

Sample Questions for



CLASSROOM CONTACT PROGRAMME

PRE-NURTURE & CAREER FOUNDATION : CLASS-VIII
(FOR VIII to IX MOVING STUDENTS)



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INSTRUCTIONS

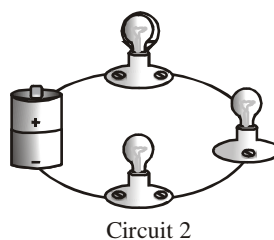
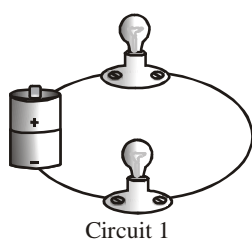
Things NOT ALLOWED in EXAM HALL : Blank Paper, clipboard, log table, slide rule, calculator, camera, mobile and any electronic or electrical gadget. If you are carrying any of these then keep them at a place specified by invigilator at your own risk

1. This Booklet is your Question Paper. DO NOT break seal of Booklet until the invigilator instructs to do so.
2. Fill your TALLENTX Roll No. & Answer Sheet No. in the space provided on the cover page.
3. Carefully fill your **PAPER CODE** and present **CLASS** in space provided (**Serial No. 6 & 12**) of optical response sheet.
4. Please make sure that paper you received is of your class only.
5. Please make sure that the **Paper Code** Printed on the **Test Booklet Cover Page** and **Inner Pages** are the same. In case of discrepancy, the candidate should immediately report the matter to the Invigilator for replacement of Test Booklet.
6. The Answer Sheet is provided to you separately which is a machine readable Optical Response Sheet (ORS). You have to mark your answers in the ORS by darkening bubble, as per your answer choice, by using black or blue ball point pen.
7. After breaking the Question Paper seal, check there are **12 pages** in the booklet. This Question Paper contains 80 MCQs with 4 choices (Subjects: Physics: 15, Chemistry: 15, Biology: 15, Maths: 15 & Mental ability: 20).
8. Think wisely before darkening bubble as **there is negative marking for wrong answer**. Answer once marked by pen cannot be cancelled.
9. Marking Scheme:
 - a. If darkened bubble is RIGHT answer: 4 Marks.
 - b. If darkened bubble is WRONG answer: -1 Mark (Minus One Mark).
 - c. If no bubble is darkened in any question: No Mark.
10. If you are found involved in cheating or disturbing others, then your ORS will be cancelled.
11. Do not put any stain on ORS and hand it over back properly to the invigilator.
12. You can take along the question paper after the test is over.

SECTION - A : PHYSICS

This section contains **15 Multiple Choice Questions**. Each question has four choices (1), (2), (3) and (4) out of which **ONLY ONE** is correct.

- The process of transfer of heat in solids is called as
(1) convection (2) radiation (3) conduction (4) all are correct
- When two horizontal force F_1 and F_2 acts on a block of mass m_1 kg kept on frictionless horizontal ground, it remains stationary. If one force is now removed then the magnitude of acceleration of the block can be
(1) $\frac{F_1}{m_1}$ (2) $\frac{F_2}{m_1}$ (3) both (1) and (2) (4) None of these
- The loudness of sound depends on
(1) Its amplitude (2) Its time period (3) Its frequency (4) Its speed
- Ray of light falls on plane mirror at an angle of 60° from the mirror. The angle of deviation will be
(1) 150° (2) 120° (3) 30° (4) 90°
- Which of these is matched incorrectly?
(1) Linear Motion: Piston in a cylinder
(2) Periodic Motion: Revolution of Earth
(3) Oscillatory Motion: Spinning of Earth
(4) Circular Motion: Person sitting in a moving Merry-Go round
- A student observed the circuits below and noticed the light bulbs in Circuit 1 were brighter than the light bulbs in Circuit 2. (The connecting wires have negligible resistance).



Based on this observation, which of the following is the best prediction?

- If more bulbs are added to a circuit then the bulbs will become brighter.
 - If more bulbs are added to a circuit, then the bulbs will become dimmer.
 - If longer wires are used in a circuit, then the bulbs will become brighter.
 - If longer wires are used in a circuit, then the bulbs will become dimmer.
- The speed of light is fastest in
(1) water (2) vacuum (3) honey (4) air

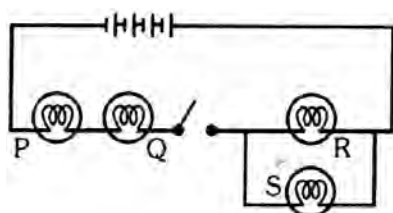
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8. The direction of flow of heat is
- (1) always from hotter body to a colder body
 - (2) always from colder body to a hotter body
 - (3) always from a body at a lower temperature to a body at higher temperature
 - (4) all of the above are correct
9. A student lets a toy car roll four times down a ramp that is 1 m long. Each time the student covers the surface of the ramp with a different material. The student measures the time it takes the car to roll down the ramp and records the results in the table below.

Material	Time to Complete Ramp (s)
W	4
X	8
Y	7
Z	5

Which of these would be the best conclusion based on the data in the table?

- (1) Different surfaces affect how fast a toy car accelerates.
 - (2) Gravity has little effect on the speed of toy cars on different surfaces.
 - (3) Air resistance is the greatest factor in limiting the acceleration of different toy cars.
 - (4) None of these
10. _____ of a sound is that characteristic which distinguishes the two sounds of same pitch and same loudness but emitted by two different instruments.
- (1) Quality
 - (2) Frequency
 - (3) Wavelength
 - (4) Amplitude
11. A car travels with a speed of 50 km/h in the first 30 minutes and 100 km/h in the next 30 minutes. What is the total distance covered by the car?
- (1) 50 km
 - (2) 75 km
 - (3) 150 km
 - (4) 200 km
12. Observe the circuit shown below :



Identify the bulbs that glow when switch is in the 'OFF' position?

- (1) P and Q only
- (2) Only S
- (3) R and S only
- (4) None of the bulbs glow

13. A man sitting on a chair looks into a plane mirror which is 5.5 m away from him. He see the image of a chart which faces the mirror and is 0.5 m behind him. How far away from him does the image of chart appear to be ?
 (1) 0.5 m (2) 5.5 m (3) 11.5 m (4) 3.5 m
14. Device used to detect the presence of charge is
 (1) Ammeter (2) Voltmeter (3) Galvanometer (4) Electroscope
15. Sachin runs faster than Virat in a given length. To compare Sachin and Virat in this, the fundamental physical quantities involved are :
 (1) length only (2) time only
 (3) length and time (4) neither length nor time

SECTION-B : CHEMISTRY

This section contains **15 Multiple Choice Questions**. Each question has four choices (1), (2), (3) and (4) out of which **ONLY ONE** is correct.

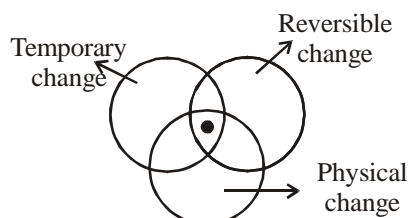
16. On adding phenolphthalein indicator to a colourless solution, no change is observed. What is the nature of this solution ?
 (1) Basic (2) Either acidic or basic
 (3) Either acidic or neutral (4) Either basic or neutral
17. Match column I with column II and select the correct option from the given codes.
- | Column I | Column II |
|--|--|
| (P) Nylon | (i) Burns quickly with a smell of burning paper |
| (Q) Wool | (ii) Burns with sooty flame, fabric shrinks and black beads are formed |
| (R) Acrylic | (iii) Shrinks after exposure to flame, forms hard beads and is harder than steel |
| (S) Rayon | (iv) Burns slowly with a smell of burning hair |
| (1) P - (i), Q - (iv), R - (ii), S - (iii) | (2) P - (iii), Q - (iv), R - (ii), S - (i) |
| (3) P - (iv), Q - (iii), R - (i), S - (ii) | (4) P - (ii), Q - (iv), R - (iii), S - (i) |
18. Which of the following properties is not a characteristic of metals ?
 (1) Metallic lustrous (2) High Density
 (3) Hardness (4) Low melting and boiling point
19. $\text{ZnO} + 2\text{HCl} \longrightarrow \text{X} + \text{H}_2\text{O}$
 $\text{ZnO} + 2\text{NaOH} \longrightarrow \text{Y} + \text{H}_2\text{O}$

Identify 'X', 'Y' and the nature of ZnO best described by the above reactions.

X	Y	Nature of ZnO
(1) ZnCl_3	NaZnO_2	Amphoteric
(2) ZnCl_2	Na_2ZnO_2	Amphoteric
(3) ZnCl_2	NaZnO_2	Acidic
(4) ZnCl_3	Zn(OH)_2	Basic

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20. Which of the following is not a physical property of a substance ?
 (1) Shape (2) Colour (3) Density (4) Flammability
21. The upper limit of the ground water is known as
 (1) Surface water (2) Well water (3) Water table (4) Ground water
22. Study the Venn diagram. Centre point (•) represents which of the following change?



- (1) Child to an adult (2) Wet clothes to dry clothes
 (3) Raw egg to boiled egg (4) Cow dung to biogas
23. An element 'X' occurs in nature in carbonate form and can displace Zn from its salt solution but not calcium. Element 'X' is
 (1) Fe (2) Mg (3) Ni (4) Sn
24. The pH of three solutions A, B and C is 9, 6, 11 respectively. Which of the following is true about the above?
 (1) $A > B > C$ - decreasing acidic strength
 (2) $C > B > A$ - increasing acidic strength
 (3) $B > A > C$ - decreasing acidic strength
 (4) $C > B > A$ - decreasing acidic strength
25. Which of the following statements is correct of the water table of a place?
 (1) It changes from place to place. (2) It changes from time to time.
 (3) It goes down when rain is less. (4) All of these
26. By which fabrics terrywool is made ?
 (1) Cotton + Nylon (2) Polyester + Wool (3) Cotton + Wool (4) Nylon + Wool
27. Why rusting of iron is a chemical change ?
 (1) Because it changes its colour (2) Because it makes iron powdery
 (3) Because a new substance is formed (4) None of these
28. Which of the following materials is the best for making garments and jackets that can be used in wet or damp environment?
 (1) Polyester (2) Wool (3) Cotton (4) None of these

29. Which of the following statements are correct about an aqueous solution of a base ?

- (A) Higher the pH, stronger the base (B) Higher the pH, weaker the base
(C) Lower the pH, stronger the base (D) Lower the pH, weaker the base

- (1) (A), (D) (2) (A), (B) (3) (A), (C) (4) (B), (C)

30. Fill in the blanks by picking up the correct words.

Fibres are materials which are usually thin and have thread-like structure. They are generally classified as P and Q, on the basis of their origin. Natural fibres may be plant fibres like R or animal fibres like S.

- | P | Q | R | S |
|--------------|-----------|--------|------|
| (1) Monomers | Polymers | Silk | Jute |
| (2) Natural | Synthetic | Cotton | Silk |
| (3) Polymers | Natural | Wool | Jute |
| (4) Natural | Monomers | Jute | Wool |

SECTION-C : BIOLOGY

This section contains **15 Multiple Choice Questions**. Each question has four choices (1), (2), (3) and (4) out of which **ONLY ONE** is correct.

31. How can single-celled organisms help during an oil spill?

- (1) By holding the oil spill
(2) By breaking down crude oil and disposing it off.
(3) By locating the source of the oil spill.
(4) By turning the oil a different colour

32. Horticulture is the cultivation that includes

- (1) Fruits, vegetables and flowers (2) All food crops
(3) Vegetable gardens and lawns near hotels (4) Some bush crops and apples

33. Transportation of O_2 in blood is done by

- (1) RBC's (2) WBC's (3) Platelets (4) All of these

34. In crop rotation legume crop is sown before a cereal crop

- (1) To improve crop variety
(2) To maintain soil fertility
(3) To help in growth of weeds
(4) All the above

35. During inspiration, the diaphragm

- (1) Expands (2) Shows no change
(3) Contracts and flattens (4) Relaxes to become dome shaped

36. If forests disappear

- (1) The amount of CO_2 in air decreases (2) The amount of O_2 in air will increase
(3) The amount of CO_2 in air increases (4) The amount of nitrogen in air will increase

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37. Decomposers are those organisms that
- (1) Feed on dead and decaying matter
 - (2) Feed on living plants
 - (3) Feed on living animals
 - (4) Convert dead plant and animal tissues into living organic material.
38. In anaerobic respiration of yeast
- (1) O_2 is given out
 - (2) CO_2 is given out
 - (3) CO_2 is taken in
 - (4) O_2 is taken in
39. Which of the following statements best describes the organs of a multicellular organism?
- (1) Every tissue in an organ system carries out the same function.
 - (2) Every organ in an organ system carries out the same function.
 - (3) Organs make up tissues that help the body carry out specific functions.
 - (4) Tissues make up organs that help the body carry out specific functions.
40. During running or cycling, which of the following organs have to increase their activity.
- (1) Heart
 - (2) Lungs
 - (3) Both (1) and (2)
 - (4) Kidneys
41. Most human cells range from 10 to 15 micrometers in diameter. What limits how large a cell can be?
- (1) A cell's lifespan.
 - (2) Nutrients available in the environment of a cell.
 - (3) The relationship between its volume and length.
 - (4) The relationship between its surface area and volume.
42. Loss of water by transpiration can occur through _____
- (1) Stomata
 - (2) Cuticle
 - (3) Lenticel
 - (4) All of these
43. The diagram below shows human red blood cells and white blood cells. Why do these cells have different shapes?



Red blood cells



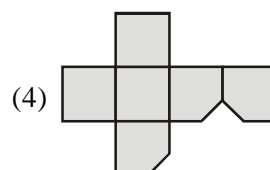
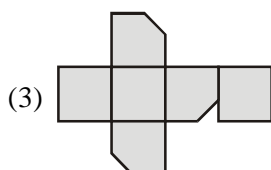
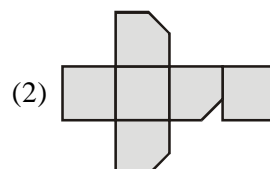
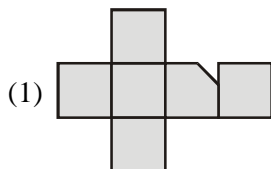
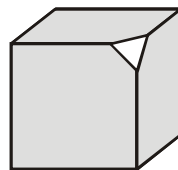
White blood cells
(lymphocytes)

- (1) They reproduce using different forms of mitosis.
 - (2) They each are generated in different parts of the body.
 - (3) They travel in different parts of the circulatory system.
 - (4) Their shapes help them perform different functions in the body.
44. Manure is a natural substance obtained from the animal and plant waste, like cow dung, human waste and plant residue. It supplies essential elements to the soil and makes it more fertile. But, it is not much helpful when a particular nutrient is required in the soil for particular crop. Which one of the following reason given below is the possible reason for this?
- (1) It contains less nutrients
 - (2) It does not contain all the nutrients
 - (3) It is not nutrient specific
 - (4) The content of nutrient is very large
45. Digestion of food in protozoans occurs in
- (1) Vacuole
 - (2) Pseudopodia
 - (3) Flagella
 - (4) Centriole

SECTION-D : MATHEMATICS

This section contains **15 Multiple Choice Questions**. Each question has four choices (1), (2), (3) and (4) out of which **ONLY ONE** is correct.

46. The additive inverse of $(-1 + 4)$ is
 (1) 3 (2) -3 (3) 0 (4) 1
47. The decimal expansion of the rational number $\frac{33}{2^2 \times 5}$ will terminate after
 (1) one decimal place (2) two decimal places
 (3) three decimal places (4) four decimal places
48. Convert the recurring decimal $0.\overline{35}$ to a fraction
 (1) $\frac{35}{100}$ (2) $\frac{35}{99}$ (3) $\frac{35}{90}$ (4) $\frac{35}{900}$
49. $\triangle ABC$ and $\triangle PQR$ are congruent if,
 (1) $AB = BC = AC$ and $PQ = QR = PR$ (2) $\angle A = \angle P, \angle B = \angle Q, \angle C = \angle R$
 (3) $AB = PQ, BC = QR$ and $\angle B = \angle Q$ (4) None of these
50. In a $\triangle ABC$, it is given that $\angle B = 37^\circ$ and $\angle C = 29^\circ$. Then $\angle A = ?$
 (1) 86° (2) 66° (3) 114° (4) 57°
51. If $[2^{3x-1} + 10] \div 7 = 6$, then x is equal to
 (1) -2 (2) 0 (3) 1 (4) 2
52. What is the area of a trapezium whose parallel sides are 12 cm and 16 cm and distance between them is 8 cm?
 (1) 100 cm^2 (2) 112 cm^2 (3) 64 cm^2 (4) 76 cm^2
53. One corner of a cube is cut off, as shown on the picture. Then the resulting solid is unfolded. Which of the nets below is the net of this solid?



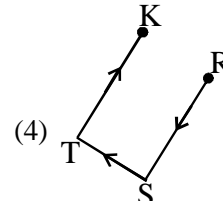
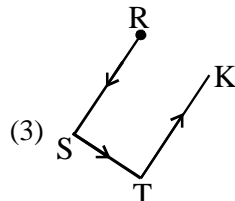
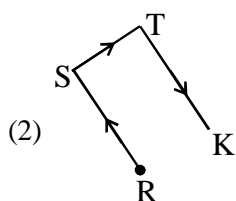
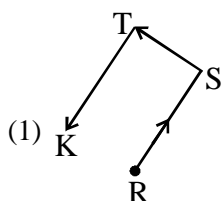
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54. Rectangular tiles, which measure 6 by 4, are arranged without overlapping, to create a square. The minimum number of these tiles needed to make a square is
(1) 4 (2) 24 (3) 6 (4) 12
55. $\sqrt{(2015 + 2015) + (2015 - 2015) + (2015 \times 2015) + (2015 \div 2015)} = ?$
(1) $\sqrt{2015}$ (2) 2016 (3) 2015 (4) 4030
56. If a number is subtracted from 23 gives the result 10 less than twice the number, then the number is:
(1) 12 (2) 11 (3) 10 (4) 13
57. Which of the following are rational numbers ?
(1) $\sqrt{16}$ (2) $\sqrt{1156}$ (3) $\sqrt{121}$ (4) All of these
58. Three numbers are in the ratio 2 : 3 : 4. The sum of their cubes is 334125. Find the numbers?
(1) 20, 30, 40 (2) 30, 45, 60 (3) 50, 75, 100 (4) None of these
59. Solve for m : $7(m - 9) + 3(m - 1) + 4(2m - \frac{3}{2}) = \frac{5}{2}$
(1) $\frac{139}{36}$ (2) $\frac{149}{36}$ (3) $\frac{150}{36}$ (4) $\frac{129}{36}$
60. The diagonal of a square is 3.2 m. Find the area of the square ?
(1) 10.24 m^2 (2) 2.56 m^2 (3) 3.41 m^2 (4) 5.12 m^2

SECTION-E : MENTAL ABILITY

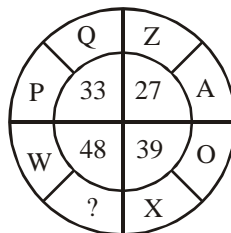
This section contains **20 Multiple Choice Questions**. Each question has four choices (1), (2), (3) and (4) out of which **ONLY ONE** is correct.

61. If + means \times , - means \div , \times means - and \div means + then the value of $18 \div 14 + 6 \times 16 - 4$
(1) 98 (2) 78 (3) 67 (4) 61
62. Ashok starts from his office facing West and walks 200 m straight then takes a right turn and walks 200 m. Further he takes a left turn and walks 100 m. In which direction is Ashok now from the starting point?
(1) North - East (2) North - West (3) South - West (4) North
63. If EODGH is the code for BLADE, what is the code for CRICKET?
(1) QWEUIOP (2) FULFNHW (3) GTHOKNB (4) XCTYUNL
64. Rinku from R moved North-West side 2 Km to S. From there he turned 90° clockwise and moved 2 Km to T. From there he turned 90° clockwise and travelled 2 Km to K. Which of the answer figure shows the exact path he traced?



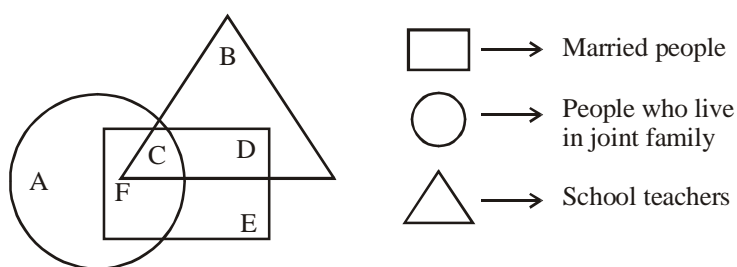
65. Find the next term in the given series.
5, 10, 13, 26, 29, 58, 61, (...)
(1) 122 (2) 64 (3) 125 (4) 128

66. Find the missing character?



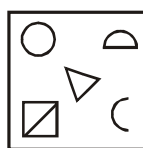
- (1) X (2) Y (3) Z (4) A

67. Study the following figure and answer the question given below.



By which letter, the married school teachers who live in joint family are represented?

- (1) D (2) C (3) F (4) E
68. Introducing a man Stuti says, "his wife is the only daughter of my father." How is the man related to Stuti?
- (1) Husband (2) Father (3) Uncle (4) Father-in-law
69. If in a code language, COULD is written as 36334 and MARGIN is coded as 419795, how will DIRECT be written in that code?
- (1) 489532 (2) 499532 (3) 459328 (4) 498325
70. Choose the alternative which is resembles the mirror image of the given combination.



(X)

- (1) (2) (3) (4)

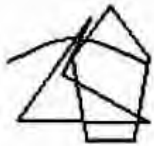
71. Find the missing number in the place of Question mark,

0, 3, 6, 12, 18, 30, 42, 66, ?

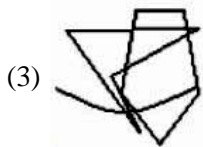
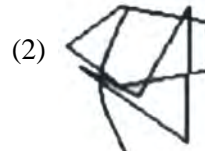
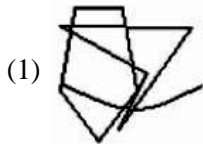
- (1) 60 (2) 70 (3) 80 (4) 90

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72. Choose the alternative which closely resembles the water image of the given figure (X).

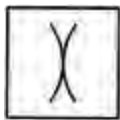


(X)

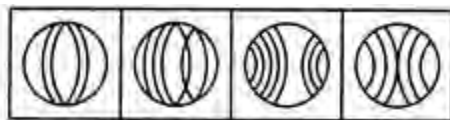


(4) None of these

73. Find out the alternative figure which contains figure (X) as its part.



(X)



(1)

(2)

(3)

(4)

(1) 1

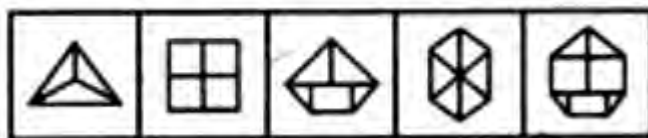
(2) 2

(3) 3

(4) 4

74. Select a figure from amongst the Answer Figures which will continue the same series as established by the five Problem Figures.

Problem Figures :



(A)

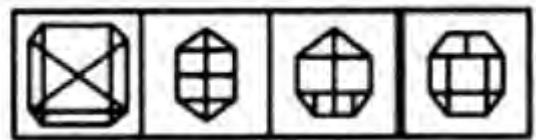
(B)

(C)

(D)

(E)

Answer Figures :



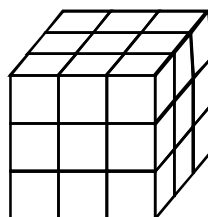
(1)

(2)

(3)

(4)

75. A cube is coloured Blue on all faces. It is cut into 27 smaller cubes of equal size. Now, answer the following question based on the statement?



How many cubes have no face coloured?

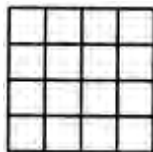
(1) 24

(2) 16

(3) 12

(4) None of these

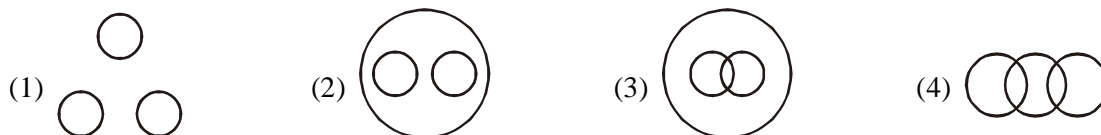
76. Count the number of squares in the given figure.



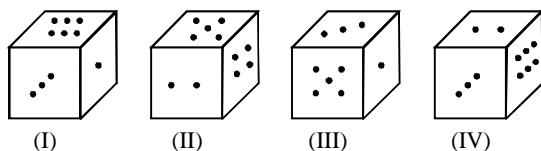
- (1) 32 (2) 30
(3) 34 (4) 36

77. Which of the following diagram represent the given words correctly?

Fathers, Uncles, Human



78. A dice has been thrown four times and produces following results. Which number will appear opposite to the 3 dots?



- (1) 4 (2) 5 (3) 6 (4) 1

79. In a class of 48 students the rank of Manish is 18th from the top. What will be his rank from bottom?

- (1) 31st (2) 33rd
(3) 37th (4) None of these

80. R is the daughter of Q. M is the sister of B who is the son of Q. How M is related to R?

- (1) Cousin (2) Niece
(3) Sister (4) Aunt

SPACE FOR ROUGH WORK

CLASS-VIII

ANSWER KEY

Q. No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Ans.	3	3	1	2	3	2	2	1	1	1	2	4	3	4	2	3	2	4	2	4
Q. No.	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Ans.	3	2	2	3	4	2	3	1	1	2	2	1	1	2	3	3	1	2	4	3
Q. No.	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Ans.	4	4	4	3	1	2	2	2	3	3	4	2	4	3	2	2	4	2	2	4
Q. No.	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
Ans.	1	2	2	2	1	2	2	1	2	3	4	3	4	4	4	2	3	1	1	3