-social stress (b) Political stress

(c) Neuro stress (d) Blood pressure

ii. Stress impairs _____. [1]

(a) Death (b) Hypertension

(c) Blood pressure (d) The performance of an individual

iii. Which are the best stress busters? [1]

iv. Define with example the main two types of stress. [1]

v. 'Stressed individual indulge in health impaired behaviours despite of knowing they are fatal.' What are the reasons for such behaviours? [1]

vi. Explain the term coping. [1]

DELHI PUBLIC SCHOOL
SAIL TOWNSHIP, RANCHI
QUALIFYING EXAMINATION (2024-25)

Class - XII **Subject – Sociology**
Time – 3 Hours **Maximum Marks- 80**

General Instructions

1. The question paper is divided into four sections.
2. There are 35 questions in all. All questions are compulsory.
3. Section A includes question No. 1-16. These are objective type questions.
4. Section B includes question No. 17-25. These are very short answer type questions carrying 2 marks each. Answer to each question should not exceed 30 words.
5. Section C includes question No. 26-32. These are short answer type questions carrying 4 marks each. Answer to each question should not exceed 80 words. Question no. 26 and 27 are case based questions with 4 parts each carrying 1 mark, making the questions of 4 marks each.
6. Section D includes question No. 33-35. They are long answer type questions carrying 6 marks each. Answer to each question should not exceed 200 words each. Question no 35 is to be answered with the help of the passage given.

SECTION – A

1. Which two states have the birth rate below than replacement level?
   A. Karnataka and Maharashtra
   B. Karnataka and Himachal Pradesh
   C. West Bengal and Maharashtra
   D. Kerala and Tamilnadu

2. As per age structure of India at present, which age group of the following has maximum share?
   A. 0-14 years
   B. 15-59 years
   C. 60+ years
   D. none of these

3. In India for the first time decennial demographic census was conducted in the year------
   A. 1871
   B. 1881
   C. 1891
   D. 1911

4. **Assertion (A):** The principal reasons for the decline in the death rate after 1921 were increased levels of control over femines and epidemic diseases.
   Reason (R): The major epidemic diseases in the past were fevers of various sorts, eg Plague. Smallpox and cholera.
   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 false and R is true
   D. A is true and R is false

5. The Vokkaligas are a dominant caste in_____
   A. Bihar
   B. Haryana
   C. Karnataka
   D. Gujrat

6. A family which consists of only one set of a parents and their children is known as-------
   A. Matrilocal family
   B. Extended family
   C. Nuclear family
   D. Patrilocal family

7. The hierarchical ordering of castes is based on the distinction between -------
   A. Purity and pollution
   B. Occupation and status
   C. Religion and rituals
   D. Norms and authority

OR

The term invisible is associated with the following social group.
   A. High caste people
   B. Middle class people
   C. Newly emerged social group
   D. Low caste people

8. **Assertion: (A):** Tribes are pristine societies uncontaminated by civilization.
   Reason: (R): Tribes should really be seen as secondary phenomenon arising out of the exploitative and colonist contact between pre-existing states and non state groups like the tribals.
   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 false and R is true
   D. A is true and R is false

9. Sultana's Dream written by Rokeya Shakhawat is one of the example of------
   A. Mythology
   B. Family drama
   C. Romantic story
   D. Science fiction

10. If women were biologically unfit to be inheritors and heads of families, how did Matrileneal societies of-----still work for centuries?
   A. Khasis of Meghalaya
   B. Patidars of Gujarat
   C. Nairs of Kerala
   D. All of these

11. ---------- of the Indian National Congress issued a declaration on the Fundamental Rights of Citizenship in India. It reads that woman shall have the Rights to vote.

A. 1919 Amritsar session
B. 1927 Madras session
C. 1929 Lahore session
D. 1931 Karachi session

12. **Assertion: (A):** Social inequality and exclusion are social because they are not about individuals but about groups.
Reason: (R): There is usually no link between social and economic inequality.
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 false and R is true
D. A is true and R is false

13. Community identity is based on birth and belonging rather than on some form of acquired qualification or accomplishment. It is 'what we are' rather than 'what we have become'. It is --- Choose the INCORRECT option.
A. Accidental
B. Inescapable
C. Universal
D. Conditional

14. Policy of ---------- seek to assert a single national identity by attempting to eliminate ethno- national and cultural differences from the public and political arena, while allowing them in private domain.
A. Assimilation
B. Integration
C. Communal
D. None of these

15. **Assertion: (A):** Jewish Americans may be citizens of Israel as well as the USA.
Reason: (R): Dual citizenship law allows citizens of a particular state to also simultaneously be citizen of another state.
A. Both A and R are true and R is the correct explanation of A.
B. Both A and R are true but R is not the correct explanation of A.
C. A is false and R is true
D. A is true and R is false

16. Power on the basis of threat or application of punishment is called ----------
A. Charismatic authority
B. Authority
C. Traditional authority
D. Force

SECTION - B

17. There is a difference between formal demography and social demography. Elaborate.

18. What is meant by the age structure of population?

19. What is meant by sex ratio? What are some of the implications of declining sex ratio?

20. The institution of caste underwent major changes during the colonial period, explain.

21. Explain the two broad sets of issues that are most important in giving rise to tribal movements.

OR

What do you mean by Dominant Caste?

22. What do you mean by the term Social exclusion?

OR

According to Bourdieu, in every society, some people have a greater share of valued resources, money, property, education, health and power than others. These social resources can be divided into different forms of capital. Briefly explain these forms of capital.

23. What is the role and significance of Civil Society in today's world?

24. How the policies of assimilation and integration are used by the state to strengthen national identity.

25. Define the term 'Diversity'.

SECTION- C

26. Describe the theory of demographic transition. Why is the transition stage is associated with a population explosion?

27. Tribes have been classified according to their permanent and acquired traits. Highlight the demography of tribal communities in India on the basis of the permanent Traits.

28. Briefly explain about the idea based on principle of 'Separation and difference' and 'hierarchy and wholism' of caste system.

OR

What are some of the rules that caste system imposes?

29. What evidence would you offer against the view that tribes are primitive communities are living isolated and their lives are untouched by civilization?

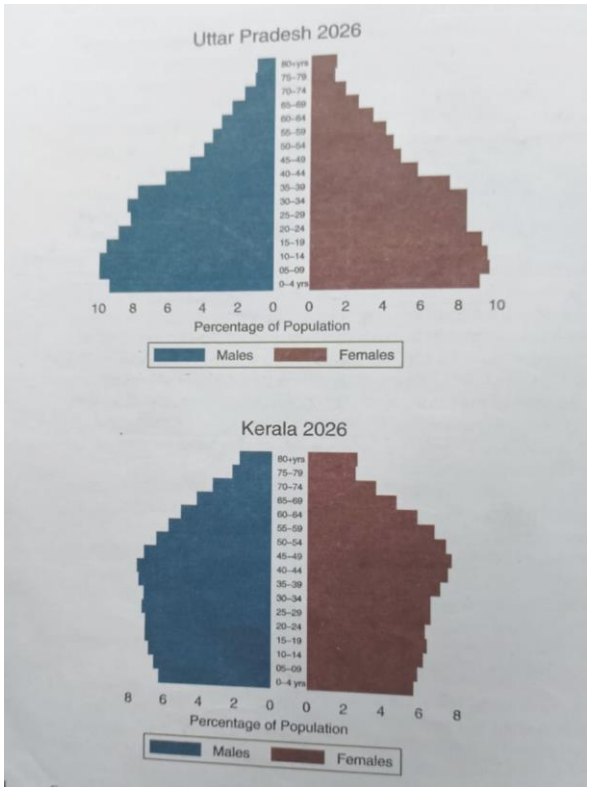
30. Why in India labels such as disability, 'handicap', etc. used for differently - abled people?

31. Exclusion, humiliation- subordination and exploitation are all equally important in defining the phenomenon of untouchability explain with example.

32. What are Community Identities? Why are they important?

SECTION D

33. Read the given image and answer the questions that follow.



A. What is meant by the age structure pyramid of the population? Why is it relevant for the population study? [2]
B. How do you interpret bulge in the middle of the pyramid? [2]
C. Highlight the difference in the location of the widest parts of the pyramid for Kerala and Uttar Pradesh. [2]

34. Elaborate state and non-state initiatives addressing caste and tribal discrimination.

OR

What are the major concerns for the Adivasis today?

35. **Read the given passage and answer the questions that follow.**

Rabindranath Tagore on the evils of exclusive nationalism...where the spirit of the Western nationalism prevails, the whole people is being taught from boyhood to foster hatreds and ambitions by all kinds of means - by the manufacture of half-truths and untruths in history, by persistent misrepresentation of other races and the culture of unfavourable sentiments towards them.… Never think for a moment that the hurt you inflict upon other races will not infect you, or that the enmities you sow around your homes will be a wall of protection to you for all time to come? To imbue the minds of a whole people with an abnormal vanity of its own superiority, to teach it to take pride in its moral callousness and ill-begotten wealth, to perpetuate humiliation of defeated nations by exhibiting trophies won from war, and using these schools in order to breed in children's minds contempt for others, is imitating the West where she has a festering sore…

A. Define the term ‘minority’ and state one reason why does minorities need protection from the state? [4]
B. In Indian nationalism, the dominant trend was marked by an inclusive and democratic vision. Explain. [2]