

#TAYAARI HI JEET HAI

SCORE

Sri Chaitanya Outstanding Achiever Reward Examination

6th OCTOBER 2024

For Class 5th, 6th, 7th, 8th, 9th & 10th

PREVIOUS YEAR PAPER

CLASS 10th



Sri Chaitanya

PART I: PHYSICS

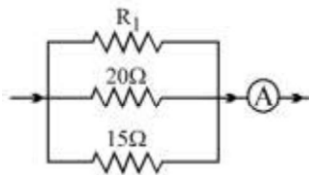
SECTION 1 (Maximum Marks: 30)

- This section contains **TEN** questions.
- Each question has **FOUR** options (A), (B), (C) and (D). **ONLY ONE** of these four options is correct.
- For each question, darken the bubble corresponding to the correct option in the OMR.
- For each question, marks will be awarded in one of the following categories:

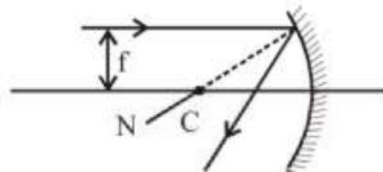
Full Marks	:	+3, if only the bubble corresponding to the correct option is darkened.
Zero Marks	:	0, if none of the bubble is darkened
Negative Marks	:	-1, in all other cases

Instructions: (Take $g = 10\text{m/s}^2$, wherever required)

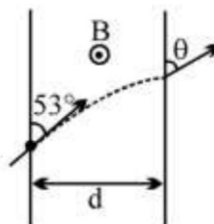
1. In the given circuit, the current flowing through the resistance $20\ \Omega$ is 0.3 ampere, while the ammeter reads 0.8 ampere. What is the value of R_1 ?



- A) $30\ \Omega$ B) $40\ \Omega$ C) $50\ \Omega$ D) $60\ \Omega$
2. A light ray is coming parallel to principal axis, the distance between ray and axis is equal to focal length f . Find the angle of deviation after reflection :-

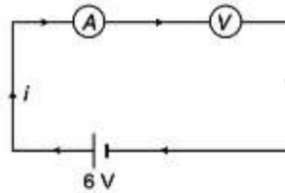


- A) 60° B) 90° C) 120° D) 30°
3. A particle moving with velocity v having specific charge (q/m) enters a region of magnetic field B having width $d = \frac{3mv}{5qB}$ at angle 53° to the boundary of magnetic field. Find the angle θ in the diagram shown.

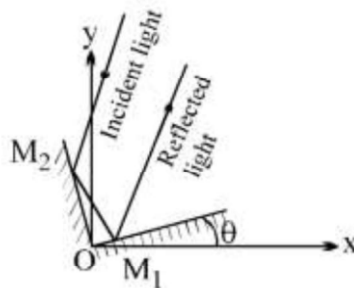


- A) 37° B) 60° C) 90° D) none

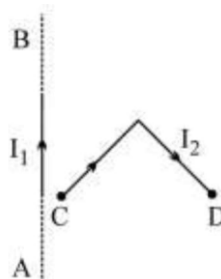
4. An ammeter and a voltmeter are connected in series to a battery of emf $E = 6.0 \text{ V}$. When a certain resistance is connected in parallel with the voltmeter, the reading of the voltmeter decreases two times, whereas the reading of the ammeter increases the same number of times. Then reading of the voltmeter after the connection of the resistance is



- A) 4 volt B) 2 volt C) 3 volt D) none of these
5. A light ray gets reflected from a pair of mutually perpendicular mirrors, not necessarily along axes. The intersection point of mirrors is at origin. The incident light is along $y = x + 2$. If the light ray strikes both mirrors in succession, then it may get reflected finally along the line:

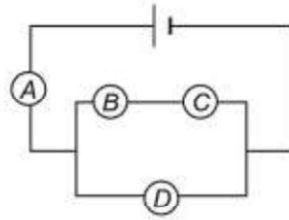


- A) $y = 2x - 2$ B) $y = -x + 2$ C) $y = -x - 2$ D) $y = x - 4$
6. A long wire in a horizontal plane carries current flowing from west to east. If there is a magnetic field in the region in the vertically downward direction, then the direction of force on the wire is
- A) East B) West C) South D) North
7. In the figure shown a current I_1 is established in the long straight wire AB. Another wire CD carrying current I_2 is placed in the plane of the paper. The line joining the ends of this wire is perpendicular to the wire AB. The force on the wire CD is:

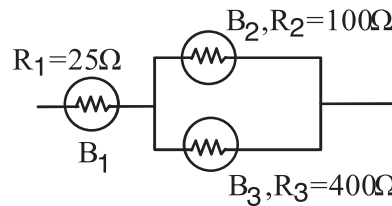


- A) zero B) towards left C) directed upwards D) none of these

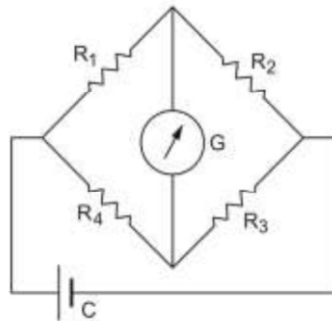
8. A, B, C and D are four identical bulbs connected as shown in the circuit diagram. Which bulb glows most brightly?



- A) B B) D C) C D) A
9. If the power consumed by Bulb B_1 is 100W. Find the power consumed by bulb B_2 in the given circuit.



- A) 400 W B) 512 W C) 256 W D) 64 W
10. The Wheatstone bridge shown in the figure is balanced. If the positions of the cell C and the galvanometer G are now interchanged, G will show zero deflection



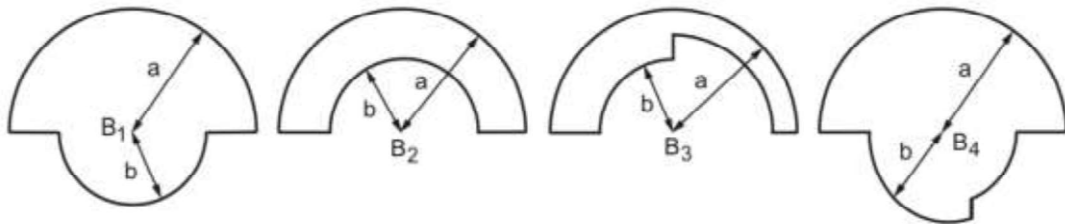
- A) in all cases B) only if all the resistances are equal
 C) only if $R_1 = R_3$ and $R_2 = R_4$ D) only if $R_1/R_3 = R_2/R_4$

SECTION 2 (Maximum Marks: 20)

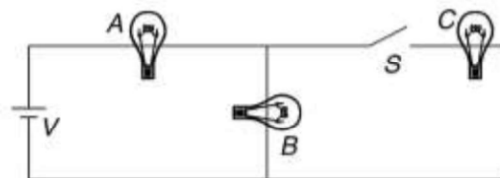
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11. In the loops shown, all curved sections are either semicircles or quarter circles. All the loops carry the same current. The magnetic fields at the centres have magnitudes B_1, B_2, B_3 and B_4 .

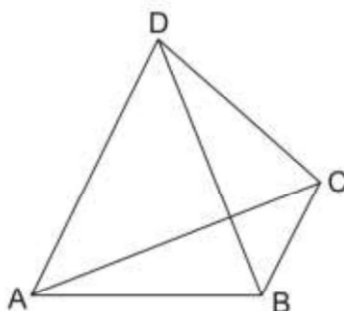


- A) B_4 is maximum
 B) B_3 is minimum
 C) $B_4 > B_1 > B_2 > B_3$
 D) $B_1 > B_4 > B_3 > B_2$
12. A bird flies down vertically towards a water surface. To a fish inside the water, vertically below the bird, the bird will appear to
 A) be farther away than its actual distance
 B) be closer than its actual distance
 C) move faster than its actual speed
 D) move slower than its actual speed
13. A and B are two identical bulbs of 40 W connected to a $V = 12$ volt cell. Switch S is closed to connect a third bulb C in the circuit. What happens to brightness of bulb A? (All the three bulbs have rated voltage of 12 volt)



- A) A glows near its full brightness if Bulb C is a very high wattage bulb.
 B) A becomes slightly dimmer if Bulb C is a very low wattage
 C) A glows near its full brightness if Bulb C is a very low wattage bulb.
 D) A becomes slightly more brighter if Bulb C is a very low wattage bulb.

14. Choose incorrect option(s) regarding image formation by a spherical mirror
- A) Concave mirror cannot form erect magnified image of an object placed in front of it.
 - B) Concave mirror can form virtual image of a virtual object.
 - C) Convex mirror cannot form real image of an object placed in front of it.
 - D) Convex mirror cannot form magnified image of an object placed in front of it.
15. Six identical wires of resistance R each are joined to form a pyramid, as shown in the figure above. Choose correct option(s)



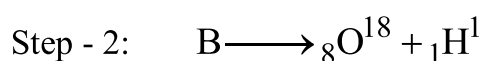
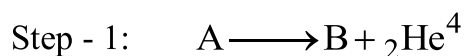
- A) The equivalent resistance between any two corners will depend on the choice of corners.
- B) The equivalent resistance between A and B is $R/2$
- C) The equivalent resistance between D and C is zero.
- D) If an electric current enters at A and flows out at B, no current will pass through DC

PART II: CHEMISTRY**SECTION 1 (Maximum Marks: 30)**

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16. Which of the following salts do not contain water of crystallization
A) Gypsum B) Blue vitriol
C) Washing soda D) Baking soda
17. An element with atomic number 82 belongs to which group and which period respectively of the long form of the periodic table
A) 14, 6 B) 16, 6
C) 14, 5 D) 16, 5
18. The oxidation state of sulphur atom in Caro's acid (H_2SO_5) is
A) +8 B) +4
C) +6 D) zero
19. Which of the following salts do not react with NaOH
A) NaH_2PO_2 B) NaH_2PO_3
C) Na_2HPO_4 D) NaHCO_3
20. Which of the following statements is incorrect
A) Cathode rays are emitted out from the surface of cathode
B) Cathode rays travel in a straight line
C) Anode rays are heavier than cathode rays
D) Anode rays are emitted out from the surface of anode
21. Rutherford's gold leaf experiment paved way for the discovery of
A) electrons B) protons
C) nucleus (without the neutrons) D) nucleus (with the neutrons)
22. The total number of electrons present in a molecule of D_2O^{18} (heavy water) are
A) 8 B) 10
C) 12 D) 14

23. An element has electronic configuration 2, 8, 8, 2. The correct statement(s) about this element is/are:
- i) It belongs to the second period of the modern periodic table
 ii) It has 20 protons in its nucleus
 iii) Its ionization energy is higher than the element placed on its left in the same period.
- A) Both i & iii
 B) Both i & ii
 C) Both ii & iii
 D) All
24. Consider the following nuclear reactions occurring in the given sequence:



If both neutrons as well as protons on either sides are conserved, then moles of neutrons in 2.3 gm of isotope A is:

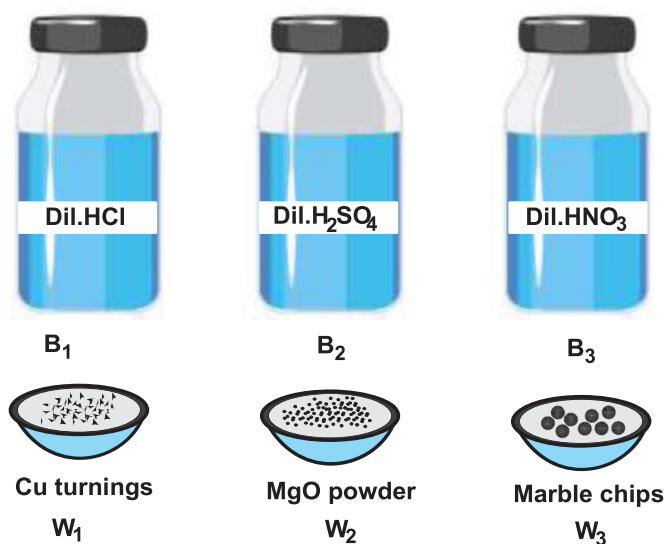
- A) $1.2 N_A$
 B) 1.2
 C) 2.3
 D) $0.1 N_A$
25. Formalin (a solution of formaldehyde in water) is used for preserving biological specimens. Identify the incorrect statement
- A) formaldehyde should be soluble in water
 B) formaldehyde is expected to be a strong oxidising agent
 C) formaldehyde acts as an antioxidant
 D) formalin prevents dead specimens from decay

SECTION 2 (Maximum Marks: 20)

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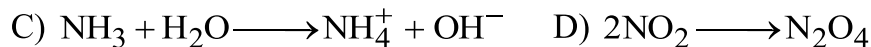
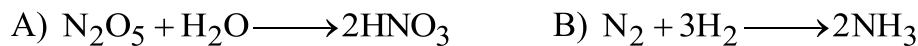
26. Consider the following substances kept in bottles (*B*) and watch glasses (*W*) of your chemistry lab:



Which of these on mixing will produce a gas that turns lime water milky:

- A) $W_1 + B_1$ B) $W_1 + B_2$
 C) $W_2 + B_3$ D) $W_3 + B_2$

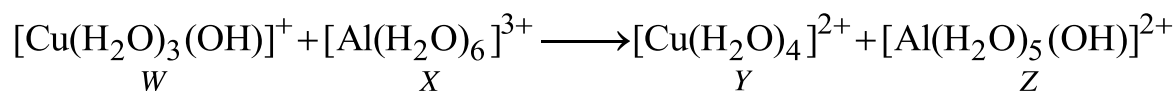
27. In which of the following balanced chemical reactions there is no change in the oxidation number of nitrogen



28. In which of the following substances both ionic and covalent bonds are present



29. For the reaction,



Identify the correct statement(s):

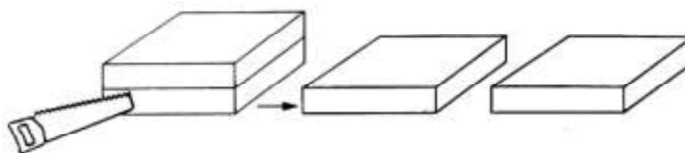
A) W is an acid & X is a base

B) W is a base & X is an acid

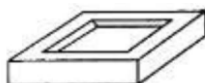
C) Y is conjugate acid of W & Z is conjugate base of X

D) Y is conjugate base of W & Z is conjugate acid of X

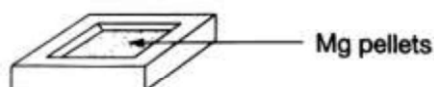
30. A thick block of dry ice is cut into two equal pieces.



A rectangular cavity is made in one of these pieces as shown below.



This cavity is filled with Mg pellets.



The magnesium pellets are now ignited using an electric torch and as soon as the burning starts the cavity is covered with the other piece of dry ice. Identify the correct observations that will be made:

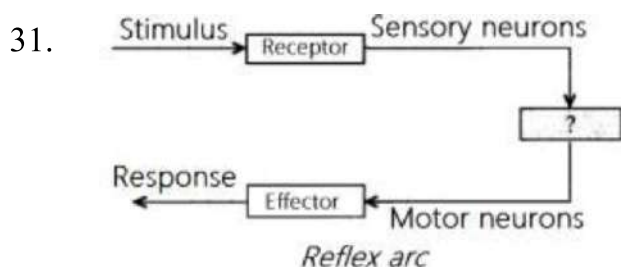
- A) The magnesium burning in the cavity will stop burning due to sublimation dry ice into CO_2 gas that extinguishes fire
- B) The magnesium burning in the cavity will continue to burn and a white glow will be seen through the dry ice block while this happens
- C) A black residue is formed inside the cavity
- D) A white residue is formed inside the cavity

PART III: BIOLOGY

SECTION 1 (Maximum Marks: 30)

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- | | |
|-------------------|-----------------|
| A) Spinal cord | B) Brain |
| C) Cranial nerves | D) Relay nerves |
32. After ovulation Graafian follicle regresses into
- | | |
|-------------------|--------------------|
| A) Corpus atresia | B) Corpus callosum |
| C) Corpus luteum | D) Corpus albicans |
33. Two plants can be conclusively said to belong to the same species if they
- | | |
|---|--|
| A) Can reproduce freely with each other and form seeds | B) Have more than 90 percent similar genes |
| C) Look similar and possess identical secondary metabolites | D) Have same number of leaves/flowers |
34. Lungs are made up of air-filled sacs, the alveoli. They do not collapse even after forceful expiration, because of
- | | |
|-------------------------|-------------------------------------|
| A) Residual Volume (RV) | B) Inspiratory Reserve Volume (IRV) |
| C) Tidal Volume (TV) | D) Expiratory Reserve Volume (ERV) |
35. An adult human with average health has systolic and diastolic pressures as:
- | | |
|---------------------------|---------------------------|
| A) 80 mm Hg and 80 mm Hg | B) 70 mm Hg and 120 mm Hg |
| C) 120 mm Hg and 80 mm Hg | D) 50 mm Hg and 80 mm Hg |

36. The transfer of sperms into the female genital tract is called
A) Insemination
B) Gametogenesis
C) Fertilization
D) Gestation
37. The middle piece of sperm contains cell organelles like
A) Filaments
B) Mitochondria
C) Nucleus
D) Ribosomes
38. Hyposecretion of GH in child leads to
A) Pituitary dwarfism
B) Gigantism
C) Cretinism
D) Tetany
39. The main enzymes present in the gastric juice are
A) Trypsin, pepsin and lipase
B) Pepsin, amylase and trypsin
C) Pepsin, rennin and carboxypeptidase
D) Pepsin, lipase and rennin
40. Which of the following is correct about hilum of kidney?
A) It is present on the convex outer surface.
B) It is present at the inner convex surface.
C) It is notch through which ureter, nerve and blood vessel enter.
D) It is the place where the calyces are open.

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41. Which one is/are not the odd one out from the following structures with reference to the male reproductive system.
- | | |
|--------------------|----------------|
| A) Isthmus | B) Epididymis |
| C) Vasa efferentia | D) Rete testis |
42. Who among the following have specialized tissue for conduction of water
- | | |
|-----------------|----------------|
| A) Thallophyta | B) Bryophyta |
| C) Pteridophyta | D) Gymnosperms |
43. Who among the following do not have open circulatory system
- | | |
|---------------|-------------|
| A) Arthropoda | B) Mollusca |
| C) Annelida | D) Aves |
44. Select the incorrect statement
- | |
|---|
| A) Neural system provide point to point rapid coordination among organs |
| B) Neural co-ordination is slow & hormonal is fast |
| C) Testosterone helps in development of sexual organ in females |
| D) Estrogen is a pregnancy hormone. |
45. Select Correct option(s)
- | | |
|---|---|
| A) Renin helps in osmoregulation | B) Rennin helps in digestion |
| C) Rennin is released from Intestinal gland | D) Renin is released from Gastric gland |

PART IV: MATHEMATICS

SECTION 1 (Maximum Marks: 30)

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46. In a quadrilateral $ABCD$, $BC = 10\text{cm}$, $CD = 14\text{cm}$, $AD = 12\text{cm}$ and $\angle CBA = \angle BAD = 60^\circ$. If $AB = (a + \sqrt{b})\text{cm}$, where a and b are positive integers, then $a + b$ is equal to :
- A) 193 B) 201 C) 204 D) 207
47. $ABCD$ is a square with length of a side 1cm . An octagon is formed by lines joining the vertices of square to the mid points of opposite sides. Find the area of the octagon so formed.
- A) $\frac{1}{8\sqrt{2}}$ B) $\frac{1}{6}$ C) $\frac{1}{3}$ D) $\frac{1}{4\sqrt{2}}$
48. The product of four distinct positive integers, a, b, c and d is $8!$. The numbers also satisfy
- $$ab + a + b + 1 = 323 \quad \text{and,}$$
- $$bc + b + c + 1 = 399$$
- What is d ? [$n!$ is defined as product of first ' n ' natural numbers]
- A) 7 B) 14 C) 21 D) 28
49. Nivesh is taking eggs to the market to sell. The eggs are in a cart that holds up to 500 eggs. If the eggs are removed from the cart either 2,3,4,5 or 6 at a time, one egg is always left over. If the eggs are removed 7 at a time, no eggs are left over. Let n denote the number of eggs in the cart. Which of the following is true about n ?
- A) $1 \leq n \leq 100$ B) $101 \leq n \leq 200$ C) $201 \leq n \leq 300$ D) $301 \leq n \leq 400$

50. Let $C(\alpha, \beta)$ be the circumcenter of the triangle formed by the lines

$$4x + 3y = 69$$

$$4y - 3x = 17 \text{ and}$$

$$x + 7y = 61$$

Then $(\alpha - \beta)^2 + \alpha + \beta$ is equal to

A) 18

B) 17

C) 16

D) 15

51. Consider the set of all fractions $\frac{x}{y}$, where x and y are relatively prime positive integers. How many of these fractions have the property that if both numerator and denominator are increased by 1, the value of the fraction is increased by 10%?

A) 4

B) 3

C) 2

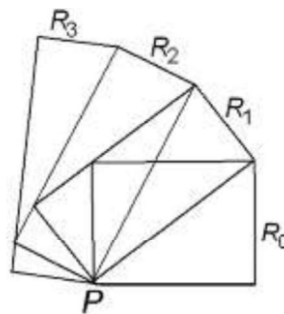
D) 1

52. Chidvilas, AIR-1, JEE Advanced 2023, used to play with his friends at Sri Chaitanya, Chandigarh using ten-sided dice. He rolls three fair ten-sided dice with faces labelled $0, 1, 2, \dots, 9$. First he rolls two dice, and finds the sum of the two rolls. Then he rolls the third die. What is the probability that the sum of the first two rolls equals the third roll?

A) $\frac{11}{200}$ B) $\frac{9}{200}$ C) $\frac{13}{100}$ D) $\frac{17}{50}$

53. Rectangle R_0 has sides of lengths 3 and 4. Rectangles $R_1, R_2,$ and R_3 are formed such that:

- all four rectangles share a common vertex P ,
- for each $n = 1, 2, 3$, one side of R_n is a diagonal of R_{n-1} ,
- for each $n = 1, 2, 3$, the opposite side of R_n passes through a vertex of R_{n-1} such that the center of R_n is located counterclockwise of the center of R_{n-1} with respect to P .



Compute the total area covered by the union of the four rectangles.

A) 24

B) 26

C) 28

D) 30

-
54. The number of three digit numbers (all digits are different) which are divisible by 7 and also divisible by 7 on reversing the order of the digits, is
A) 4 B) 6 C) 8 D) 10
55. How many pairs of integral values of x and y satisfy the equation $5x + 9y = 7$, where $-500 < x < 500$ and $-500 < y < 500$?
A) 110 B) 111 C) 112 D) 113

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Zero Marks	:	0,	if none of the bubble is darkened
Negative Marks	:	-1,	in all other cases
- For example, if (A), (C) and (D) are all the correct options for a question, darkening all these three will result in **+4 marks**; darkening any one out of three will result in **+1 marks**, darkening any two e.g (A), (D) will result in **+2 marks**; and darkening (A) and (B) will result in **-1 marks**, as a wrong option is also darkened.

56. R_1 and R_2 are identical rectangles. S is a square having the same area as either of these rectangles. R_1 is rolled along its length so that the opposite breadths coincide to form a cylinder C_1 of volume C_a . R_2 is rolled along its breadth so that the opposite lengths coincide to form a cylinder C_2 of volume C_b . S is folded along one of its sides so that the two sides perpendicular to that side coincide to form a cylinder C_3 of volume C_c . Which of the following does not hold true? [Note: length is considered to be longer than breadth]
- A) $C_a > C_b > C_c$ B) $C_b > C_a > C_c$
C) $C_a > C_c > C_b$ D) $C_b > C_c > C_a$
57. Let $f(x) = ax^2 + bx + c$, $a \neq 0$, a, b, c are integers. Let $f(1) = 0$, $50 < f(7) < 60$ and $70 < f(8) < 80$, then
- A) $f(10) = 135$ B) $f(3) = 4$
C) $f(5) = 20$ D) $f(-2) = 21$
58. A square in the xy -plane has area A , and three of its vertices have x -coordinates 2, 0 and 18 in some order. Find the possible values of A .
- A) 260 B) 328
C) 420 D) 580

59. Let a_1, a_2, \dots, a_n be a given A.P. whose common difference is an integer and $S_n = a_1 + a_2 + a_3 + \dots + a_n$. If $a_1 = 1$, $a_n = 300$ and $15 \leq n \leq 50$, then
- A) $S_{n-4} + a_{n-4} = 2738$
- B) the common difference is a prime number
- C) $S_{n-4} - a_{n-4} = 2738$
- D) the common difference is square of an integer
60. Two people A and B start from the same place at the same time to travel around a circular track of length 100 m in opposite directions. First B goes more slowly than A until they meet, then by doubling his rate he next meets A at the starting point. Let d m be the distance travelled by B before he met A for the first time after leaving the starting point. Then,
- A) $d > 42$
- B) $41 < d < 42$
- C) $d < 41$
- D) the integer closest to d is 41

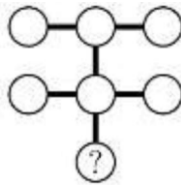
PART V: IQ

SECTION 1 (Maximum Marks: 45)

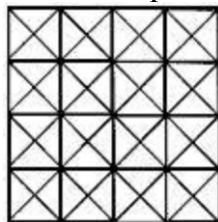
- This section contains **FIFTEEN** questions.
- Each question has **FOUR** options (A), (B), (C) and (D). **ONLY ONE** of these four options is correct.
- For each question, darken the bubble corresponding to the correct option in the OMR.
- For each question, marks will be awarded in one of the following categories:

Full Marks	:	+3, if only the bubble corresponding to the correct option is darkened.
Zero Marks	:	0, if none of the bubble is darkened
Negative Marks	:	-1, in all other cases

61. Seven single-digit numbers are distributed among the circles shown (atleast six of these numbers are distinct) so that the product of the three numbers that are connected by a straight line is same in all the three cases. Which number is written in the circle with the question mark?



- A) 2 B) 3 C) 4 D) 6
62. Several points are marked on a straight line. Harsh Taya marks another point between each pair of adjacent points. He repeats this process three more times. Now there are 225 points marked on this straight line. How many points were marked to start with?
- A) 15 B) 20 C) 25 D) 29
63. An old couple with memory issues had forgotten their anniversary and were trying to recollect the date. The lady clearly remembers that they got married in the month of February of the year 1955. The man clearly remembers that he celebrated his 21st birthday with same year, and it was Thursday, the 3rd of February, as a bachelor. The lady then remembers that they definitely got married before the 13th of February. The man knows it had to be a weekend, since he was working on other days from Monday to Friday. The lady and the man then agree that it was a Sunday. Their wedding which was in the year 1955 was on which date?
- A) 5th of February B) 6th of February C) 8th of February D) 12th of February
64. What is the total number of squares in the given figure?



- A) 30 B) 72 C) 54 D) 68

65. In a village, the ratio of number of males to females is 5 : 4. The ratio of number of literate males to literate females is 2 : 3. The ratio of the number of illiterate males to illiterate females is 4 : 3. If 3600 males in the village are literate, then the total number of females in the village is
 A) 38100 B) 43200 C) 44900 D) 45300
66. In a large school auditorium, the students are made to sit to watch the programmes. If the teachers make a row of students of 16 each, there will be 12 students left. If they make rows of 24 each, then there will be 20 students left, if they make rows of 25 each, there will be 21 students left and if they make rows of 30 each, there will be 26 students left. What is the minimum number of students present in the school?
 A) 1216 B) 1784 C) 1196 D) 2396

Directions for 67-68: Table given below shows the density of population defined as the population per unit area across 8 states. Refer to it and answer questions 67-68.

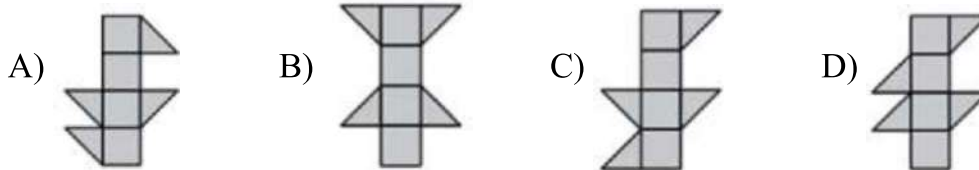
Population Density in 8 States (Population per Unit Area)

State	Capital	Population	Area (sq. km)
Jammu & Kashmir	Srinagar & Jammu	10,069,917	222,236
Himachal Pradesh	Shimla	6,077,248	55,673
Haryana	Chandigarh	21,082,989	44,212
Delhi	Delhi	13,782,976	1,483
Rajasthan	Jaipur	56,473,122	342,239
Uttar Pradesh	Lucknow	166,052,859	241,006
Bihar	Patna	82,878,796	94,180
Sikkim	Gangtok	540,493	7,096

67. The number of states whose population density is higher than the all India population density is:
 A) 3 B) 4 C) 5 D) 2
68. Amongst the states whose name starts with a consonant other than ' H ' and whose capital's name starts with a consonant other than ' S ', the state with the highest population density is:
 A) Delhi B) Rajasthan C) Bihar D) None of these
69. Two adjacent faces of a cube are painted with red colour. The cube is cut into 64 smaller cubes of equal dimensions. How many cubes have only one face colored red?
 A) 16 B) 18 C) 24 D) 32

70. Chinmay and Mrinal are playing a game of coins. There are N coins on the table to start with. Each player, in his turn, picks up at least one coin and at most eight coins. The two players take turns alternately. They continue playing till the last coin is picked up off the table. The player who picks up the last coin loses. Assume that each player plays intelligently with an objective of winning. Chinmay has the first move. No player is allowed to pass his turn without picking up any coins. If there are 88 coins in the game then how many coins should Chinmay pick in his first turn to ensure his win?
 A) 6 B) 7 C) 2 D) He can't win in this game.
71. Three racers take part in a Formula-1 Race: Michael, Fernando and Sebastian. From the start Michael is in the lead in front of Fernando who is in front of Sebastian. In the course of the race Michael and Fernando overtake each other 9 times, Fernando and Sebastian 10 times and Michael and Sebastian 11 times. In which order do those three end the race?
 A) Michael, Fernando, Sebastian B) Fernando, Sebastian, Michael
 C) Sebastian, Michael, Fernando D) Sebastian, Fernando, Michael

72. Which one of these could be folded to make a cube?

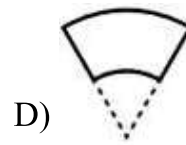
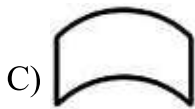
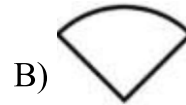


73. The diagram shows a partially completed magic square, in which all rows, all columns and both main diagonals have the same total. What is the value of $x + y$?

4		
	7	y
6	5	x

- A) 10 B) 11 C) 12 D) 13
74. Molina needs to select a new PIN. She decides it will be made up of four non-zero digits with the following properties:
 i) The first two digits and the last two digits each make up a two-digit number which is a multiple of 11.
 ii) The sum of all the digits is a multiple of 11.
 How many different possibilities are there for Amrita's PIN?
 A) 2 B) 4 C) 8 D) 16

75. A drinking glass is made in the shape of a truncated cone. The outside of the glass (without the upper or lower circle) should be covered with coloured paper. How do you need to cut the paper to completely cover the glass without an overlap?



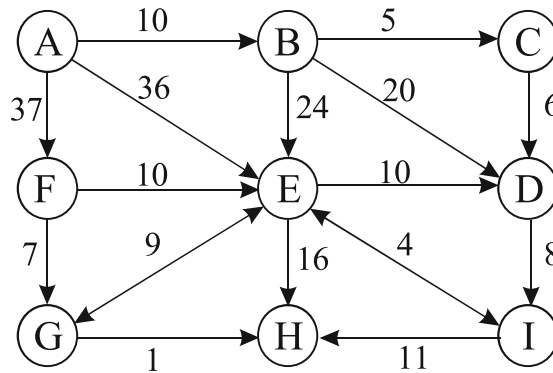
SECTION 2 (Maximum Marks: 20)

- This section contains **FIVE** questions.
- Each question has **FOUR** options (A), (B), (C) and (D). **ONE OR MORE THAN ONE** of these four option(s) is(are) correct.
- For each question, darken the bubble corresponding to all the correct option(s) in the OMR.
- For each question, marks will be awarded in one of the following categories:

Full Marks	:	+4	if only the bubble(s) corresponding to all the correct option(s) is (are)darkened.
Partial Marks	:	+1	for darkening a bubble corresponding to each correct option , provided NO incorrect option is darkened
Zero Marks	:	0,	if none of the bubble is darkened
Negative Marks	:	-1,	in all other cases
- For example, if (A), (C) and (D) are all the correct options for a question, darkening all these three will result in **+4 marks**; darkening any one out of three will result in **+1 marks**, darkening any two e.g (A), (D) will result in **+2 marks**; and darkening (A) and (B) will result in **-1 marks**, as a wrong option is also darkened.

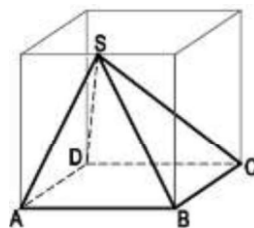
76. In a row of soldiers facing North,
- Lambert is 8th to the right of Khurusheva;
 - Mickey is 16th from the left end;
 - Lambert is 16th to the right of Jackson who is 27th from the right end of the row;
 - Khurusheva is nearer than Mickey to the right end of the row;
 - There are 5 boys between Mickey and Khurusheva.
- Which of the following statements is/are CORRECT?
- There are three soldiers between Jackson and Mickey.
 - Khurusheva is 19th from the right end of the row.
 - There are 40 soldiers in the row.
 - There are 36 soldiers in the row.

77. Nine storage centres A to I are connected with several one-way routes and two-way routes as shown below.
The number beside each line in the diagram represents the distance between two centres.



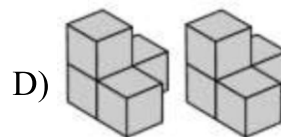
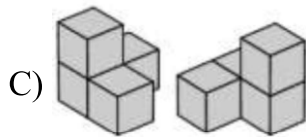
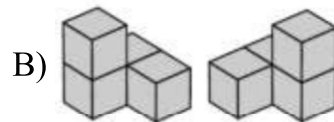
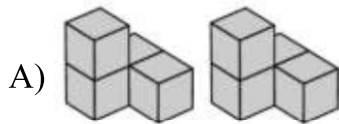
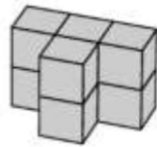
Which of the following options is/are CORRECT?

- A) The minimum distance required to travel from A to H is 35
 - B) The maximum distance required to travel by a person starting from centre B and going to centre G without passing through any centre more than once is 49
 - C) The maximum distance required to travel by a person starting from centre B and going to centre G without passing through any centre more than once is 45
 - D) The minimum distance required to travel from A to H is 40
78. While learning Engineering Drawing course at IIT Bombay, Sarvesh Mehtani came across an interesting problem: Inside the cube lattice (given picture) he could see a solid, non-see-through pyramid ABCDS with square base ABCD, whose top S is exactly in the middle of one edge of the cube. When looked at the pyramid from above, from below, from the front, from the back, from the right and from the left - which of the views given in options CAN be possible?



- A)
- B)
- C)
- D)

79. Which two building blocks, given in each option, can be joined together so that the object shown is created?



80. 13 athletes took part in a three-part climbing competition. There are no draws in any part. The final rank of each athlete is determined by arranging the products of the ranks in each of the three parts: If an athlete for example comes 4th once, 3rd once and 6th once, he has $4 \cdot 3 \cdot 6 = 72$ points. The higher the number of points, the worse the final rank. Which of the following final rank can Khushang get to if he was 1st in two of the parts?

A) 2

B) 3

C) 4

D) 7

SPACE FOR ROUGH WORK



Sri Chaitanya

Class 10th

Answer Key

Code A

Q. NO.	CODE-A	Q. NO.	CODE-A	Q. NO.	CODE-A	Q. NO.	CODE-A
1	D	11	A	21	C	31	A
2	C	12	AC	22	B	32	C
3	C	13	AD	23	C	33	A
4	B	14	AB	24	B	34	A
5	D	15	BD	25	B	35	C
6	D	16	D	26	D	36	A
7	D	17	A	27	ACD	37	B
8	D	18	C	28	ABD	38	A
9	C	19	A	29	BC	39	D
10	A	20	D	30	BCD	40	C

Q. NO.	CODE-A	Q. NO.	CODE-A	Q. NO.	CODE-A	Q. NO.	CODE-A
41	BCD	51	D	61	ABCD	71	B
42	CD	52	A	62	A	72	C
43	CD	53	D	63	B	73	D
44	BC	54	A	64	B	74	C
45	AB	55	B	65	B	75	D
46	C	56	ABD	66	C	76	BC
47	B	57	AC	67	B	77	D
48	A	58	ABD	68	A	78	ABD
49	D	59	AB	69	C	79	A
50	B	60	BD	70	A	80	AB