

CLASS X

WINTER HOLIDAY HOMEWORK

SUBJECT- SCIENCE

I. Solve the given practice papers in a separate thin notebook.

II. Complete the practical file.

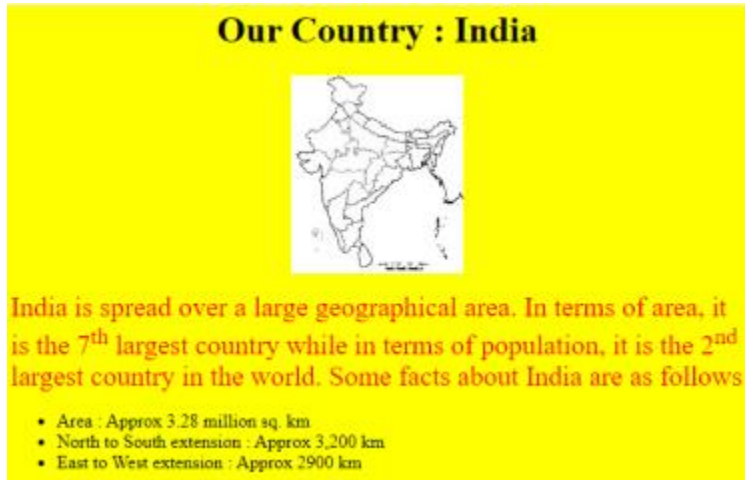
III. Revise the complete syllabus.

SUBJECT- COMPUTER APPLICATION

- 1 Write suitable HTML Code to Embed audio and video in a webpage.
- 2 What do you understand by the term URL? How is it different from an email address?
3. What do you understand by a newsgroup? How is it different from a blog?
4. What is a Hypertext link? Give the name and the syntax for the HTML tag which is used for creating a Hypertext Link.
5. Rohit, a student of Class X, wants to represent a table in webpage but he is unaware about the table tags. Explain him the role of and tag. Write HTML code of a table and show the use of and tag.
6. Define Internet and write its two uses in our daily life. How is it different from the World Wide Web (www).
7. What is e-learning? Explain any two merits of e-learning.
8. "A web browser is different from a web server". Explain any two differences in web browser and web server with suitable example of each. OR Explain any two differences between 3G and 4G mobile technologies.

9. Write the full form of Cc and Bcc (used in email communication). Explain the difference between 2 them.

10.



Write the HTML code to design the above-shown web page considering the specifications as given below :

- Background color of the page should be yellow.
- Heading 'Our Country : India' should be the first level of heading
- The image named 'India.jpg' should be placed at the center.
- Formatting style for the paragraph o Font Size: 5 Font Name: Times New Roman o Color: Red
- Superscript and subscript tags should be used wherever required.
- Facts (as shown in the above web-page) should be written with the help of the unordered list.

11. Prepare the Practical File.

SUBJECT- SOCIAL SCIENCE

Q.1. Define the following: a. strip cultivation b. gully erosion c. terrace farming d. shelter belts e. badland f. fallow land g. net sown area h. bhangar (3)

Q.2 What is a resource? Explain the classification of resources on the basis of exhaustibility. (3)

Q.3. What is resource planning? Explain three processes involved in it. (3)

Q.4. Write three differences between Khadar and Bhangar soil. (3) KHADAR SOIL BHANGAR SOIL

Q.5. What steps can be taken to control soil erosion in the hilly areas and arid areas? (3)

Q.6. “The pattern of net sown area in India varies greatly from one state to another”. Support the statement by giving two examples of states having the highest percentage of net sown area and the two states of having the lowest percentage. Also give the main reason for each case. (3)

Q.7. Why has the land under forest not increased much since 1960-61? (3)

Q.8. Explain how nature, technology and institution are interdependent on each other with the help of a diagram. (3)

Q.9. Define Resources. Explain the classification of resources on the basis of ownership. (5)

Q10 Explain any five problems leading to land degradation. (5)

Q.11. Identify the problems that have resulted from indiscriminate use of resources. Also explain the solutions to overcome these problems. (5)

Q.12. Write four important characteristics of Alluvial soil. Name the areas where it is most commonly found. (5)

Q.13. Name some resource rich but economically backward regions and some resource poor but economically developed regions. Give reasons for such a situation. (5)

Q.14. What is soil erosion? How is it caused? (5)

Sample Question Paper
Class – X Session -2021-22

TERM 1

Subject- Mathematics (Standard) 041

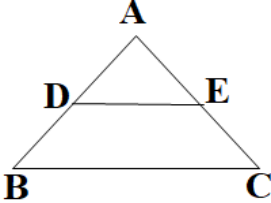
Time Allowed: 90 minutes

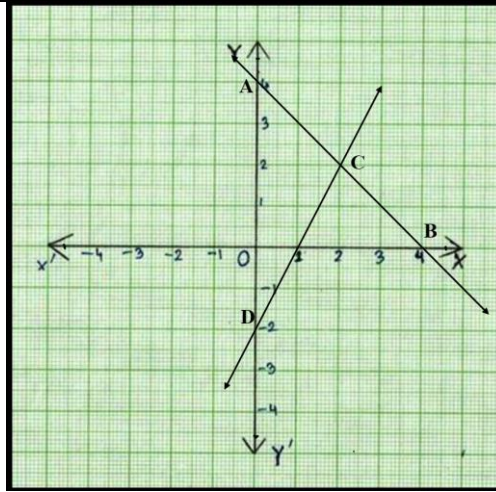
Maximum Marks: 40

General Instructions:

1. The question paper contains three parts A, B and C
2. Section A consists of 20 questions of 1 mark each. Any 16 questions are to be attempted
3. Section B consists of 20 questions of 1 mark each. Any 16 questions are to be attempted
- 4 Section C consists of 10 questions based on two Case Studies. Attempt any 8 questions.
5. There is no negative marking.

| SECTION A | | |
|--|--|----------|
| Section A consists of 20 questions of 1 mark each. Any 16 questions are to be attempted | | |
| Q No | | Marks |
| 1 | The ratio of LCM and HCF of the least composite and the least prime numbers is (a) 1:2 (b) 2:1 (c) 1:1 (d) 1:3 | 1 |
| 2 | The value of k for which the lines $5x+7y=3$ and $15x + 21y = k$ coincide is (a) 9 (b) 5 (c) 7 (d) 18 | 1 |
| 3 | A girl walks 200m towards East and then 150m towards North. The distance of the girl from the starting point is (a)350m (b) 250m (c) 300m (d) 225 | 1 |
| 4 | The lengths of the diagonals of a rhombus are 24cm and 32cm, then the length of the altitude of the rhombus is (a) 12cm (b) 12.8cm (c) 19 cm` (d) 19.2cm | 1 |
| 5 | Two fair coins are tossed. What is the probability of getting at the most one head? (a) $\frac{3}{4}$ (b) $\frac{1}{4}$ (c) $\frac{1}{2}$ (d) $\frac{3}{8}$ | 1 |
| 6 | $\Delta ABC \sim \Delta PQR$. If AM and PN are altitudes of ΔABC and ΔPQR respectively and $AB^2 : PQ^2 = 4 : 9$, then AM:PN = (a) 16:81 (b) 4:9 (c) 3:2 (d) 2:3 | 1 |
| 7 | If $2\sin^2\beta - \cos^2\beta = 2$, then β is (a) 0° (b) 90° (c) 45° (d) 30° | 1 |
| 8 | Prime factors of the denominator of a rational number with the decimal expansion 44.123 are (a) 2,3 (b) 2,3,5 (c) 2,5 (d) 3,5 | 1 |
| 9 | The lines $x = a$ and $y = b$, are (a) intersecting (b) parallel (c) overlapping (d) (None of these) | 1 |
| 10 | The distance of point A(-5, 6) from the origin is (a) 11 units (b) 61 units (c) $\sqrt{11}$ units (d) $\sqrt{61}$ units | 1 |
| 11 | If $a^2 = 23/25$, then a is (a) rational (b) irrational (c) whole number (d) integer | 1 |

| | | |
|--|--|-------|
| 12 | If $\text{LCM}(x, 18) = 36$ and $\text{HCF}(x, 18) = 2$, then x is (a) 2 (b) 3 (c) 4 (d) 5 | 1 |
| 13 | In ΔABC right angled at B, if $\tan A = \sqrt{3}$, then $\cos A \cos C - \sin A \sin C =$ (a) -1 (b) 0 (c) 1 (d) $\sqrt{3}/2$ | 1 |
| 14 | If the angles of ΔABC are in ratio 1:1:2, respectively (the largest angle being angle C), then the value of $\frac{\sec A}{\operatorname{cosec} B} - \frac{\tan A}{\cot B}$ is (a) 0 (b) $1/2$ (c) 1 (d) $\sqrt{3}/2$ | 1 |
| 15 | The number of revolutions made by a circular wheel of radius 0.7m in rolling a distance of 176m is (a) 22 (b) 24 (c) 75 (d) 40 | 1 |
| 16 | ΔABC is such that $AB = 3$ cm, $BC = 2$ cm, $CA = 2.5$ cm. If $\Delta ABC \sim \Delta DEF$ and $EF = 4$ cm, then perimeter of ΔDEF is (a) 7.5 cm (b) 15 cm (c) 22.5 cm (d) 30 cm | 1 |
| 17 | In the figure, if $DE \parallel BC$, $AD = 3$ cm, $BD = 4$ cm and $BC = 14$ cm, then DE equals  (a) 7 cm (b) 6 cm (c) 4 cm (d) 3 cm | 1 |
| 18 | If $4 \tan \beta = 3$, then $\frac{4 \sin \beta - 3 \cos \beta}{4 \sin \beta + 3 \cos \beta} =$ (a) 0 (b) $1/3$ (c) $2/3$ (d) $3/4$ | 1 |
| 19 | One equation of a pair of dependent linear equations is $-5x + 7y = 2$. The second equation can be a) $10x + 14y + 4 = 0$ b) $-10x - 14y + 4 = 0$ c) $-10x + 14y + 4 = 0$ d) $10x - 14y = -4$ | 1 |
| 20 | A letter of English alphabets is chosen at random. What is the probability that it is a letter of the word 'MATHEMATICS'? (a) $4/13$ (b) $9/26$ (c) $5/13$ (d) $11/26$ | 1 |
| SECTION B | | |
| Section B consists of 20 questions of 1 mark each. Any 16 questions are to be attempted | | |
| QN | | MARKS |
| 21 | If sum of two numbers is 1215 and their HCF is 81, then the possible number of pairs of such numbers are (a) 2 (b) 3 (c) 4 (d) 5 | 1 |
| 22 | Given below is the graph representing two linear equations by lines AB and CD respectively. What is the area of the triangle formed by these two lines and the line $x=0$? | 1 |



- (a) 3sq. units (b) 4sq. units (c) 6sq. units (d) 8sq. units

23 If $\tan \alpha + \cot \alpha = 2$, then $\tan^{20} \alpha + \cot^{20} \alpha =$
 (a) 0 (b) 2 (c) 20 (d) 2^{20} **1**

24 If $217x + 131y = 913$, $131x + 217y = 827$, then $x + y$ is
 (a) 5 (b) 6 (c) 7 (d) 8 **1**

25 The LCM of two prime numbers p and q ($p > q$) is 221. Find the value of $3p - q$.
 (a) 4 (b) 28 (c) 38 (d) 48 **1**

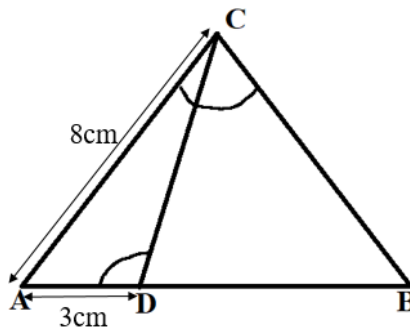
26 A card is drawn from a well shuffled deck of cards. What is the probability that the card drawn is neither a king nor a queen?
 (a) $11/13$ (b) $12/13$ (c) $11/26$ (d) $11/52$ **1**

27 Two fair dice are rolled simultaneously. The probability that 5 will come up at least once is
 (a) $5/36$ (b) $11/36$ (c) $12/36$ (d) $23/36$ **1**

28 If $1 + \sin^2 \alpha = 3 \sin \alpha \cos \alpha$, then values of $\cot \alpha$ are
 (a) -1, 1 (b) 0, 1 (c) 1, 2 (d) -1, -1 **1**

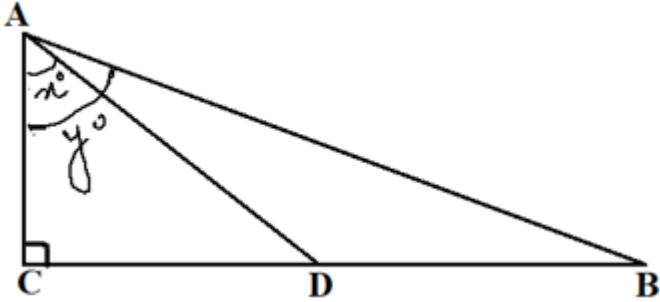
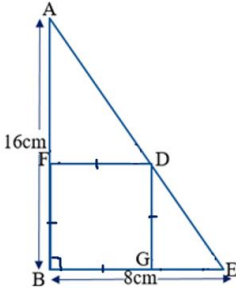
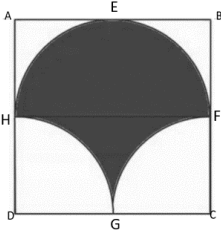
29 The vertices of a parallelogram in order are A(1,2), B(4, y), C(x, 6) and D(3,5). Then (x, y) is
 (a) (6, 3) (b) (3, 6) (c) (5, 6) (d) (1, 4) **1**

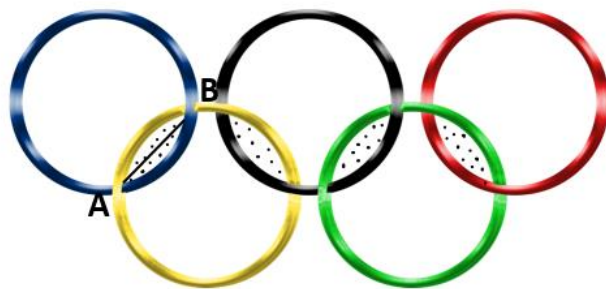
30 In the given figure, $\angle ACB = \angle CDA$, $AC = 8\text{cm}$, $AD = 3\text{cm}$, then BD is **1**



- (a) $22/3$ cm (b) $26/3$ cm (c) $55/3$ cm (d) $64/3$ cm

31 The equation of the perpendicular bisector of line segment joining points A(4,5) and B(-2,3) is
 (a) $2x - y + 7 = 0$ (b) $3x + 2y - 7 = 0$ (c) $3x - y - 7 = 0$ (d) $3x + y - 7 = 0$ **1**

| | | |
|------------------|--|-----------------|
| <p>32</p> | <p>In the given figure, D is the mid-point of BC, then the value of $\frac{\cot y^\circ}{\cot x^\circ}$ is</p>  <p>(a) 2 (b) 1/2 (c) 1/3 (d) 1/4</p> | <p>1</p> |
| <p>33</p> | <p>The smallest number by which 1/13 should be multiplied so that its decimal expansion terminates after two decimal places is</p> <p>(a) 13/100 (b) 13/10 (c) 10/13 (d) 100/13</p> | <p>1</p> |
| <p>34</p> | <p>Sides AB and BE of a right triangle, right angled at B are of lengths 16 cm and 8 cm respectively. The length of the side of largest square FDGB that can be inscribed in the triangle ABE is</p>  <p>(a) 32/3cm (b) 16/3cm (c) 8/3cm (d) 4/3cm</p> | <p>1</p> |
| <p>35</p> | <p>Point P divides the line segment joining R(-1, 3) and S(9,8) in ratio k:1. If P lies on the line $x - y + 2 = 0$, then value of k is</p> <p>(a) 2/3 (b) 1/2 (c) 1/3 (d) 1/4</p> | <p>1</p> |
| <p>36</p> | <p>In the figure given below, ABCD is a square of side 14 cm with E, F, G and H as the mid points of sides AB, BC, CD and DA respectively. The area of the shaded portion is</p>  <p>(a) 44cm² (b) 49 cm² (c) 98 cm² (d) 49π/2 cm²</p> | <p>1</p> |
| <p>37</p> | <p>Given below is the picture of the Olympic rings made by taking five congruent circles of radius 1cm each, intersecting in such a way that the chord formed by joining the point of intersection of two circles is also of length 1cm. Total area of all the dotted regions assuming the thickness of the rings to be negligible is</p> | <p>1</p> |



- (a) $4(\pi/12 - \sqrt{3}/4) \text{ cm}^2$ (b) $(\pi/6 - \sqrt{3}/4) \text{ cm}^2$ (c) $4(\pi/6 - \sqrt{3}/4) \text{ cm}^2$ (d) $8(\pi/6 - \sqrt{3}/4) \text{ cm}^2$

38 If 2 and $\frac{1}{2}$ are the zeros of px^2+5x+r , then
 (a) $p = r = 2$ (b) $p = r = -2$ (c) $p = 2, r = -2$ (d) $p = -2, r = 2$ **1**

39 The circumference of a circle is 100 cm. The side of a square inscribed in the circle is
 (a) $50\sqrt{2} \text{ cm}$ (b) $100/\pi \text{ cm}$ (c) $50\sqrt{2}/\pi \text{ cm}$ (d) $100\sqrt{2}/\pi \text{ cm}$ **1**

40 The number of solutions of $3^{x+y} = 243$ and $243^{x-y} = 3$ is
 (a) 0 (b) 1 (c) 2 (d) infinite **1**

SECTION C

Case study based questions:
Section C consists of 10 questions of 1 mark each. Any 8 questions are to be attempted.

Q41-Q45 are based on Case Study -1

Case Study -1



The figure given alongside shows the path of a diver, when she takes a jump from the diving board. Clearly it is a parabola.

Annie was standing on a diving board, 48 feet above the water level. She took a dive into the pool. Her height (in feet) above the water level at any time 't' in seconds is given by the polynomial h(t) such that

$$h(t) = -16t^2 + 8t + k.$$

41 What is the value of k?
 (a) 0
 (b) - 48
 (c) 48
 (d) $48/-16$ **1**

42 At what time will she touch the water in the pool?
 (a) 30 seconds
 (b) 2 seconds
 (c) 1.5 seconds
 (d) 0.5 seconds **1**

| | | |
|----|--|---|
| 43 | Rita's height (in feet) above the water level is given by another polynomial $p(t)$ with zeroes -1 and 2 . Then $p(t)$ is given by- (a) $t^2 + t - 2$. (b) $t^2 + 2t - 1$ (c) $24t^2 - 24t + 48$. (d) $-24t^2 + 24t + 48$. | 1 |
| 44 | A polynomial $q(t)$ with sum of zeroes as 1 and the product as -6 is modelling Anu's height in feet above the water at any time t (in seconds). Then $q(t)$ is given by (a) $t^2 + t + 6$ (b) $t^2 + t - 6$ (c) $-8t^2 + 8t + 48$ (d) $8t^2 - 8t + 48$ | 1 |
| 45 | The zeroes of the polynomial $r(t) = -12t^2 + (k-3)t + 48$ are negative of each other. Then k is (a) 3 (b) 0 (c) -1.5 (d) -3 | 1 |

Q46-Q50 are based on Case Study -2

Case Study -2

A **hockey field** is the playing surface for the game of hockey. Historically, the game was played on natural turf (grass) but nowadays it is predominantly played on an artificial turf.

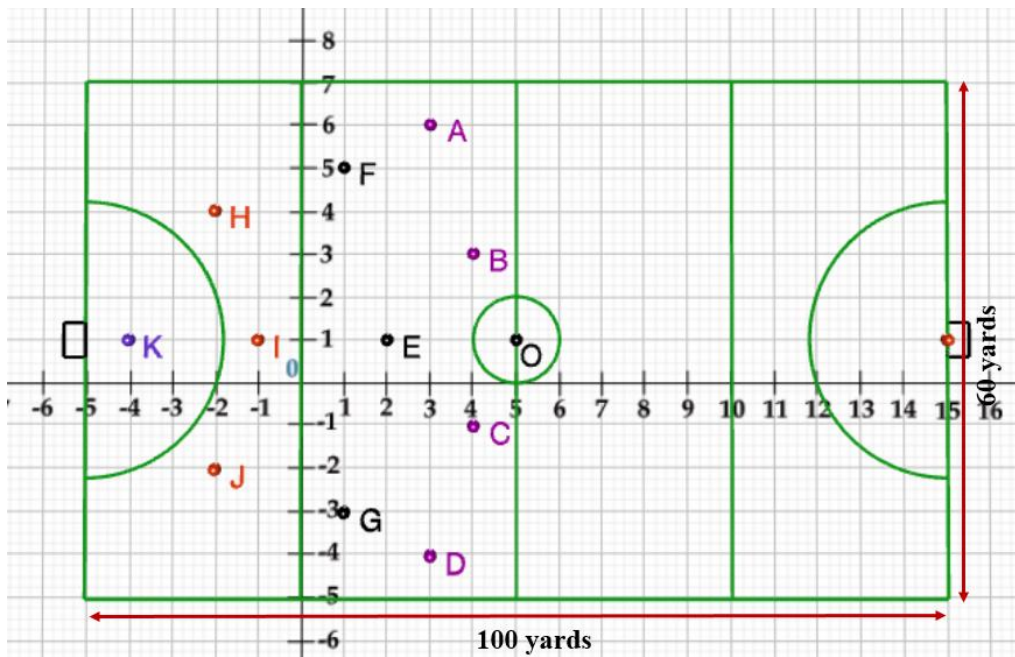
It is rectangular in shape - 100 yards by 60 yards. Goals consist of two upright posts placed equidistant from the centre of the backline, joined at the top by a horizontal crossbar. The inner edges of the posts must be 3.66 metres (4 yards) apart, and the lower edge of the crossbar must be 2.14 metres (7 feet) above the ground.

Each team plays with 11 players on the field during the game including the goalie.

Positions you might play include-

- **Forward:** As shown by players A, B, C and D.
- **Midfielders:** As shown by players E, F and G.
- **Fullbacks:** As shown by players H, I and J.
- **Goalie:** As shown by player K

Using the picture of a hockey field below, answer the questions that follow:



| | | |
|----|--|---|
| 46 | <p>The coordinates of the centroid of $\Delta E H J$ are</p> <p>(a) $(-2/3, 1)$ (b) $(1, -2/3)$ (c) $(2/3, 1)$ (d) $(-2/3, -1)$</p> | 1 |
| 47 | <p>If a player P needs to be at equal distances from A and G, such that A, P and G are in straight line, then position of P will be given by</p> <p>(a) $(-3/2, 2)$ (b) $(2, -3/2)$ (c) $(2, 3/2)$ (d) $(-2, -3)$</p> | 1 |
| 48 | <p>The point on x axis equidistant from I and E is</p> <p>(a) $(1/2, 0)$ (b) $(0, -1/2)$ (c) $(-1/2, 0)$ (d) $(0, 1/2)$</p> | 1 |
| 49 | <p>What are the coordinates of the position of a player Q such that his distance from K is twice his distance from E and K, Q and E are collinear?</p> <p>(a) $(1, 0)$ (b) $(0, 1)$ (c) $(-2, 1)$ (d) $(-1, 0)$</p> | 1 |
| 50 | <p>The point on y axis equidistant from B and C is</p> <p>(a) $(-1, 0)$ (b) $(0, -1)$ (c) $(1, 0)$ (d) $(0, 1)$</p> | 1 |

Class - X Session 2022-23
Subject - Mathematics (Basic)
Sample Question Paper

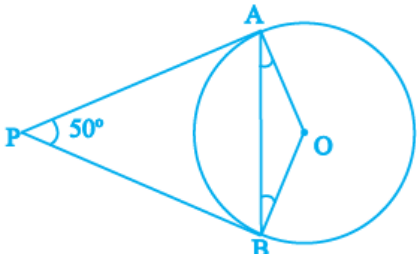
Time Allowed: 3 Hours

Maximum Marks: 80

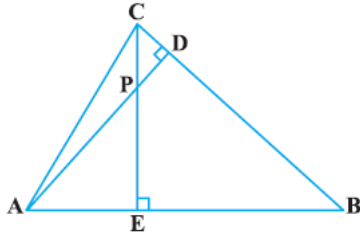
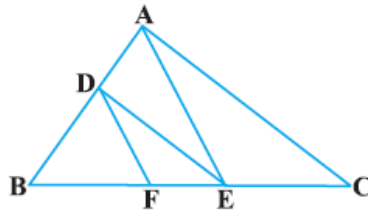
General Instructions:

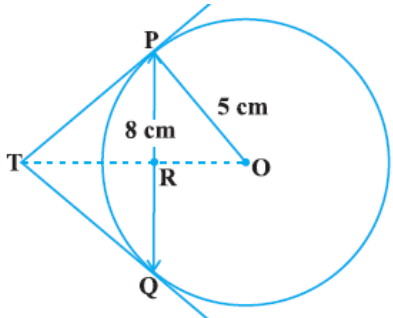
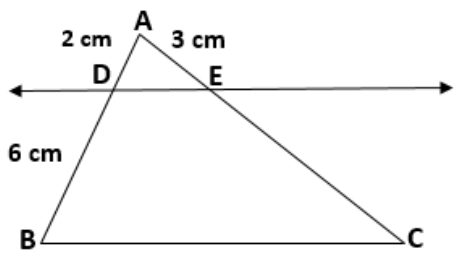
1. This Question Paper has 5 Sections A, B, C, D, and E.
2. Section A has 20 Multiple Choice Questions (MCQs) carrying 1 mark each.
3. Section B has 5 Short Answer-I (SA-I) type questions carrying 2 marks each.
4. Section C has 6 Short Answer-II (SA-II) type questions carrying 3 marks each.
5. Section D has 4 Long Answer (LA) type questions carrying 5 marks each.
6. Section E has 3 Case Based integrated units of assessment (4 marks each) with sub-parts of the values of 1, 1 and 2 marks each respectively.
7. All Questions are compulsory. However, an internal choice in 2 Qs of 2 marks, 2 Qs of 3 marks and 2 Questions of 5 marks has been provided. An internal choice has been provided in the 2 marks questions of Section E.
8. Draw neat figures wherever required. Take $\pi = 22/7$ wherever required if not stated.

| Section A | | |
|---|--|--------------|
| Section A consists of 20 questions of 1 mark each. | | |
| SN | | Marks |
| 1 | <p>If two positive integers p and q can be expressed as $p = ab^2$ and $q = a^3b$; a, b being prime numbers, then LCM (p, q) is</p> <p>(a) ab (b) a^2b^2 (c) a^3b^2 (d) a^3b^3</p> | 1 |
| 2 | <p>What is the greatest possible speed at which a man can walk 52 km and 91 km in an exact number of hours?</p> <p>(a) 17 km/hours (b) 7 km/hours</p> <p>(c) 13 km/hours (d) 26 km/hours</p> | 1 |
| 3 | <p>If one zero of the quadratic polynomial $x^2 + 3x + k$ is 2, then the value of k is</p> <p>(a) 10 (b) -10 (c) 5 (d) -5</p> | 1 |
| 4 | <p>Graphically, the pair of equations given by</p> $6x - 3y + 10 = 0$ $2x - y + 9 = 0$ <p>represents two lines which are</p> <p>(a) intersecting at exactly one point. (b) parallel.</p> <p>(c) coincident. (d) intersecting at exactly two points.</p> | 1 |

| | | |
|----|---|---|
| 5 | If the quadratic equation $x^2 + 4x + k = 0$ has real and equal roots, then (a) $k < 4$ (b) $k > 4$ (c) $k = 4$ (d) $k \geq 4$ | 1 |
| 6 | The perimeter of a triangle with vertices (0, 4), (0, 0) and (3, 0) is (a) 5 units (b) 12 units (c) 11 units (d) $(7 + \sqrt{5})$ units | 1 |
| 7 | If in triangles ABC and DEF, $\frac{AB}{DE} = \frac{BC}{FD}$, then they will be similar, when (a) $\angle B = \angle E$ (b) $\angle A = \angle D$ (c) $\angle B = \angle D$ (d) $\angle A = \angle F$ | 1 |
| 8 | In which ratio the y-axis divides the line segment joining the points (5, -6) and (-1, -4)? (a) 1 : 5 (b) 5 : 1 (c) 1 : 1 (d) 1 : 2 | 1 |
| 9 | In the figure, if PA and PB are tangents to the circle with centre O such that $\angle APB = 50^\circ$, then $\angle OAB$ is equal to  (a) 25° (b) 30° (c) 40° (d) 50° | 1 |
| 10 | If $\sin A = \frac{1}{2}$, then the value of $\sec A$ is : (a) $\frac{2}{\sqrt{3}}$ (b) $\frac{1}{\sqrt{3}}$ (c) $\sqrt{3}$ (d) 1 | 1 |
| 11 | $\sqrt{3} \cos^2 A + \sqrt{3} \sin^2 A$ is equal to (a) 1 (b) $\frac{1}{\sqrt{3}}$ (c) $\sqrt{3}$ (d) 0 | 1 |
| 12 | The value of $\cos 1^\circ \cdot \cos 2^\circ \cdot \cos 3^\circ \cdot \cos 4^\circ \dots \dots \dots \cos 90^\circ$ is (a) 1 (b) 0 (c) - 1 (d) 2 | 1 |
| 13 | If the perimeter of a circle is equal to that of a square, then the ratio of their areas is (a) 22 : 7 (b) 14 : 11 (c) 7 : 22 (d) 11 : 14 | 1 |
| 14 | If the radii of two circles are in the ratio of 4 : 3, then their areas are in the ratio of : (a) 4 : 3 (b) 8 : 3 (c) 16 : 9 (d) 9 : 16 | 1 |
| 15 | The total surface area of a solid hemisphere of radius 7 cm is : (a) $447\pi \text{ cm}^2$ (b) $239\pi \text{ cm}^2$ (c) $174\pi \text{ cm}^2$ (d) $147\pi \text{ cm}^2$ | 1 |

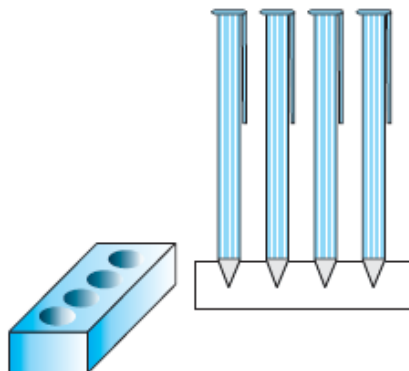
| | | | | | | | | | | | | | | |
|---|---|--------------|---------|---------|---------|---------|---------|-----------|----|----|----|----|---|---|
| 16 | <p>For the following distribution :</p> <table border="1" data-bbox="183 163 1122 279"> <tr> <td>Class</td> <td>0 - 5</td> <td>5 - 10</td> <td>10 - 15</td> <td>15 - 20</td> <td>20 - 25</td> </tr> <tr> <td>Frequency</td> <td>10</td> <td>15</td> <td>12</td> <td>20</td> <td>9</td> </tr> </table> <p>the upper limit of the modal class is</p> <p>(a) 10 (b) 15 (c) 20 (d) 25</p> | Class | 0 - 5 | 5 - 10 | 10 - 15 | 15 - 20 | 20 - 25 | Frequency | 10 | 15 | 12 | 20 | 9 | 1 |
| Class | 0 - 5 | 5 - 10 | 10 - 15 | 15 - 20 | 20 - 25 | | | | | | | | | |
| Frequency | 10 | 15 | 12 | 20 | 9 | | | | | | | | | |
| 17 | <p>If the mean of the following distribution is 2.6, then the value of y is</p> <table border="1" data-bbox="183 485 1138 596"> <tr> <td>Variable (x)</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> </tr> <tr> <td>Frequency</td> <td>4</td> <td>5</td> <td>y</td> <td>1</td> <td>2</td> </tr> </table> <p>(a) 3 (b) 8 (c) 13 (d) 24</p> | Variable (x) | 1 | 2 | 3 | 4 | 5 | Frequency | 4 | 5 | y | 1 | 2 | 1 |
| Variable (x) | 1 | 2 | 3 | 4 | 5 | | | | | | | | | |
| Frequency | 4 | 5 | y | 1 | 2 | | | | | | | | | |
| 18 | <p>A card is selected at random from a well shuffled deck of 52 cards. The probability of its being a red face card is</p> <p>(a) $\frac{3}{26}$ (b) $\frac{3}{13}$ (c) $\frac{2}{13}$ (d) $\frac{1}{2}$</p> | 1 | | | | | | | | | | | | |
| <p>Direction for questions 19 & 20: In question numbers 19 and 20, a statement of Assertion (A) is followed by a statement of Reason (R). Choose the correct option.</p> | | | | | | | | | | | | | | |
| 19 | <p>Assertion: If HCF of 510 and 92 is 2, then the LCM of 510 & 92 is 32460</p> <p>Reason: as $HCF(a,b) \times LCM(a,b) = a \times b$</p> <p>(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).</p> <p>(b) Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A).</p> <p>(c) Assertion (A) is true but Reason (R) is false.</p> <p>(d) Assertion (A) is false but Reason (R) is true.</p> | 1 | | | | | | | | | | | | |
| 20 | <p>Assertion (A): The ratio in which the line segment joining (2, -3) and (5, 6) internally divided by x axis is 1:2.</p> <p>Reason (R): as formula for the internal division is $\left(\frac{mx_2 + nx_1}{m+n}, \frac{my_2 + ny_1}{m+n}\right)$</p> <p>(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).</p> <p>(b) Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A).</p> <p>(c) Assertion (A) is true but Reason (R) is false.</p> <p>(d) Assertion (A) is false but Reason (R) is true.</p> | 1 | | | | | | | | | | | | |
| <p>Section B</p> | | | | | | | | | | | | | | |
| <p>Section B consists of 5 questions of 2 marks each.</p> | | | | | | | | | | | | | | |

| | | | |
|---|---|--|---|
| 21 | <p>For what values of k will the following pair of linear equations have infinitely many solutions?</p> $kx + 3y - (k - 3) = 0$ $12x + ky - k = 0$ | 2 | |
| 22 | <p>In the figure, altitudes AD and CE of ΔABC intersect each other at the point P. Show that:</p> <p>(i) $\Delta ABD \sim \Delta CBE$ (ii) $\Delta PDC \sim \Delta BEC$</p> <p style="text-align: center;">[OR]</p> <p>In the figure, $DE \parallel AC$ and $DF \parallel AE$. Prove that $\frac{BF}{FE} = \frac{BE}{EC}$</p> |   | 2 |
| 23 | Two concentric circles are of radii 5 cm and 3 cm. Find the length of the chord of the larger circle which touches the smaller circle. | 2 | |
| 24 | If $\cot \theta = \frac{7}{8}$, evaluate $\frac{(1 + \sin \theta)(1 - \sin \theta)}{(1 + \cos \theta)(1 - \cos \theta)}$ | 2 | |
| 25 | Find the perimeter of a quadrant of a circle of radius 14 cm. | 2 | |
| | [OR] | | |
| | Find the diameter of a circle whose area is equal to the sum of the areas of the two circles of radii 24 cm and 7 cm. | | |
| Section C | | | |
| Section C consists of 6 questions of 3 marks each. | | | |
| 26 | Prove that $\sqrt{5}$ is an irrational number. | 3 | |
| 27 | Find the zeroes of the quadratic polynomial $6x^2 - 3 - 7x$ and verify the relationship between the zeroes and the coefficients. | 3 | |
| 28 | <p>A shopkeeper gives books on rent for reading. She takes a fixed charge for the first two days, and an additional charge for each day thereafter. Latika paid Rs 22 for a book kept for six days, while Anand paid Rs 16 for the book kept for four days. Find the fixed charges and the charge for each extra day.</p> <p style="text-align: center;">[OR]</p> <p>Places A and B are 100 km apart on a highway. One car starts from A and another from B at the same time. If the cars travel in the same direction at different speeds, they meet in 5</p> | 3 | |

| | | |
|---|---|---|
| | hours. If they travel towards each other, they meet in 1 hour. What are the speeds of the two cars? | |
| 29 | <p>In the figure, PQ is a chord of length 8 cm of a circle of radius 5 cm. The tangents at P and Q intersect at a point T. Find the length TP.</p>  | 3 |
| 30 | <p>Prove that</p> $\frac{\tan \theta}{1 - \cot \theta} + \frac{\cot \theta}{1 - \tan \theta} = 1 + \sec \theta \operatorname{cosec} \theta$ <p style="text-align: center;">[OR]</p> <p>If $\sin \theta + \cos \theta = \sqrt{3}$, then prove that $\tan \theta + \cot \theta = 1$</p> | 3 |
| 31 | <p>Two dice are thrown at the same time. What is the probability that the sum of the two numbers appearing on the top of the dice is</p> <p>(i) 8? (ii) 13? (iii) less than or equal to 12?</p> | 3 |
| Section D | | |
| Section D consists of 4 questions of 5 marks each. | | |
| 32 | <p>An express train takes 1 hour less than a passenger train to travel 132 km between Mysore and Bangalore (without taking into consideration the time they stop at intermediate stations). If the average speed of the express train is 11 km/h more than that of the passenger train, find the average speed of the two trains.</p> <p style="text-align: center;">[OR]</p> <p>A motor boat whose speed is 18 km/h in still water takes 1 hour more to go 24 km upstream than to return downstream to the same spot. Find the speed of the stream.</p> | 5 |
| 33 | <p>Prove that If a line is drawn parallel to one side of a triangle to intersect the other two sides in distinct points, the other two sides are divided in the same ratio. In the figure, find EC if $\frac{AD}{DB} = \frac{AE}{EC}$ using the above theorem.</p>  | 5 |

34

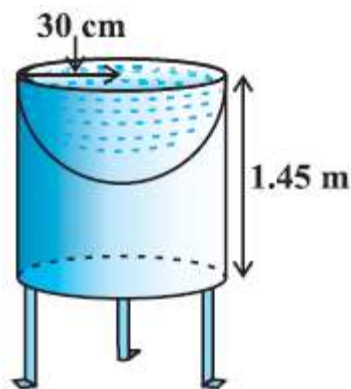
A pen stand made of wood is in the shape of a cuboid with four conical depressions to hold pens. The dimensions of the cuboid are 15 cm by 10 cm by 3.5 cm. The radius of each of the depressions is 0.5 cm and the depth is 1.4 cm. Find the volume of wood in the entire stand.



5

[OR]

Ramesh made a bird-bath for his garden in the shape of a cylinder with a hemispherical depression at one end. The height of the cylinder is 1.45 m and its radius is 30 cm. Find the total surface area of the bird-bath.



35

A life insurance agent found the following data for distribution of ages of 100 policy holders. Calculate the median age, if policies are given only to persons having age 18 years onwards but less than 60 years.

5

| Age (in years) | Number of policy holders |
|----------------|--------------------------|
| Below 20 | 2 |
| 20-25 | 4 |
| 25-30 | 18 |
| 30-35 | 21 |
| 35-40 | 33 |
| 40-45 | 11 |
| 45-50 | 3 |
| 50-55 | 6 |
| 55-60 | 2 |

Section E

Case study based questions are compulsory.

36 **Case Study – 1**

In the month of April to June 2022, the exports of passenger cars from India increased by 26% in the corresponding quarter of 2021–22, as per a report. A car manufacturing company planned to produce 1800 cars in 4th year and 2600 cars in 8th year. Assuming that the production increases uniformly by a fixed number every year.

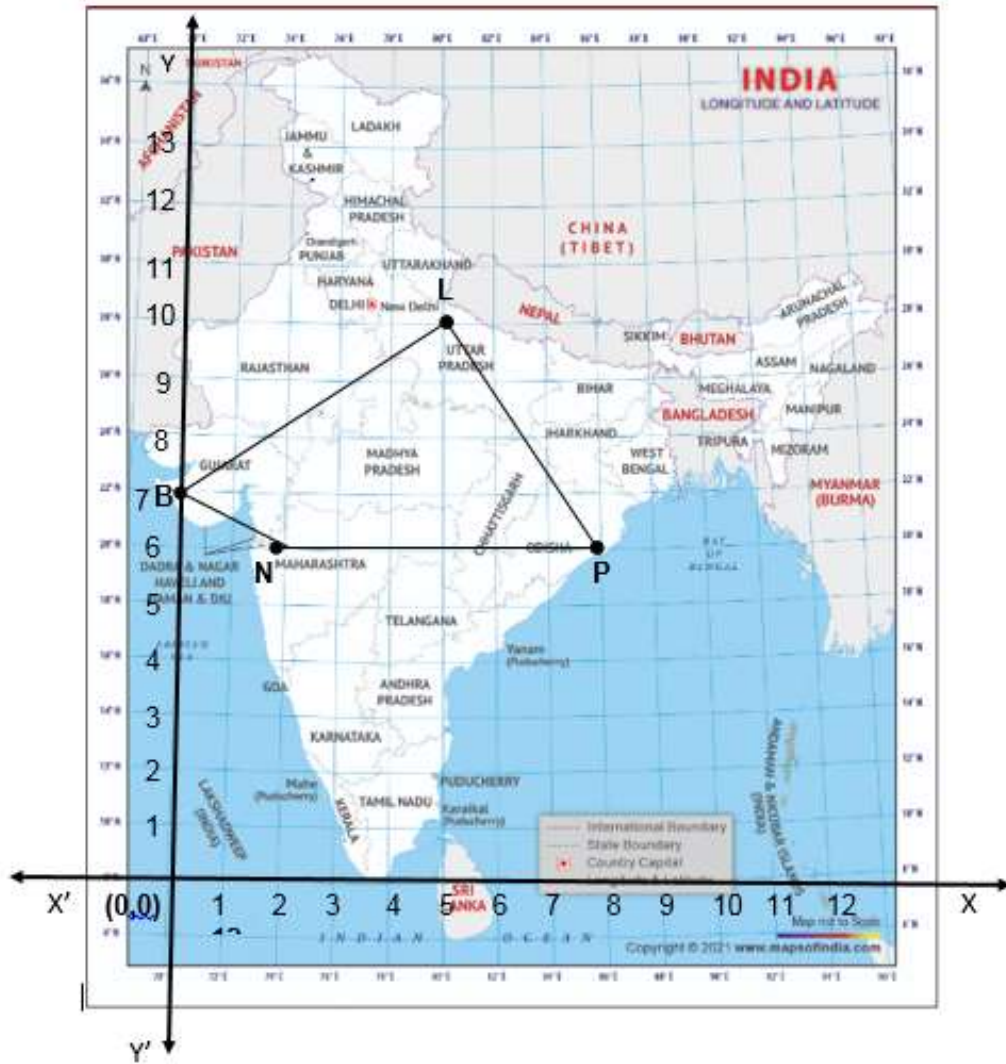


Based on the above information answer the following questions.

| | | |
|-------------|---|---|
| I. | Find the production in the 1 st year. | 1 |
| II. | Find the production in the 12 th year. | 1 |
| III. | Find the total production in first 10 years. | 2 |
| [OR] | | |
| | In how many years will the total production reach 31200 cars? | |

37 Case Study – 2

In a GPS, The lines that run east-west are known as lines of latitude, and the lines running north-south are known as lines of longitude. The latitude and the longitude of a place are its coordinates and the distance formula is used to find the distance between two places. The distance between two parallel lines is approximately 150 km. A family from Uttar Pradesh planned a round trip from Lucknow (L) to Puri (P) via Bhuj (B) and Nashik (N) as shown in the given figure below.



Based on the above information answer the following questions using the coordinate geometry.

| | | |
|---|--|---|
| I. | Find the distance between Lucknow (L) to Bhuj(B). | 1 |
| II. | If Kota (K), internally divide the line segment joining Lucknow (L) to Bhuj (B) into 3 : 2 then find the coordinate of Kota (K). | 1 |
| III. | Name the type of triangle formed by the places Lucknow (L), Nashik (N) and Puri (P) | 2 |
| [OR] | | |
| Find a place (point) on the longitude (y-axis) which is equidistant from the points Lucknow (L) and Puri (P). | | |

38 Case Study – 3

Lakshaman Jhula is located 5 kilometers north-east of the city of Rishikesh in the Indian state of Uttarakhand. The bridge connects the villages of Tapovan to Jonk. Tapovan is in Tehri Garhwal district, on the west bank of the river, while Jonk is in Pauri Garhwal district, on the east bank. Lakshman Jhula is a pedestrian bridge also used by motorbikes. It is a landmark of Rishikesh.

A group of Class X students visited Rishikesh in Uttarakhand on a trip. They observed from a point (P) on a river bridge that the angles of depression of opposite banks of the river are 60° and 30° respectively. The height of the bridge is about 18 meters from the river.



Based on the above information answer the following questions.

| | | |
|-------------|--|---|
| I. | Find the distance PA. | 1 |
| II. | Find the distance PB | 1 |
| III. | Find the width AB of the river. | 2 |
| [OR] | | |
| | Find the height BQ if the angle of the elevation from P to Q be 30° . | |

Practice Paper-2

Class-X (2022-23)

Science (086)

Time: 3 Hours

Max. Marks: 80

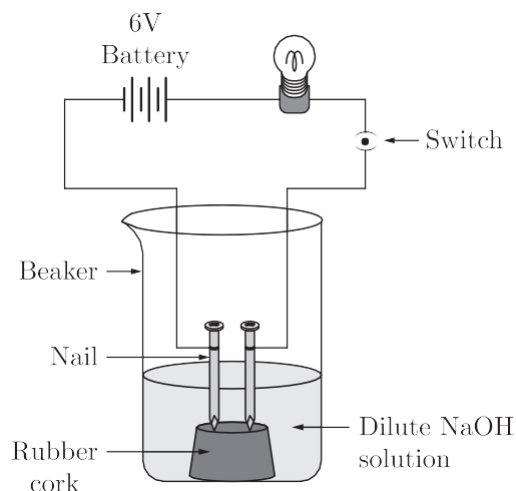
General Instructions:

1. This question paper consists of 39 questions in 5 sections.
2. All questions are compulsory. However, an internal choice is provided in some questions. A student is expected to attempt only one of these questions.
3. Section A consists of 20 Objective Type questions carrying 1 mark each.
4. Section B consists of 6 Very Short questions carrying 02 marks each. Answers to these questions should be in the range of 30 to 50 words.
5. Section C consists of 7 Short Answer type questions carrying 03 marks each. Answers to these questions should be in the range of 50 to 80 words.
6. Section D consists of 3 Long Answer type questions carrying 05 marks each. Answer to these questions should be in the range of 80 to 120 words.
7. Section E consists of 3 source-based/case-based units of assessment of 04 marks each with sub-parts.

SECTION-A

Select and write one most appropriate option out of the four options given for each of the questions 1 – 20.

1. In an attempt to demonstrate electrical conductivity through an electrolyte, the following apparatus (figure) was set up.



Which among the following statement (s) is (are) correct?

1. Bulb will not glow because electrolyte is not acidic.
2. Bulb will glow because NaOH is a strong base and furnishes ions for conduction.
3. Bulb will not glow because circuit is incomplete.
4. Bulb will not glow because it depends upon the type of electrolytic solution.

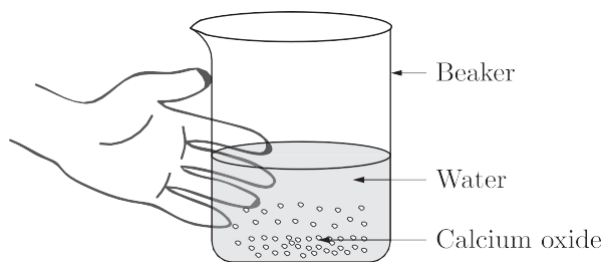
- (a) 1 and 3
- (b) 2 and 4
- (c) Only 2
- (d) Only 4

2. The following reaction is an example of a
 $4\text{NH}_3(\text{g}) + 5\text{O}_2(\text{g}) \rightarrow 4\text{NO}(\text{g}) + 4\text{H}_2\text{O}(\text{g})$

- 1. displacement reaction
- 2. combination reaction
- 3. redox reaction
- 4. neutralisation reaction

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

3. Calcium oxide reacts vigorously with water.



Which of the following is the incorrect observation of the reaction shown in the above set up?

- (a) It is an endothermic reaction.
- (b) Slaked lime is produced.
- (c) It is an exothermic reaction.
- (d) It is a combination reaction.

4. $\text{N}_2 + 3\text{H}_2 \rightarrow 2\text{NH}_3$

With the reference of above reaction which one of the option in the table is correct?

| | Reactants | Products |
|-----|--------------------------|---------------------------|
| (a) | N_2, H_2 | NH_3 |
| (b) | NH_3 | N_2, H_2 |
| (c) | N_2 | H_2, NH_3 |
| (d) | N_2NH_3 | H_2 |

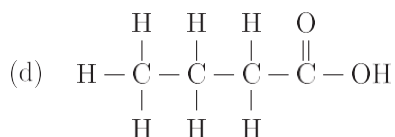
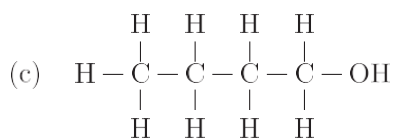
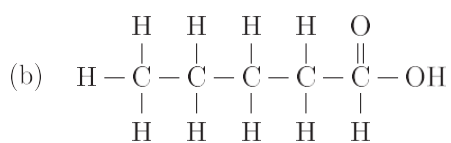
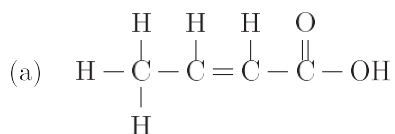
5. Which one of the following properties is not general exhibited by ionic compounds?

- (a) Solubility in water
- (b) Electrical conductivity in solid state
- (c) High melting and boiling points
- (d) Electrical conductivity in molten state

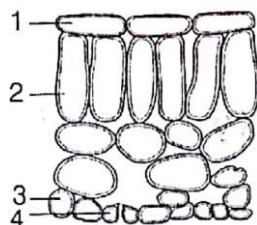
6. A student requires hard water for an experiment in his laboratory which is not available in the neighbouring area. In the laboratory there are some salts, which when dissolved in distilled water can convert it into hard water. Select from the following groups of salts, a group, and each salt of which when dissolved in distilled water will make it hard.

- (a) Sodium chloride, Potassium chloride
- (b) Sodium sulphate, Potassium sulphate
- (c) Sodium sulphate, Calcium sulphate
- (d) Calcium sulphate, Calcium chloride

7. The correct structural formula of butanoic acid is



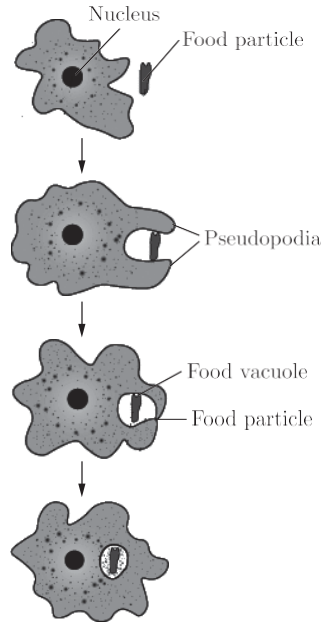
8. The diagram shows the arrangement of cells inside the leaf of a green plant. (No cell contents are shown).



Which of the following cells normally contain chloroplasts?

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

9. Identify the micro-organism whose nutrition type is shown below :

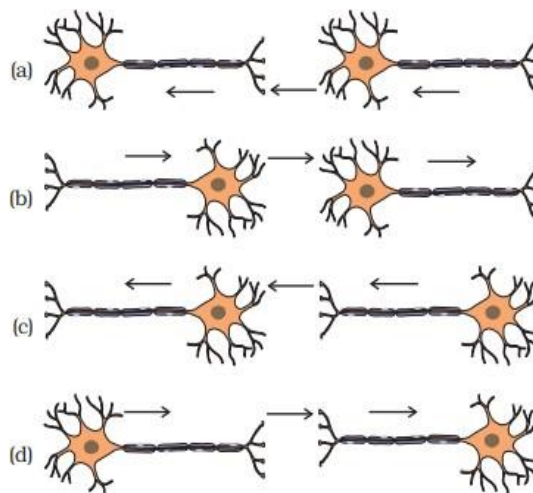


- (a) Food bacteria
- (b) Yeast
- (c) Fungus
- (d) Amoeba

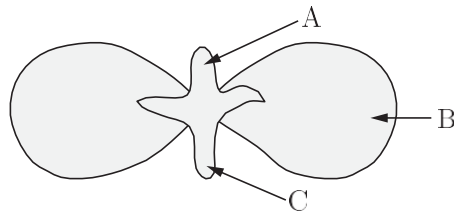
10. Structure present in a cell which is responsible for determination of the sex of a baby is :

- (a) cytoplasm (b) cell membrane
- (c) nucleus (d) chromosome

11. What is the correct direction of flow of electrical impulses?



12. In following diagram the parts A, B and C are sequentially

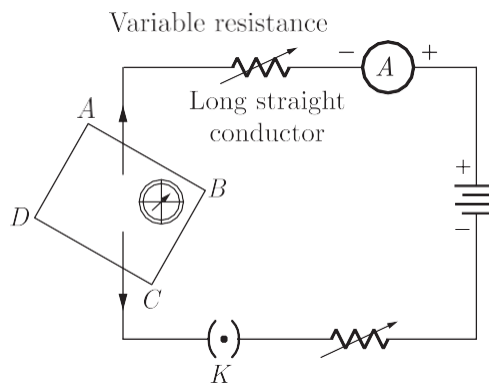


- (a) cotyledon, plumule and radicle
- (b) plumule, radicle and cotyledon
- (c) plumule, cotyledon and radicle
- (d) radicle, cotyledon and plumule

13. At the time of short circuit, the electric current in the circuit :

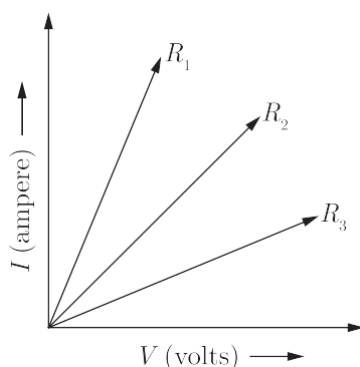
- (a) vary continuously
- (b) does not change
- (c) reduces substantially
- (d) increases heavily

14. If the key in the arrangement taken out (the circuit is made open) and magnetic field lines are drawn over the horizontal plane *ABCD*, the lines are



- (a) concentric circles
- (b) elliptical in shape
- (c) straight lines parallel to each other
- (d) concentric circles near the point *O* but of elliptical shapes as we go away from it.

15. A student carries out an experiment and plots the V - I graph of three samples of nichrome wire with resistances R_1, R_2 and R_3 respectively (Figure). Which of the following is true?



- (a) $R_1 = R_2 = R_3$ (b) $R_1 < R_2 < R_3$
 (c) $R_3 < R_2 < R_1$ (d) $R_2 < R_3 < R_1$
16. Which of the following statement is not correct about the magnetic field?
- (a) Magnetic field lines form a continuous closed curve.
 (b) Magnetic field lines do not intersect each other.
 (c) Direction of tangent at any point on the magnetic field line curve gives the direction of magnetic field at that point.
 (d) Outside the magnet, magnetic field lines go from South to North pole of the magnet.

Question no. 17 to 20 are Assertion-Reasoning based questions.

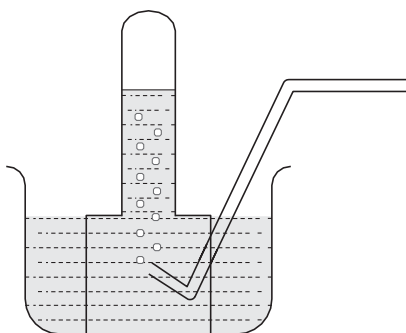
17. **Assertion :** Corrosion of iron is a serious problem.
Reason : Every year an enormous amount of money is spent to replace damaged iron.
- (a) Both Assertion and Reason are True and Reason is the correct explanation of the Assertion.
 (b) Both Assertion and Reason are True but Reason is not the Correct explanation of the Assertion.
 (c) Assertion is True but the Reason is False.
 (d) Both Assertion and Reason are False.
18. **Assertion :** Dominant allele is an allele whose phenotype expresses even in the presence of another allele of that gene.
Reason : It is represented by a capital letter, e.g. T.
- (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.
19. **Assertion :** All the plants possess autotrophic mode of nutrition.
Reason : Due to the presence of green coloured pigment chlorophyll in them.
- (a) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
 (b) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
 (c) Assertion is true but Reason is false.
 (d) Both Assertion and Reason are false.

20. **Assertion :** The magnetic field produced by a current carrying solenoid is independent of its length and cross-section area.
Reason : The magnetic field inside the solenoid is uniform.
- (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.

SECTION-B

Question no. 21 to 26 are very short answer questions.

21. A metal is treated with dil H_2SO_4 , the gas evolved is collected by the method shown in the figure. Answer the following :
- (i) Name the gas.
 - (ii) Name the method of collection of the gas.



OR

List any two observations when a highly reactive metal is dropped in water.

- 22. What do you mean by diffusion?
 - 23. Which are the first simple molecules of food produced during photosynthesis? What happens to these simple molecules in the leaves later?
 - 24. What is the meaning of the term “assimilation”?
 - 25. Draw a neat diagram to show the refraction of a light ray through a glass prism and label on it the angle of incidence and angle of deviation.
- OR
- What is the scattering of light? Explain with the help of an example.
- 26. What will happen to the garbage and dead animals and plants in absence of microorganisms?

SECTION-C

Question no. 27 to 33 are short answer questions.

27. State which of the following chemical reactions will take place or not, giving suitable reason for each :

- (i) $\text{Zn(s)} + \text{CuSO}_4(\text{aq}) \rightarrow \text{ZnSO}_4(\text{aq}) + \text{Cu(s)}$
- (ii) $\text{Fe(s)} + \text{ZnSO}_4(\text{aq}) \rightarrow \text{FeSO}_4(\text{aq}) + \text{Zn(s)}$
- (iii) $\text{Zn(s)} + \text{FeSO}_4(\text{aq}) \rightarrow \text{ZnSO}_4(\text{aq}) + \text{Fe(s)}$

28. Give reasons for the following :

- (i) Shining surfaces of metals become dull on exposure to air and moisture.
- (ii) Aluminium is extracted from its ore by electrolysis of molten ore.
- (iii) Gold is available in the native state.

29. Mention the three kinds of cells present in blood. Write one function of each.

OR

With the help of diagram explain how exchange of gases occurs in leaf of a plant.

30. Manju is uses a concave mirror for image formation for different positions of an object. What inferences can be drawn about the following when an object is placed at a distance of 10 cm from the pole of a concave mirror of focal length 15 cm?

- (a) Position of the image
- (b) Size of the image
- (c) Nature of the image

Draw a labelled ray diagram to justify your inferences.

31. (a) Define optical centre of a spherical lens.

(b) You are given a convex lens of focal length 30 cm. Where would you place an object to get a real, inverted and highly enlarged image of the object? Draw a ray diagram showing the image formation.

(c) A concave lens has a focal length of 20 cm. At what distance should an object be placed so that it forms an image at 15 cm away from the lens?

32. Pawan is connected a galvanometer with a coil of insulated copper wire .What would happen if a bar magnet is :

- (i) Pushed into the coil?
- (ii) Withdrawn from inside the coil?
- (iii) Held stationary inside the coil?

OR

You are given two identical looking iron bars. Just using these two bars how will you identify whether any or both of these bars is/are a magnet?

33. Explain the phenomenon of Biological Magnification. How does it affect organisms belonging to different trophic levels particularly the tertiary consumers?

SECTION-D

Question no. 34 to 36 are Long answer questions.

34. An organic compound A is widely used as a preservative in pickles and has a molecular formula $\text{C}_2\text{H}_4\text{O}_2$. This compound reacts with ethanol to form a sweet smelling compound B.

- (a) Identify the compound *A*.
- (b) Write the chemical equation for the reaction with ethanol to form compound *B*.
- (c) How can we get compound *A* from *B*?
- (d) Name the process and write corresponding chemical equation.
- (e) Which gas is produced when compound *A* reacts with washing soda? Write the chemical equation.

OR

- (a) The formula of an ester is $\text{CH}_3\text{COOC}_2\text{H}_5$. Write the structural formulae of the corresponding alcohol and the acid.
- (b)
 - (i) Mention the experimental conditions involved in obtaining ethene from ethanol.
 - (ii) Write the chemical equation for the above reaction.

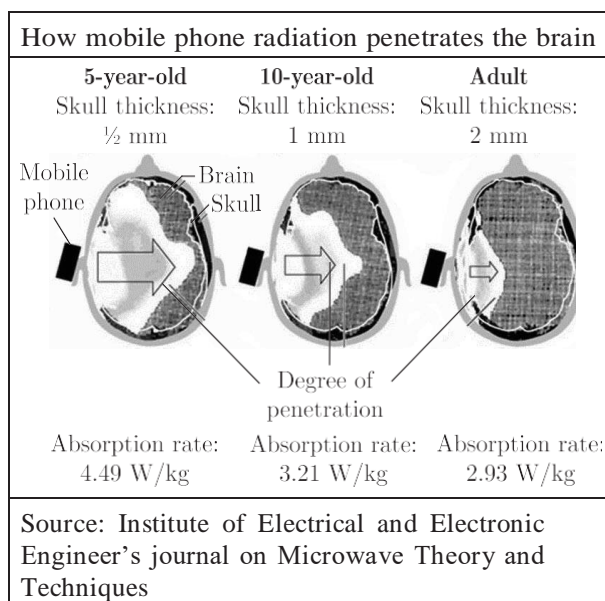
- 35.** (a) Write the function of following parts in human female reproductive system :
- (i) Ovary
 - (ii) Oviduct
 - (iii) Uterus
- (b) Describe in brief the structure and function of placenta.

OR

Define the terms:

- (i) Syngamy
- (ii) Triple fusion
- (iii) Implantation
- (iv) Placenta
- (v) Gestation.

- 36.** The mobile phone is an excellent communication device. Mobile phones use electromagnetic radiation in the microwave range. Part of the radio wave emitted by the mobile phone handset will be absorbed by the head. Head is in the 'near field' of radiation, so that most of the heating effect occurs in the head. Temperature in the internal ear, brain increases by 1 degree or more. This adversely affects the functioning of these organs since these have fluid filled cavities. But prolonged heating effect can alter brain functions and hearing ability also. Other harmful effects such as Premature Cataract, Confusion and loss of memory may also be possible. Following figure shows that how mobile phone radiation penetrates the brain.



- (i) What precautions should be taken while using mobile phones?
- (ii) Which radiations are used in mobile phones?
- (iii) How does prolonged heating effect due to mobile radiations can effect adversely?
- (iv) In which part of our body, most of the heating effect occurs due to use of mobiles?

SECTION-E

Question no. 37 to 39 are case-based/data -based questions with 2 to 3 short sub-parts. Internal choice is provided in one of these sub-parts.

- 37.** The reactivity series is a list of metals arranged in the order of their decreasing activities. The metal at the top of the reactivity series is the most reactive and metal at the bottom is the least reactive. The more reactive metal displaces less reactive metal from its salt solution.

| | | |
|-----|------------|-----------------------|
| K | Potassium | More reactive |
| Na | Sodium | |
| Ca | Calcium | |
| Mg | Magnesium | |
| Al | Aluminium | |
| Zn | Zinc | Reactivity decreases. |
| Fe | Iron | Least reactive |
| Pb | Lead | |
| [H] | [Hydrogen] | |
| Cu | Copper | |
| Hg | Mercury | |
| Ag | Silver | |
| Au | Gold | |

- (i) Name the metals which react with steam but not with hot water.
- (ii) What happen when calcium reacts with nitric acid and which method is used to extract metal present at the top of the reactivity series?

OR

- (ii) Which of the following metals exist in their native states in nature?
 - I. Cu
 - II. Au
 - III. Zn
 - IV. Ag

- 38.** Question numbers i - iv are based on the table given below. Study the table and answer the following questions.

Table-A

| | Characters | Males | Females |
|----|--------------------------|----------|----------|
| 1. | Total no. of chromosomes | 23 pairs | 23 pairs |
| 2. | No. of autosome | 22 pairs | 22 pairs |
| 3. | No. of sex chromosome | 1 pair | 1 pair |

- (i) What is sex determination?
- (ii) What are the sex chromosomes in the males?

(iii) What are the sex chromosomes in the females?

OR

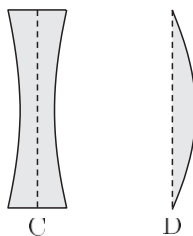
(iv) Is the father responsible for the sex of the child?

39. Lenses are objects made of transparent materials such as glass or clear plastic that has curved surfaces. Diverging lenses are thicker at their edges than at their centres and makes light rays passing through them spread out. Converging lenses are thicker in their middle than at their edges and make light rays passing through them focus at a point. These are used in spectacles to help people with poor vision see better. The converging lenses magnify by bending the rays of light that pass through them to meet at a point called focus. Thicker the converging lens is at its centre, the more it magnifies and closer the focus is to the lens.

(i) Ravi uses two lenses A and B of same size and same material as shown. P_1 and P_2 are the powers of A and B. An object is kept at the same distance from the lens between F and 2F of each lens on the principal axis in turn. Let I_1 and I_2 be the image formed by two lenses respectively. What is the relation of image distances of both lenses?

(ii) Write down the relation between the power of lens of both lenses?

(iii) Meenakshi uses above two lenses A and B along with another two lenses C and D, as shown :



She is able to see the subject matter on the black board while sitting in the front row in the classroom but is unable to see the same matter while sitting in the last row.

Which of the above four lenses will she require to correct the defect in her vision? Why?

OR

(iv) Natasha places an object on the principal axis of above given lens A. One end of this object coincides with the focus F and the other end with 2F. What will be the nature of the image formed by the lens on the other side?

प्रतिदर्श प्रश्नपत्र (2022-23)

हिंदी (ब) कोड संख्या 085

कक्षा - दसवीं

निर्धारित समय :3 घंटे

पूर्णांक :80

सामान्य निर्देश :-

- इस प्रश्नपत्र में दो खंड हैं - खंड 'अ' और 'ब'।
- खंड 'अ' में उपप्रश्नों सहित 45 वस्तुपरक प्रश्न पूछे गए हैं। दिए गए निर्देशों का पालन करते हुए कुल 40 प्रश्नों के उत्तर दीजिए।
- खंड 'ब' में वर्णनात्मक प्रश्न पूछे गए हैं, आंतरिक विकल्प भी दिए गए हैं।
- निर्देशों को बहुत सावधानी से पढ़िए और उनका पालन कीजिए।
- दोनों खंडों के कुल 18 प्रश्न हैं। दोनों खंडों के प्रश्नों के उत्तर देना अनिवार्य है।
- यथासंभव दोनों खंडों के प्रश्नों के उत्तर क्रमशः लिखिए।

खंड - अ (वस्तुपरक प्रश्न)

प्रश्न 1 निम्नलिखित गद्यांश को ध्यानपूर्वक पढ़कर इसके आधार पर सर्वाधिक उपयुक्त उत्तर वाले विकल्प चुनकर लिखिए-

(1×5=5)

'एक भारत श्रेष्ठ भारत' अभियान देश के विभिन्न राज्यों में सांस्कृतिक एकता को बढ़ावा देता है। भारत एक अनोखा राष्ट्र है, जिसका निर्माण विविध भाषा, संस्कृति, धर्म के तानों-बानों, अहिंसा और न्याय के सिद्धान्तों पर आधारित स्वाधीनता संग्राम तथा सांस्कृतिक विकास के समृद्ध इतिहास द्वारा एकता के सूत्र में बाँधकर हुआ है। हम इतिहास की बात करें या वर्तमान की भारतवर्ष में कला एवं संस्कृति का अनूठा प्रदर्शन हर समय एवं हर स्थान पर हुआ है। नृत्य, संगीत, चित्रकला, मूर्तिकला, वास्तुकला इत्यादि से समृद्ध भारत की पहचान पूरे विश्व में है। भारतीय वास्तुकला एवं मूर्तिकला की परंपरा अत्यंत प्राचीन है। इस कला की कहानी लगभग पाँच हज़ार वर्ष पूर्व सिंधु घाटी की सभ्यता से आरंभ होती है। इसके दो प्रमुख नगरों;मोहनजोदाड़ो और हड़प्पा में अच्छी सड़कें, दो मंजिले मकान, स्नान-घर, पक्की ईंटों के प्रयोग के सबूत मिले हैं। गुजरात के लोथल नामक स्थान की खुदाई से पता चलता है कि वहाँ नावों से सामान उतारने के लिए 216 x 37 मीटर लम्बी-चौड़ी तथा 15 फीट गहरी गोदी बनी हुई थी। ये लोग मिट्टी, पत्थर, धातु, हड्डी, काँच आदि की मूर्तियाँ

एवं खिलौने बनाने में कुशल थे। धातु से बनी एक मूर्ति में एक नारी को कमर पर हाथ रखे नृत्य मुद्रा में दर्शाया गया है। दूसरी मूर्ति पशुपतिनाथ शिव की तथा तीसरी मूर्ति दाढ़ी वाले व्यक्ति की है। ये तीनों मूर्तियाँ कला के सर्वश्रेष्ठ नमूने हैं। मूर्ति का श्रेष्ठ होना मूर्तिकार के कौशल पर निर्भर करता है। मूर्ति की प्रत्येक भावभंगिमा को दर्शाने में मूर्तिकार जी-जान लगा देता है। भारत के प्रत्येक कोने में इस प्रकार की विभिन्न कलाएँ हमारी संस्कृति में प्रतिबिंबित होती हैं। इस अतुलनीय निधि का बचाव और प्रचार-प्रसार ही एक भारत श्रेष्ठ भारत की परिकल्पना है।

(1) भारत को 'अनोखा राष्ट्र' कहने से लेखक का तात्पर्य है-

- (क) बहुमुखी प्रतिभा का प्रदर्शन
- (ख) मूर्तिकला के सर्वश्रेष्ठ नमूने
- (ग) संवेदनशील भारतीय नागरिक
- (घ) विभिन्नता में एकता का प्रतीक

(2) सिंधु घाटी की सभ्यता प्रतीक है-

- (क) मूर्तिकार के कौशल का
- (ख) एक भारत श्रेष्ठ भारत का
- (ग) प्राचीन सुव्यवस्थित सभ्यता का
- (घ) स्वाधीनता संग्राम के नायकों का

(3) गद्यांश हमें संदेश देता है-

- (क) कलाकार अपनी कला का श्रेष्ठ प्रदर्शन करता है।
- (ख) भारतीय नृत्य और संगीत की कला विश्व प्रसिद्ध है।
- (ग) भारतीय सभ्यता व संस्कृति का संरक्षण आवश्यक है।
- (घ) स्वाधीनता संग्राम में क्रांतिकारियों का विशेष योगदान है।

(4) गद्यांश में मूर्तियों का सविस्तार वर्णन दर्शाता है-

- (क) सूक्ष्म अवलोकन एवं कला-प्रेम
- (ख) प्राचीन मूर्तियों की भावभंगिमा
- (ग) स्थूल अवलोकन एवं कला-प्रेम
- (घ) सांस्कृतिक एकता एवं सौहार्द

(5) निम्नलिखित कथन (A) तथा कारण (R) को ध्यानपूर्वक पढ़िए। उसके बाद दिए गए विकल्पों में से कोई एक सही विकल्प चुनकर लिखिए।

कथन (A) भारतवर्ष में कला एवं संस्कृति का अनूठा प्रदर्शन हर समय हुआ है।

कारण (R) भारतीय वास्तुकला एवं मूर्तिकला की परंपरा अत्यंत प्राचीन है।

(क) कथन (A) तथा कारण (R) दोनों गलत हैं।

(ख) कथन (A) गलत है लेकिन कारण (R) सही है।

(ग) कथन (A) सही है लेकिन कारण (R) उसकी गलत व्याख्या करता है।

(घ) कथन (A) तथा कारण (R) दोनों सही हैं तथा कारण (R) कथन (A) की सही व्याख्या करता है।

प्रश्न 2 निम्नलिखित गद्यांश को ध्यानपूर्वक पढ़कर इसके आधार पर सर्वाधिक उपयुक्त उत्तर वाले विकल्प चुनकर लिखिए-

(1×5=5)

परिश्रम यानी मेहनत अपना जवाब आप ही है। उसका अन्य कोई जवाब न है, न हो सकता है अर्थात् जिस काम के लिए परिश्रम करना आवश्यक हो, हम चाहें कि वह अन्य किसी उपाय से पूरा हो जाए, ऐसा हो पाना कतई संभव नहीं। वह तो लगातार और मन लगाकर परिश्रम करने से ही होगा। इसी कारण कहा जाता है कि 'उद्योगिनं पुरुषसिंहमुपैति लक्ष्मी' अर्थात् उद्योग या परिश्रम करने वाले पुरुष सिंहीं का ही लक्ष्मी वरण करती है। सभी प्रकार की धन-संपत्तियाँ और सफलताएँ लगातार परिश्रम से ही प्राप्त होती हैं। परिश्रम ही सफलता की कुंजी है, यह परीक्षण की कसौटी पर कसा गया सत्य है। निरंतर प्रगति और विकास की मंज़िलें तय करते हुए हमारा संसार आज जिस स्तर और स्थिति तक पहुँच पाया है, वह सब हाथ पर हाथ रखकर बैठे रहने से नहीं हुआ। कई प्रकार के विचार बनाने, अनुसंधान करने, उनके अनुसार लगातार योजनाएँ बनाकर तथा कई तरह के अभावों और कठिनाइयों को सहते हुए निरंतर परिश्रम करते रहने से ही संभव हो पाया है। आज जो लोग सफलता के शिखर पर बैठकर दूसरों पर शासन कर रहे हैं, आदेश दे रहे हैं, ऐसी शक्ति और सत्ता प्राप्त करने के लिए पता नहीं किन-किन रास्तों से चलकर, किस-किस तरह के कष्ट और परिश्रमपूर्ण जीवन जीने के बाद उन्हें इस स्थिति में पहुँच पाने में सफलता मिल पाई है। हाथ-पैर हिलाने पर ही कुछ पाया जा सकता है, उदास या निराश होकर बैठ जाने से नहीं। निरंतर परिश्रम व्यक्ति को चुस्त-दुरुस्त रखकर सजग तो बनाता ही है, निराशाओं से दूर रख आशा-उत्साह भरा जीवन जीना भी सिखाया करता है।

(1) परीक्षण की कसौटी पर कसे जाने से तात्पर्य है-

(क) सत्य सिद्ध होना

- (ख) कथन का प्रामाणिक होना
- (ग) आकलन प्रक्रिया तीव्र होना
- (घ) योग्यता का मूल्यांकन होना

(2) 'हाथ-पैर हिलाने से कुछ पाया जा सकता है।' पंक्ति के माध्यम से लेखक..... की प्रेरणा दे रहे हैं।

- (क) तैराकी
- (ख) परिश्रम
- (ग) परीक्षण
- (घ) हस्तशिल्प

(3) निम्नलिखित कथनों पर विचार कीजिए -

- (i) परिश्रम व्यक्ति को सकारात्मक बनाता है।
 - (ii) आज संसार पतन की ओर बढ़ रहा है।
 - (iii) पुरुषार्थ के बल पर ही व्यक्ति धनार्जन करता है।
- उपर्युक्त कथनों में से कौन-सा /कौन-से कथन सही है /हैं?

- (क) केवल (i)
- (ख) केवल (ii)
- (ग) (i) और (iii)
- (घ) (ii) और (iii)

(4) निम्नलिखित में से कौन-सा शब्द गद्यांश में दिए गए 'अनुसंधान' शब्द के सही अर्थ को दर्शाता है-

- (क) परीक्षण
- (ख) योजनाएँ
- (ग) अन्वेषण
- (घ) सिंहमुपैति

(5) निम्नलिखित में से किस कथन को गद्यांश की सीख के आधार पर कहा जा सकता है -

- (क) अल्पज्ञान खतरनाक होता है।
- (ख) गया समय वापस नहीं आता है।
- (ग) मेहनत से कल्पना साकार होती है।

(घ) आवश्यकता आविष्कार की जननी है।

प्रश्न 3 निर्देशानुसार 'पदबंध' पर आधारित पाँच बहुविकल्पीय प्रश्नों में से किन्हीं चार प्रश्नों के उत्तर दीजिए-

(1x4=4)

(1) 'वामीरो फटती हुई धरती के किनारे चीखती हुई द्रौड़ रही थी।' रेखांकित पदबंध का भेद है -

- (क) संज्ञा पदबंध
- (ख) सर्वनाम पदबंध
- (ग) क्रिया पदबंध
- (घ) विशेषण पदबंध

(2) 'निर्भीक और साहसी वज़ीर अली अपने अधिकार के लिए लड़ रहा था।' इस वाक्य में विशेषण पदबंध है -

- (क) साहसी वज़ीर अली
- (ख) लिए लड़ रहा था
- (ग) निर्भीक और साहसी
- (घ) अपने अधिकार के लिए

(3) क्रिया पदबंध का उदाहरण छाँटिए -

- (क) बिल्ली ने उचककर दो में से एक अंडा तोड़ दिया।
- (ख) यह काम तो हमेशा आदर्शवादी लोगों ने ही किया है।
- (ग) दोनों कबूतर रातभर खामोश और उदास बैठे रहते हैं।
- (घ) शैलेंद्र तो फ़िल्म-निर्माता बनने के लिए सर्वथा अयोग्य थे।

(4) 'बादशाह सुलेमान मानव जाति के साथ-साथ पशु पक्षियों के भी राजा हैं।' रेखांकित पदबंध का भेद है -

- (क) संज्ञा पदबंध
- (ख) सर्वनाम पदबंध
- (ग) विशेषण पदबंध
- (घ) क्रियाविशेषण पदबंध

(5) 'हरिहर काका धीरे-धीरे चलते हुए आँगन तक पहुँचे।' रेखांकित पदबंध का भेद है-

(क) संज्ञा पदबंध

(ख) क्रिया पदबंध

(ग) विशेषण पदबंध

(घ) क्रियाविशेषण पदबंध

प्रश्न 4 निर्देशानुसार 'रचना के आधार पर वाक्य भेद' पर आधारित पाँच बहुविकल्पीय प्रश्नों में से किन्हीं चार प्रश्नों के उत्तर दीजिए-
(1x4=4)

(1) 'जब उसने ततार्रा को देखा तो वह फूटकर रोने लगी।' इस वाक्य का सरल वाक्य होगा -

(क) ततार्रा को देखते ही वह फूटकर रोने लगी।

(ख) ततार्रा को देखकर वामीरो फूटकर रोने लगी।

(ग) वामीरो ने ततार्रा को देखा और फूटकर रोने लगी।

(घ) जैसे ही वामीरो ने ततार्रा को देखा वह फूटकर रोने लगी।

(2) 'हम जब अकेले पड़ते हैं तब अपने आप से लगातार बड़बड़ाते रहते हैं।' रचना के आधार पर वाक्य भेद है-

(क) सरल वाक्य

(ख) संयुक्त वाक्य

(ग) मिश्रित वाक्य

(घ) सामान्य वाक्य

(3) 'आपके अच्छे कार्यक्रमों को सभी पसंद करते हैं।' दिए गए वाक्य का मिश्रित वाक्य होगा -

(क) आपके अच्छे कार्यक्रम सभी के पसंदीदा होते हैं।

(ख) जब कार्यक्रम होते ही अच्छे हैं सभी पसंद करते ही हैं।

(ग) आपके कार्यक्रम इतने अच्छे होते हैं कि सभी पसंद करते हैं।

(घ) आपके कार्यक्रम इतने अच्छे हैं इसलिए सभी को पसंद आते हैं।

(4) निम्नलिखित वाक्यों में से संयुक्त वाक्य है -

(क) आपने मुझे कारतूस दिए इसलिए आपकी जान बखशी करता हूँ।

(ख) उसके अफ़साने सुन के रॉबिनहुड के कारनामे याद आ जाते हैं।

- (ग) वह एक छह मंज़िली इमारत थी जिसकी छत पर एक सुंदर पर्णकुटी थी।
(घ) ग्वालियर से बंबई की दूरी ने संसार को काफी कुछ बदल दिया था।

(5) 'सभी लिख चुके हैं लेकिन कनक अभी तक लिख रही है।' रचना के आधार पर इस वाक्य का भेद होगा-

- (क) सरल वाक्य
(ख) संयुक्त वाक्य
(ग) मिश्र वाक्य
(घ) विधानवाचक वाक्य

प्रश्न 5 निर्देशानुसार **समास** पर आधारित पाँच बहुविकल्पीय प्रश्नों में से किन्हीं चार प्रश्नों के उत्तर दीजिए-
(1x4=4)

(1) 'महावीर' शब्द/समस्तपद कौन-से समास का उदाहरण है?

- (क) द्विगु समास
(ख) कर्मधारय समास
(ग) तत्पुरुष समास
(घ) अव्ययीभाव समास

(2) 'चंद्रखिलौना'-समस्त पद का विग्रह होगा -

- (क) चंद्र का खिलौना
(ख) चंद्र और खिलौना
(ग) चंद्र रूपी खिलौना
(घ) चंद्र के लिए खिलौना

(3) निम्नलिखित युग्मों पर विचार कीजिए :

समस्तपद

- (i) गृहप्रवेश
(ii) साफ़ - साफ़
(iii) त्रिकोण

समास

- (i) द्वंद्व समास
(ii) अव्ययीभाव समास
(iii) तत्पुरुष समास

(iv) मृगलोचन

(iv) बहुव्रीहि समास

उपर्युक्त युग्मों में से कौन-से सही सुमेलित हैं -

(क) i और ii

(ख) i और iii

(ग) ii और iv

(घ) iii और iv

(4) 'सत्याग्रह' शब्द के लिए सही समास- विग्रह और समास का चयन कीजिए -

(क) सत्य और ग्रह - द्वंद्व समास

(ख) सत्य का आग्रह - तत्पुरुष समास

(ग) सत्य आग्रह - अव्ययीभाव समास

(घ) सत्य के लिए आग्रह - तत्पुरुष समास

(5) 'चतुर्मुख' का समास विग्रह एवं भेद होगा -

(क) चतुर है जो - बहुव्रीहि समास

(ख) चार मुख - तत्पुरुष समास

(ग) चार हैं मुख जिसके अर्थात् ब्रह्मा - बहुव्रीहि समास

(घ) चतुराई झलकती है जिसके मुख से अर्थात् व्यक्ति विशेष - बहुव्रीहि समास

प्रश्न 6 निर्देशानुसार **मुहावरे** पर आधारित छह बहुविकल्पीय प्रश्नों में से किन्हीं चार प्रश्नों के उत्तर दीजिए- (1x4=4)

(1) मुहावरे और अर्थ के उचित मेल वाले विकल्प का चयन कीजिए-

(क) गिरह बाँधना - मार डालना

(ख) तलवार खींचना-सब कुछ नष्ट करना

(ग) पन्ने रंगना-व्यर्थ में लिखना

(घ) कदम उठाना - सामना करना

(2) 'अयोग्य को कोई महत्वपूर्ण वस्तु मिलना' के लिए उपयुक्त मुहावरा है -

(क) दाँतों तले उँगली दबाना

- (ख) अंधे के हाथ बटेर लगना
(ग) अंधे की लाठी बनना
(घ) मोह-माया के बंधन में पड़ना

(3) तू मित्र है या शत्रु है? जहाँ भी जाता हूँ, वहीं मेरे सामने..... रिक्त स्थान की पूर्ति के लिए उपयुक्त विकल्प का चयन कीजिए -

- (क) डेरा डालता है
(ख) हवा में उड़ता है
(ग) त्योंरियाँ चढ़ा लेता है
(घ) दीवार खड़ी कर देता है

(4) पढ़ाई में मेहनत कर मैं..... हो सकता हूँ। उचित मुहावरे से रिक्त स्थान की पूर्ति कीजिए।

- (क) खून का घूँट
(ख) एक पंथ दो काज
(ग) पैरों पर खड़ा होना
(घ) अपना हाथ जगन्नाथ

(5) रेखांकित अंश के लिए कौन-सा मुहावरा प्रयुक्त करना उचित रहेगा?

तुम सारा दिन काम में जुटे रहते हो, कभी आराम भी कर लिया करो।

- (क) कोल्हू का बैल
(ख) खेत का बैल
(ग) तीन तेरह होना
(घ) हक्का-बक्का

(6) 'अत्यधिक दुखी होना' अर्थ के लिए उपयुक्त मुहावरा है-

- (क) कड़वे घूँट पीना
(ख) आपे से बाहर होना
(ग) कलेजा मुँह को आना
(घ) अक्ल पर पत्थर पड़ना

प्रश्न 7 निम्नलिखित पद्यांश को पढ़कर पूछे गए प्रश्नों के उत्तर के लिए सही विकल्प का चयन कीजिए- (1x5=5)

चलो अभीष्ट मार्ग में सहर्ष खेलते हुए,
विपत्ति, विघ्न जो पड़ें उन्हें ढकेलते हुए ।
घटे न हेलमेल हों, बढे न भिन्नता कभी,
अतर्क एक पंथ के सतर्क पंथ हों सभी।
तभी समर्थ भाव है कि तारता हुआ तरे,
वही मनुष्य है कि जो मनुष्य के लिए मरे

(1) कवि सभी को एक होकर चलने की प्रेरणा देते हैं। इससे ज्ञात होता है कि कवि..... के पक्षधर हैं।

- (क) निरन्वय
- (ख) समन्वय
- (ग) क्रमान्वय
- (घ) दूरान्वय

(2) अभीष्ट मार्ग से तात्पर्य है-

- (क) स्वर्गगत मार्ग
- (ख) प्रमाणित मार्ग
- (ग) क्रीडाक्षेत्रीय मार्ग
- (घ) मनोवांछित मार्ग

(3) समर्थ भाव है, दूसरों को

- (क) सफल करते हुए स्वयं सफल होना
- (ख) ज्ञान मार्ग बताते हुए सफल बनाना
- (ग) शक्ति प्रदर्शन द्वारा सफलता दिलाना
- (घ) सफल करते हुए अपना स्वार्थ सिद्ध करना

(4) 'भिन्नता ना बढे' का आशय है-

- (क) मत भिन्नता हो
- (ख) मतभेद कम हों
- (ग) भेदभाव भिन्न हों
- (घ) मतभेद अधिक हों

(5) निम्नलिखित वाक्यों को ध्यानपूर्वक पढ़िए-

- (i) हमें मृत्यु से कभी नहीं डरना चाहिए ।
- (ii) बाह्य आडंबरों का विरोध करना चाहिए।
- (iii) मार्ग की विपत्तियों को ढकेलते हुए आगे बढ़ना चाहिए।
- (iv) प्राकृतिक सौंदर्य के लिए ईश्वर को धन्यवाद देना चाहिए।
- (v) हमें अपने जीवन में सकारात्मक दृष्टिकोण अपनाना चाहिए।

पद्यांश से मेल खाते वाक्यों के लिए उचित विकल्प चुनिए -

- (क) (i),(ii),(v)
- (ख) (i),(iii),(v)
- (ग) (ii),(iii),(iv)
- (घ) ((ii),(iv),(v)

प्रश्न 8 निम्नलिखित प्रश्नों के उत्तर देने के लिए उचित विकल्प का चयन कीजिए - (1x2=2)

(1) 'तुम्हीं राम, तुम्हीं लक्ष्मण' कवि ने ऐसा कहा है क्योंकि -

- (क) देश की रक्षा सभी देशवासियों का कर्तव्य है।
- (ख) राम और लक्ष्मण द्वारा सीता की रक्षा की गई है ।
- (ग) सैनिक युद्ध भूमि में वीरगति को प्राप्त हो चुके हैं।
- (घ) आत्मबलिदान के अवसर निरंतर बने रहते हैं।

(2) 'तव मुख पहचानूँ छिन-छिन में' का भाव है -

- (क) प्रभु की सत्ता पर संदेह न करना।
- (ख) प्रत्येक जीव में परमात्मा को देखना।
- (ग) ईश्वर के दर्शनों की अभिलाषा रखना।
- (घ) सत्मार्ग पर चलकर जीवन यापन करना।

प्रश्न 9 निम्नलिखित गद्यांश को पढ़कर पूछे गए प्रश्नों के उत्तर के लिए सही विकल्प का चयन कीजिए-(1x5=5)

'रातें दसों दिशाओं से कहेंगी अपनी कहानियाँ' पर संगीतकार जयकिशन ने आपत्ति की। उनका ख्याल था कि दर्शक 'चार दिशाएँ' तो समझ सकते हैं- 'दस दिशाएँ' नहीं। लेकिन शैलेंद्र परिवर्तन के लिए तैयार नहीं हुए। उनका दृढ़ मंतव्य था कि दर्शकों की रुचि की आड़ में हमें उथलेपन को उन पर नहीं

थोपना चाहिए। कलाकार का यह कर्तव्य भी है कि वह उपभोक्ता की रुचियों का परिष्कार करने का प्रयत्न करें और उनका यकीन गलत नहीं था। यही नहीं, वे बहुत अच्छे गीत भी जो उन्होंने लिखे बेहद लोकप्रिय हुए। शैलेंद्र ने झूठे अभिजात्य को कभी नहीं अपनाया। उनके गीत भाव-प्रवण थे- दुरूह नहीं। 'मेरा जूता है जापानी, ये पतलून इंगलिस्तानी, सर पे लाल टोपी रूसी, फिर भी दिल है हिंदुस्तानी' - यह गीत शैलेंद्र ही लिख सकते थे। शांत नदी का प्रवाह और समुद्र की गहराई लिए हुए। यही विशेषता उनकी ज़िंदगी की थी और यही उन्होंने अपनी फ़िल्म के द्वारा भी साबित किया था।

(1) गीत 'रातें दसों दिशाओं से कहेंगी अपनी कहानियाँ' पर संगीतकार जयकिशन ने आपत्ति की

क्योंकि उनके अनुसार -

- (क) दस दिशाओं का गहन ज्ञान दर्शकों को नहीं होगा।
- (ख) इससे दर्शकों की रुचियों का परिष्कार नहीं होगा।
- (ग) जागरूक दर्शक ऐसी स्पष्ट बातें पसंद नहीं करते थे।
- (घ) दर्शकों की रुचि के लिए उन पर उथलापन नहीं थोपना चाहिए।

(2) 'उनका यह दृढ़ मंतव्य था कि दर्शकों की रुचि की आड़ में हमें उथलेपन को उन पर नहीं थोपना चाहिए। कलाकार का यह कर्तव्य भी है कि वह उपभोक्ता की रुचियों का परिष्कार करने का प्रयत्न करे।'

कथन के माध्यम से ज्ञात होता है कि शैलेंद्र हैं -

- (क) दृढ़निश्चयी, सफल फ़िल्म निर्माता व कवि
- (ख) सफल फ़िल्म निर्माता, गीतकार व कवि
- (ग) समाज-सुधारक, कर्मयोगी गीतकार व कवि
- (घ) आदर्शवादी, उच्चकोटि के गीतकार व कवि

(3) निम्नलिखित कथन (A) तथा कारण (R) को ध्यानपूर्वक पढ़िए। उसके बाद दिए गए विकल्पों में से कोई एक सही विकल्प चुनकर लिखिए।

कथन (A)-उनके गीत भाव-प्रवण थे- दुरूह नहीं।

कारण (R) - शैलेंद्र के द्वारा लिखे गीत भावनाओं से ओत-प्रोत थे, उनमें गहराई थी। गीतों की भाषा सहज, सरल थी, क्लिष्ट नहीं थी।

- (क) कथन (A) तथा कारण (R) दोनों गलत हैं।
- (ख) कथन (A) गलत है लेकिन कारण (R) सही है।
- (ग) कथन (A) सही है लेकिन कारण (R) उसकी गलत व्याख्या करता है।

(घ) कथन (A) तथा कारण (R) दोनों सही हैं तथा कारण (R) कथन (A) की सही व्याख्या करता है।

(4) 'मेरा जूता है जापानी.....' यह गीत शैलेंद्र ही लिख सकते थे। लेखक द्वारा ऐसा कहा जाना दर्शाता है, शैलेंद्र के प्रति उनका -

- (क) कर्तव्यबोध
- (ख) मैत्रीभाव
- (ग) व्यक्तित्व
- (घ) अवलोकन

(5) गद्यांश के आधार पर शैलेंद्र के निजी जीवन की छाप मिलती है कि वे थे -

- (क) बेहद गंभीर, उदार, दृढ़ इच्छाशक्ति और संकीर्णहृदय
- (ख) बेहद गंभीर, उदार, कृपण और संकीर्णहृदय
- (ग) बेहद गंभीर, भावुक, कृपण और दृढ़ इच्छाशक्ति
- (घ) बेहद गंभीर, उदार, दृढ़ इच्छाशक्ति और भावुक

प्रश्न 10 निम्नलिखित प्रश्नों के उत्तर देने के लिए उचित विकल्प का चयन कीजिए - (1x2=2)

(1) निम्नलिखित में से कौन-से वाक्य 'बड़े भाई साहब' कहानी से प्राप्त प्रेरणा को दर्शाते हैं -

- (i) कथनी और करनी का अंतर हमारी स्थिति को हास्यास्पद बना सकता है।
- (ii) पढ़ाई के साथ-साथ खेलकूद भी छात्र जीवन के आवश्यक अंग हैं।
- (iii) केवल परीक्षा से पहले ध्यान लगाकर पढ़ लेने से प्रथम आ सकते हैं।
- (iv) बड़े भाई साहब ज्ञान की बातें लेखक को आसानी से समझा देते हैं।

- (क) केवल (i)
- (ख) (i) और (ii)
- (ग) केवल (iv)
- (घ) (ii),(iii),(iv)

(2) सआदत अली को अवध के तख्त पर बिठाने के लिए पीछे कर्नल का उद्देश्य था-

- (क) अपने परम मित्र सआदत अली की हरसंभव सहायता करना
- (ख) जाँबाज़ योद्धा के रूप में मित्र सआदत अली को प्रसिद्ध करना
- (ग) कंपनी के वकील का कत्ल करवाने के लिए मिलकर षडयंत्र रचना

(घ) अप्रत्यक्ष रूप से अवध पर कंपनी का आधिपत्य स्थापित करना

खंड - ब (वर्णनात्मक प्रश्न)

प्रश्न 11 निम्नलिखित प्रश्नों में से किन्हीं दो प्रश्नों के उत्तर लगभग 60 शब्दों में दीजिए - (1x2=2)
(3x2=6)

(1) भ्रमण हम सभी के जीवन का अभिन्न अंग है। अपनी व्यस्ततम दिनचर्या के बीच चैन से भरे कुछ पल शायद हम इसी प्रकार निकाल सकते हैं। शांत वातावरण में अपने तथा अपनों के लिए जीवन व्यतीत करना आवश्यक है।

आपके द्वारा इस पाठ्यक्रम में पढ़े गए पाठ में चैन भरे पल बिताने के लिए लेखक ने क्या किया ? क्या वास्तव में सभी को इसकी आवश्यकता है? अपने विचार व्यक्त कीजिए।

(2) 'डायरी का एक पन्ना' के माध्यम से आपने गुलाम भारत के स्वतंत्रता दिवस के आयोजन के विषय में जाना। आज हम आज़ाद भारत में आज़ादी का अमृत महोत्सव मना रहे हैं। देश के प्रति अपने कर्तव्यों को बताते हुए पाठ से प्राप्त सीख का वर्णन कीजिए।

(3) इस वर्ष आपने पाठ्यक्रम में लोककथा पर आधारित एक कहानी पढ़ी है। यह कहानी समाज की विसंगतियों को दूर करने का संदेश देती है। कथन का मूल्यांकन करते हुए अपने विचार लिखिए।

प्रश्न 12 निम्नलिखित प्रश्नों में से किन्हीं दो प्रश्नों के उत्तर लगभग 60 शब्दों में दीजिए - (3x2=6)
6)

(1) आपके द्वारा इस पाठ्यक्रम में पढ़ी गई किस कविता की अंतिम पंक्तियाँ आपको सर्वाधिक प्रभावित करती हैं और क्यों? लगभग 60 शब्दों में व्यक्त कीजिए।

(2) कबीर और मीरा की भक्ति की विशेषताओं का उल्लेख कीजिए ।

(3) आपके पाठ्यक्रम में किस कविता में वर्षा के प्राकृतिक सौंदर्य का वर्णन किया गया है ? अपने शब्दों में वर्णन कीजिए।

प्रश्न 13 निम्नलिखित प्रश्नों में से किन्हीं दो प्रश्नों के उत्तर लगभग 60 शब्दों में दीजिए - (3x2=6)

(1) लोगों के बीच बहस छिड़ जाती है। उत्तराधिकारी के कानून पर जो जितना जानता है, उससे दस गुना अधिक उगल देता है। फिर भी कोई समाधान नहीं निकलता। रहस्य खत्म नहीं होता, आशंकाएँ बनी ही रहती हैं। लेकिन लोग आशंकाओं को नज़रअंदाज कर अपनी पक्षधरता शुरू कर देते हैं।

हरिहर काका सभी के लिए चर्चा का केंद्र बने हुए थे। हरिहर काका मामले में गाँव वालों की राय तर्कसहित स्पष्ट कीजिए।

(2) स्काउट परेड करते समय लेखक स्वयं को महत्वपूर्ण 'आदमी' फ़ौजी जवान समझने लगता था। कथन के आलोक में अपने विचार प्रकट करते हुए बताइए कि विद्यालय जीवन में प्रशिक्षण व गतिविधियों की क्या उपयोगिता है?

(3) बालमन किसी स्वार्थ या हिसाब से चलायमान नहीं होता। बचपन प्रेम के रिश्ते के अलावा किसी और रिश्ते को कुबूल नहीं करता।

'टोपी शुक्ला' पाठ में टोपी अपने परिवार के एक सदस्य को बदलने की बात करता है। उसकी सोच के आधार पर उसकी मनोदशा का वर्णन कीजिए।

प्रश्न 14 निम्नलिखित में से किसी एक विषय पर संकेत-बिंदुओं के आधार पर लगभग 100 शब्दों में अनुच्छेद लिखिए - (5x1=5)

(1) विद्यार्थी जीवन और चरित्र निर्माण

- संपूर्ण जीवन की आधारशिला • चरित्र निर्माण की आवश्यकता • देश व समाज के लिए उपयोगी

(2) ट्वेंटी-ट्वेंटी क्रिकेट का रोमांच

- मैच कब और कहाँ • टीमों का संघर्ष • दर्शकों की प्रतिक्रिया

(3) दौड़ती हुई ज़िंदगी

- कैसे • कारण • आवश्यकताओं में वृद्धि • क्या करें ?

•
प्रश्न 15 (1) आप वेणु राजगोपाल /वेणी राजगोपाल हैं। हिंदुस्तान टाइम्स दिल्ली के संपादक के नाम एक पत्र लिखकर सामाजिक जीवन में बढ़ रही हिंसा पर अपने विचार व्यक्त कीजिए।(शब्द-सीमा - लगभग 100 शब्द)

(5x1=5)

अथवा

(2) आपके विद्यालय में खेल की उपयुक्त सामग्री है तथा समय-समय पर सभी स्तरों पर मैच का आयोजन भी किया जाता है। विद्यालय के खेल कप्तान होने के नाते प्रधानाचार्य के प्रति आभार व्यक्त करते हुए पत्र लिखिए।

प्रश्न 16 निम्नलिखित में से किसी एक विषय पर लगभग 80 शब्दों में सूचना लिखिए - (4x1=4)

(1) आप विद्यालय के सांस्कृतिक सचिव हैं। बाल दिवस समारोह के अवसर पर विद्यालय में आयोजित होने वाले सांस्कृतिक कार्यक्रम के विवरण सहित सूचना तैयार कीजिए।

अथवा

(2) आप रजत चट्टोपाध्याय/ रजनी रस्तोगी, मोहल्ला सुधार समिति के सचिव हैं। स्वच्छता अभियान के अंतर्गत 'स्वच्छता पखवाड़ा' कार्यक्रमों में भाग लेने के इच्छुक लोगों के लिए एक सूचना तैयार कीजिए।

प्रश्न 17 निम्नलिखित में से किसी एक विषय पर लगभग 60 शब्दों में विज्ञापन तैयार कीजिए-

(3x1=3)

(1)स्वास्थ्य मंत्रालय द्वारा योग दिवस के अवसर के प्रचार प्रसार के लिए एक आकर्षक विज्ञापन लगभग 60 शब्दों में तैयार कीजिए।

अथवा

Practice Paper- 1
Class-X (2022-23)
Science (086)

Time: 3 Hours

Max. Marks: 80

General Instructions:

- This question paper consists of 39 questions in 5 sections.
- All questions are compulsory. However, an internal choice is provided in some questions. A student is expected to attempt only one of these questions.
- Section A consists of 20 Objective Type questions carrying 1 mark each.
- Section B consists of 6 Very Short questions carrying 02 marks each. Answers to these questions should be in the range of 30 to 50 words.
- Section C consists of 7 Short Answer type questions carrying 03 marks each. Answers to these questions should be in the range of 50 to 80 words.
- Section D consists of 3 Long Answer type questions carrying 05 marks each. Answer to these questions should be in the range of 80 to 120 words.
- Section E consists of 3 source-based/case-based units of assessment of 04 marks each with sub-parts.

SECTION-A

Select and write one most appropriate option out of the four options given for each of the questions 1 – 20.

1. Equal volumes of hydrochloric acid and sodium hydroxide solutions of same concentration are mixed and the pH of the resulting solution is checked with a pH paper. What would be the colour obtained?

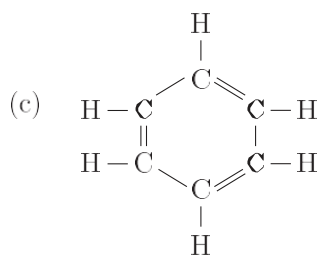
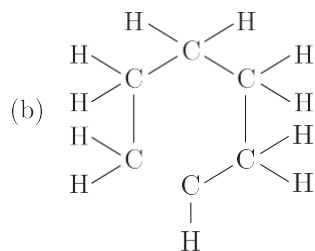
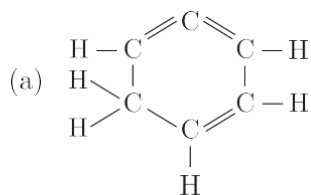


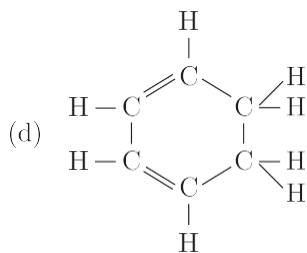
- (a) Red
(b) Yellow
(c) Yellowish green
(d) Blue
2. $Y + 2HCl \longrightarrow ZnCl_2 + H_2$. In the above reaction, Y is:
(a) Aluminium
(b) Copper
(c) Sodium
(d) Zinc
3. Which one of the following pair is correct?

| | Reaction | Reaction Type |
|-----|--|---|
| (a) | $2KNO_3(s) \longrightarrow 2KNO_2(s) + O_2(g)$ | Displacement reaction |
| (b) | $Zn(s) + 2AgNO_3(aq) \longrightarrow Zn(NO_3)_2 + 2Ag(s)$ | Combination reaction |
| (c) | $Ni(NO_3)_2(aq) + 2NaOH(aq) \longrightarrow Ni(OH)_2(s) + 2NaNO_3(aq)$ | Double displacement reaction and precipitation reaction |
| (d) | $N_2(g) + 3H_2(g) \longrightarrow 2NH_3(g)$ | Decomposition reaction |

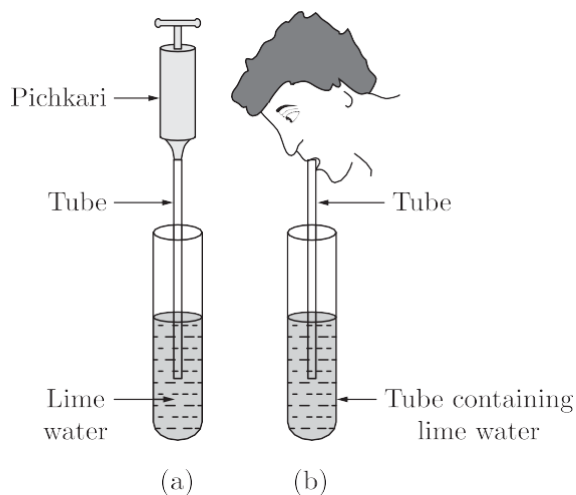
4. Which of the following is correct for a physical change?
1. Only physical properties change.
 2. Large amount of heat is absorbed or evolved.
- Which of the above statements is/are correct?
- (a) Only 1
 - (b) Only 2
 - (c) Both 1 and 2
 - (d) Neither 1 and 2
5. An element X has electronic configuration 2, 8, 1 and another element Y has electronic configuration 2, 8, 7. They form a compound Z. The property that is not exhibited by Z is
- (a) It has high melting point.
 - (b) It is a good conductor of electricity in its pure solid state.
 - (c) It breaks into pieces when beaten with hammer.
 - (d) It is soluble in water
6. Which of the following are used as an antacid to reduce acidity in stomach?
- (a) Sodium carbonate and magnesium hydroxide
 - (b) Magnesium hydroxide and sodium hydroxide
 - (c) Sodium bicarbonate and calcium hydroxide
 - (d) Sodium bicarbonate and magnesium hydroxide

7. Structural formula of benzene is





8. In the given activity, the lime water of which test tube will get milky faster?



- (a) Test tube (a)
- (b) Test tube (b)
- (c) Both test tube will take same time
- (d) Can't say

9. When a person eats some egg white, proteins and water enter the stomach. Which substances are found leaving the stomach and leaving the small intestine?

| | Leaving the Stomach | Leaving the Small Intestine |
|-----|---------------------------------|---------------------------------|
| (a) | Protein, amino acids and water | Water |
| (b) | Amino acids and water | Amino acids and water |
| (c) | Fatty acids, glycerol and water | Fatty acids, glycerol and water |
| (d) | Protein and water | Fatty acids and glycerol |

10. Exchange of genetic material takes place in

- (a) vegetative reproduction
- (b) asexual reproduction
- (c) sexual reproduction
- (d) budding

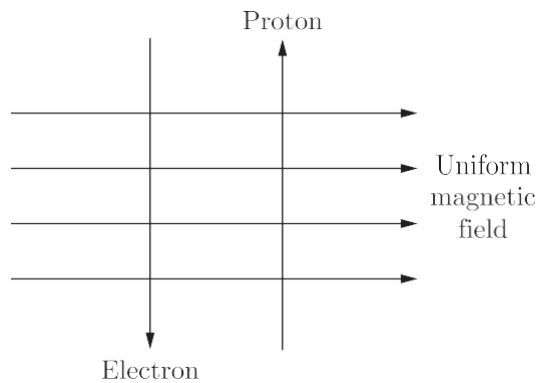
11. When a person is suffering from severe cold, he or she cannot

- (a) differentiate the taste of an apple from that of an ice cream.
- (b) differentiate the smell of a perfume from that of an agarbatti.
- (c) differentiate red light from green light
- (d) differentiate a hot object from a cold object.

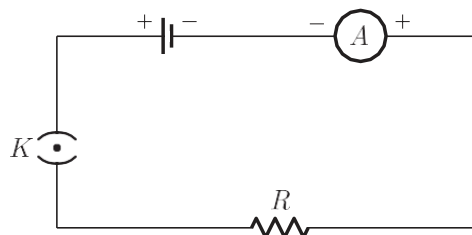
12. Which among the following statements are true for sexual reproduction in flowering plants?
- (i) It requires two types of gametes
 - (ii) Fertilisation is a compulsory event
 - (iii) It always results in formation of zygote
 - (iv) Offsprings formed are clones
- (a) (i) and (iv) (b) (i), (ii) and (iv)
 (c) (i), (ii) and (iii) (d) (i), (iii) and (iv)

13. The resistivity does not change if
- (a) the material is changed
 - (b) the temperature is changed
 - (c) the shape of the resistor is changed
 - (d) both material and temperature are changed

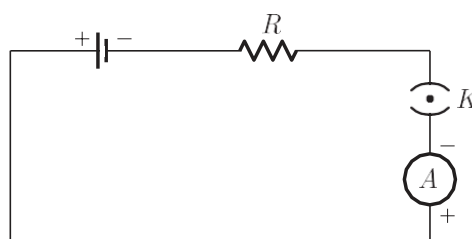
14. A uniform magnetic field exists in the plane of paper pointing from left to right as shown in Figure. In the field an electron and a proton move as shown. The electron and the proton experience.



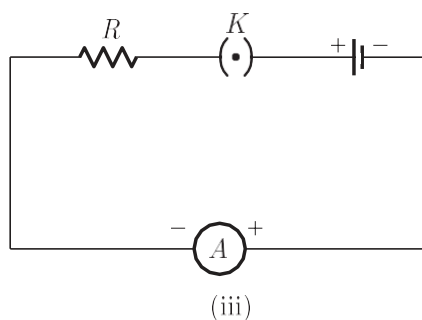
- (a) forces both pointing into the plane of paper
 - (b) forces both pointing out of the plane of paper
 - (c) forces pointing into the plane of paper and out of the plane of paper, respectively.
 - (d) force pointing opposite and along the direction of the uniform magnetic field respectively.
15. A cell, a resistor, a key and ammeter are arranged as shown in the circuit diagrams of Figure. The current recorded in the ammeter will be



(i)



4 (ii)



- (a) maximum in (i)
- (b) maximum in (ii)
- (c) maximum in (iii)
- (d) the same in all the cases

16. The most important safety method used for protecting home appliances from short circuiting or overloading is
- (a) earthing
 - (b) use of fuse
 - (c) use of stabilizers
 - (d) use of electric meter.

Question no. 17 to 20 are Assertion - Reasoning based questions.

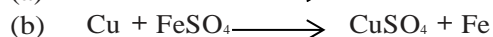
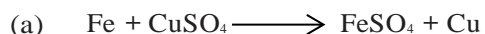
17. **Assertion :** When water is added to calcium oxide, a large amount of heat is produced.
Reason : It is an endothermic reaction.
- (a) Both Assertion and Reason are True and Reason is the correct explanation of the Assertion.
 - (b) Both Assertion and Reason are True but Reason is not the Correct explanation of the Assertion.
 - (c) Assertion is True but the Reason is False.
 - (d) Both Assertion and Reason are False.
18. **Assertion :** The genetic complement of an organism is called genotype.
Reason : Genotype is the type of hereditary properties of an organism.
- (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.
19. **Assertion :** During the night the effect of root pressure in transport of water is more important.
Reason : Stomata is open during day, transpiration takes place which help in transport of water.
- (a) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
 - (b) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
 - (c) Assertion is true but Reason is false.
 - (d) Both Assertion and Reason are false.
20. **Assertion :** A solenoid tends to expand, when a current passes through it.
Reason : Two straight parallel metallic wires carrying current in same direction attract each other.
- (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.

SECTION-B

Question no. 21 to 26 are very short answer questions.

21. Why do the articles made of aluminium not corrode?

OR



Which of the above two reactions will take place and why?

22. Stomata of desert plants remain closed during day time. How do they take up carbon dioxide and perform photosynthesis?

23. Which is the largest digestive gland present in human body? What is the name and function of its secretion?

24. What are the end products formed during fermentation in yeast? Under what condition a similar process takes place in our body that leads to muscle cramps?

25. Why there is no dispersion of light refracted through a rectangular glass slab.

OR

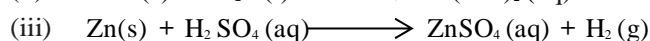
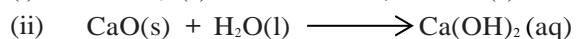
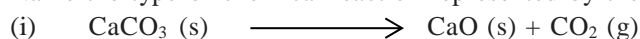
What is meant by near point and far point of an eye? State their values of the normal human eye.

26. In a food chain comprising frogs, insects, birds and grass, which one of the organisms is likely to have maximum concentration of harmful non-biodegradable chemicals in its body?

SECTION-C

Question no. 27 to 33 are short answer questions.

27. Name the type of chemical reaction represented by the following equations:



28. (a) A non-metal X exists in two different forms Y and Z. Y is the hardest natural substance whereas Z is a good conductor of electricity. Identify X, Y, Z.

(b) An element X on reaction with oxygen forms an oxide XO_2 . The oxide when dissolved in water turns blue litmus red. State whether element X is a metal or non-metal.

(c) Name the metal which is alloyed with copper to make bronze.

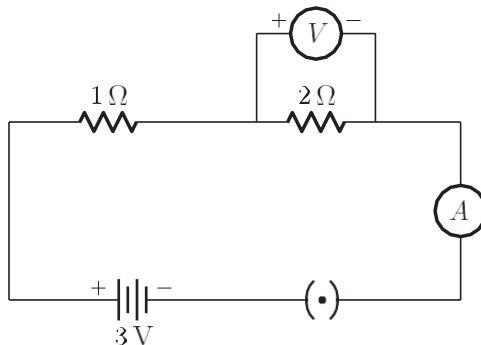
29. Explain the process of assimilation of proteins in human digestive system.

OR

Write three events which occur during the process of photosynthesis.

30. An object 4 cm in height is placed at 15 cm in front of a concave mirror of focal length 10 cm. At what distance from the mirror should a screen be placed to obtain a sharp image of the object. Calculate the height of the image.

31. (a) Name the kind of lens that can form;
 (i) an inverted magnified image.
 (ii) an erect diminished image.
 Draw ray diagrams to illustrate your answer in each case.
 (b) Draw a ray diagram to show the image formed of an object placed f and $2f$ distances from convex lens.
32. What would be the reading of ammeter and voltmeter in the given circuit?



OR

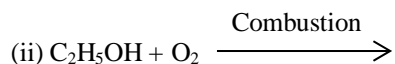
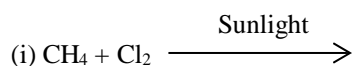
Two resistors with resistances $10\ \Omega$ and $15\ \Omega$ are to be connected to emf $12\ \text{V}$ so as to obtain: (i) minimum current (ii) maximum current. How will you connect the resistance in each case? Calculate the strength of the total current in the circuit in the two cases.

33. It is said that, there is a need to put a complete ban on the products containing aerosols. What are aerosols? Why is there a demand to put a ban on them.

SECTION-D

Question no. 34 to 36 are Long answer questions.

34. (a) Draw the structure of ethanoic acid.
 (b) Name the compound formed when ethanol is heated with ethanoic acid in the presence of conc. H_2SO_4 .
 (c) Complete the following equations :



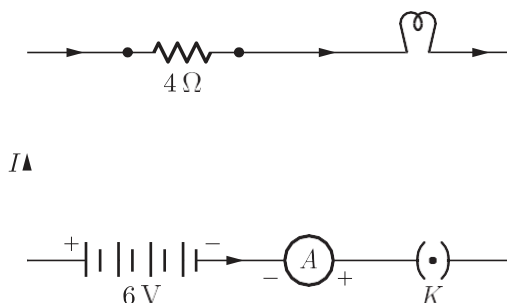
OR

- (a) A compound X having formula $\text{C}_2\text{H}_4\text{O}_2$ when treated with ethanol and a few drops of conc. H_2SO_4 forms a sweet smelling substance Y. Name X and Y. Write the equation of the reaction leading to the formation of Y from X. What is the function of conc. H_2SO_4 in the above reaction?
 (b) Why do soaps form scum instead of lather in hard water?

35. (a) Differentiate between pollen grain and ovule.
 (b) State in brief the functions of the following parts of the human female reproductive system :
 (i) Ovary
 (ii) Fallopian tube
 (iii) Uterus

OR

- (a) What is variation? How is variation created in a population? How does the creation of variation in a species promote survival?
- (b) Explain how, offspring and parents of organisms reproducing sexually have the same number of chromosomes.
36. An electric lamp of resistance $20\ \Omega$ and a conductor of resistance $4\ \Omega$ are connected to a $6\ \text{V}$ battery as shown in the circuit. Calculate :



- (a) the total resistance of the circuit,
- (b) the current through the circuit,
- (c) the potential difference across the (i) electric lamp and (ii) conductor, and
- (d) power of the lamp.

SECTION-E

Question no. 37 to 39 are case-based/data -based questions with 2 to 3 short sub-parts. Internal choice is provided in one of these sub-parts.

37. The earth's crust is the major source of metals-seawater contains some soluble salts such as sodium chloride, magnesium chloride, etc. The elements or compounds, which occur naturally in the earth's crust are known as minerals. At some places, minerals contain a very high percentage of a particular metal and the metal can be profitably extracted from it. These minerals are called ores.
- (i) Name the chief ore of mercury and zinc.
- (ii) Write equations for the extraction of copper from its sulphide ore.

OR

- (ii) Define the process used to convert carbonate ores into metal oxide.
38. Chronic Kidney Disease (CKD) is a condition characterized by a gradual loss of kidney function over time. CKD is also known as chronic renal disease. With increasing life expectancy and prevalence of life style diseases, US has seen a 30% increase in prevalence of Chronic Kidney Disease (CKD) in the last decade. Unfortunately, from India there is no longitudinal study and limited data on the prevalence of CKD. In western countries, diabetes and hypertension account for over $2/3^{\text{rd}}$ of the cases of CKD. In India too, diabetes and hypertension today account for 40-60% cases of CKD. As per recent Indian Council of Medical Research data, prevalence of diabetes in Indian adult population has risen to 7.1%, (varying from 5.8% in Jharkhand to 13.5% in Chandigarh) and in urban population (over the age of 40 years) the prevalence is as high as 28%. Likewise, the reported prevalence of hypertension in the adult population today is 17% (14.8% from rural and 21.4% from urban belt). A similar prevalence of 17.4% has been reported by Panesar et al. (in the age group of 20-59 years) even from slum-resettlement colony of Delhi. With rising prevalence of these diseases in India, prevalence of CKD is expected to rise and obviously, this is the key target population to address.
- A study published in this issue is from a rural belt of Karnataka. The population had a mean age of 39.88 ± 15.87 years with 3.82% prevalence of diabetes and 33.62% of hypertension. Authors found 6.3% prevalence of CKD stage 3; which is the highest reported till date by any Indian worker. It is disturbing to note, the high prevalence of hypertension in a rural setting where over 75% population had normal or low body mass index.

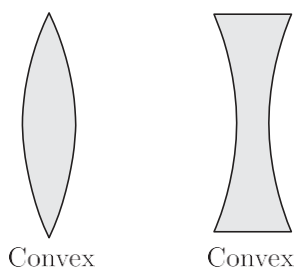
In comparison to most other published studies from India, the present study population is younger and even the prevalence of diabetes is low but surprisingly despite that prevalence of stage 3 CKD is reported to be higher (6.3%). It is disturbing to see the rising prevalence of hypertension and CKD in rural belts. Possibly, with shifting population the difference between urban and rural areas is getting blurred. Undoubtedly, we need more Indian data to validate these findings.

- (i) What is CKD?
- (ii) What are the major causes of CKD?
- (iii) In which segment of society is CKD more prevalent?

OR

- (iv) What is the highest percentage of CKD reported?

39. A concave lens is thick at the edges and thin at the centre, while a convex lens is thick at the centre and thin at the edges. We can distinguish between a concave lens and a convex lens without touching them. For this keep a book close to a lens and observe the image of the text of the book through the lens. If the letters appear enlarged, then it is a convex lens and if the letters appear diminished then it is a concave lens.



Convex lens converges light rays and hence known as converging lens. Similarly, concave lens diverges light rays and is known as diverging lens. Linear magnification produced by a lens is equal to the ratio of the image distance to the object distance. Power of a lens is defined as the reciprocal of its focal length.

- (i) What type of image is always made by a concave lens?
- (ii) If magnification produced by a spherical lens is $+0.75$, then what is the nature of the lens?
- (iii) What is the power of a convex lens with focal length 80 cm?

OR

- (iii) What kind of lens is present in human eye?

