



Time : 2.00 Hrs.

MM : 110

RSAT

(REGIS SCHOLARSHIP CUM ADMISSION TEST)

for

CLASS VIII

(Student Moving VII to VIII)

NAME OF CANDIDATE : _____

REGISTRATION NUMBER : _____

TEST CENTER : _____

MOBILE NUMBER : _____

INSTRUCTIONS :

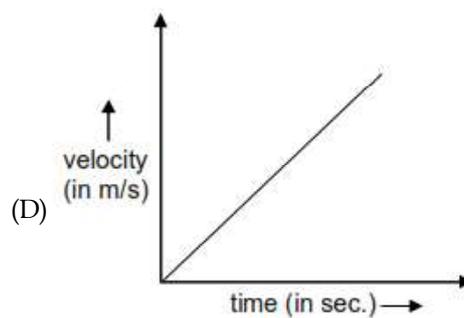
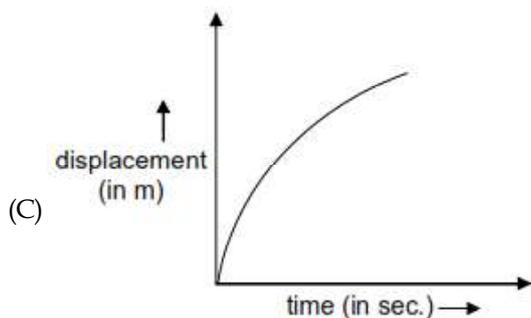
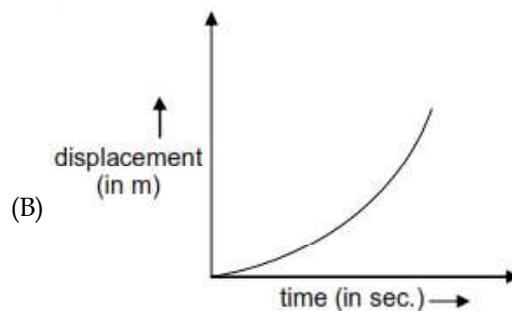
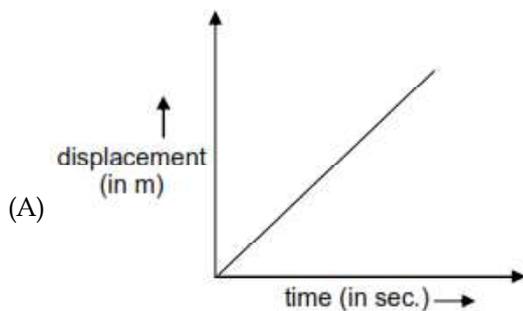
Things NOT ALLOWED in EXAM HALL : Blank Paper, clipboard, log table, slide rule, calculator, camera, mobile and any electronic or electrical gadget. If you are carrying any of these then keep them at a place specified by invigilator at your own risk.

1. This booklet is your Question Paper. **DO NOT** break seal of Booklet until the invigilator instructs to do so.
2. 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 & blue ball point pen.
3. Total Questions to be Attempted 65.
4. After breaking the Question Paper seal, check the following:
 - a. In the booklet containing question no. 1 to 80 under V Section i.e. Section-I, Section-II, Section-III, Section-IV and Section V.
 - b. Section-V contains total 20 questions of IQ (Mental Ability).
 - c. Section-I to Section-IV contains total 60 questions which are - Section-I : Physics, Section-II : Chemistry, Section-III : Mathematics and Section IV : Biology.
 - d. IIT-JEE Students need to attempt from Section-I to Section-III and NEET Students need to attempt Section-I, Section-II & Section-IV.
 - e. Section-V (Mental Ability) is compulsory for both Stream (IIT-JEE & NEET).
5. Marking Scheme:
 - a. If darkened bubble is RIGHT answer : (Section-I to Section-IV) **2 Marks** & Section-V : **1 Marks**.
 - b. If no bubble is darkened in any question: **No Mark**.
 - c. **No negative Marking**.
6. If you are found involved in cheating or disturbing others then your ORS will be cancelled.
7. Do not put any stain on ORS and hand it over back properly to the invigilator.

Section-I : PHYSICS

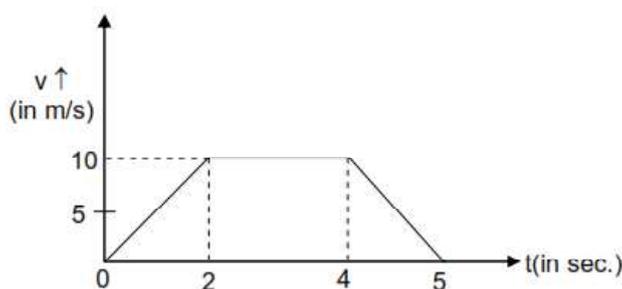
This section contains **15 Multiple Choice Questions**. Each question has four choices (A), (B), (C) and (D) out of which **ONLY ONE** is correct.

- 313 K = _____ °F (fill the correct option in the blank).
(A) 99 (B) 52 (C) 281 (D) 104
- A cyclone is called a _____ in the American Continent.
(A) Hurricane (B) Typhoon (C) Tornado (D) Thunderstorm
- If velocity - time graph of a body is parallel to the time axis, then the body
(A) is at rest (B) is moving with constant speed
(C) is moving with uniform non-zero acceleration (D) None of these
- The ratio of magnitude of $\frac{\text{displacement}}{\text{distance}}$
(A) is always < 1 (B) is always $= 1$ (C) is always > 1 (D) may be ≤ 1
- 5 g of copper was heated from 20°C to 80°C. How much heat energy was used to heat copper ? (specific heat capacity of Copper is $0.092 \text{ cal g}^{-1}\text{C}^{-1}$)
(A) 27.6 cal (B) 0.0276 cal (C) 29.5 cal (D) 2.76 cal
- Which of the following graph represents uniform velocity



- If a particle covers equal distances in equal time intervals, it is said to
(A) be at rest (B) moving with uniform velocity
(C) is moving with uniform speed (D) moving with uniform acceleration
- $41^\circ\text{F} = \text{_____}^\circ\text{C}$ (fill the correct option in the blank).
(A) 9 (B) 32 (C) 5 (D) None of these
- The value of temperature at which both Celsius and Fahrenheit scales read same
(A) 10 degree (B) 0 degree (C) -10 degree (D) -40 degree
- A car travels 30 km at a uniform speed of 40 km/h and next 30 km at a uniform speed of 20 km/h. Its average speed is
(A) 30 km/h (B) 32 km/h (C) $26\frac{2}{3}$ km / h (D) $28\frac{3}{4}$ km / h

11. A body covers the first half of total distance with a speed v and the second half in double the time taken for first half. The average speed for whole journey is
 (A) v (B) $\frac{v}{2}$ (C) $\frac{2v}{3}$ (D) $\frac{3v}{2}$
12. How much heat is absorbed by a 20 g granite piece as energy from the sun causes its temperature to change from 10°C to 29°C (specific heat capacity of granite is $0.1 \text{ cal g}^{-1}\text{C}^{-1}$)
 (A) 19 cal (B) 38 cal (C) 380 cal (D) 3.8 cal
13. An athlete takes 40 second to move on a circular path of diameter 200 m. What will be his displacement after 2 minutes 20 seconds.
 (A) 100 m (B) 200 m (C) zero (D) 400 m
14. From the given velocity-time graph find the displacement of particle in duration from $t = 0$ to $t = 5$ sec.



- (A) 40 m (B) 50 m (C) 35 m (D) 75 m
15. A body goes from a point A to point B 150 m apart in 30 second and return back to A in 20 second. The average velocity of the body for whole journey (in m/s) is
 (A) Zero (B) 12.5 (C) 6 (D) None of these

Section-II : CHEMISTRY

This section contains **15 Multiple Choice Questions**. Each question has four choices (A), (B), (C) and (D) out of which **ONLY ONE** is correct.

16. The word acid was derived from
 (A) sour (B) acere (C) acrid (D) acetone
17. What is the nature of common salt solution?
 (A) Acidic (B) Basic (C) Neutral (D) Difficult to identify
18. Which one of the following is acidic in nature?
 (A) Lime water (B) Soap (C) Coffee (D) Antacid
19. Which portion of sheep provides wool?
 (A) Skin (B) Fleece (C) Muscles (D) Cocoon
20. What is the nature of wool providing animals?
 (A) Herbivores (B) Carnivores
 (C) Omnivores (D) Either A or B
21. Which category of microorganism causes sorter's disease in wool industry?
 (A) Protozoa (B) Fungus
 (C) Virus (D) Bacterium
22. Dissolving sugar in water is
 (A) a physical change (B) a chemical change
 (C) a permanent change (D) Both (B) and (C)

23. The colour of light produced on burning sulphur is
 (A) blue (B) white (C) yellow (D) green
24. Lime water turns milky on passing carbon dioxide due to formation of
 (A) calcium oxide (B) calcium hydroxide
 (C) calcium carbonate (D) calcium bicarbonate
25. Which metal is used in galvanization?
 (A) Copper (B) Lead (C) Calcium (D) Zinc
26. Which is NOT a constituent element of stainless steel?
 (A) Iron (B) Copper (C) Nickel (D) Chromium
27. The gas produced when manganese dioxide reacts with hydrochloric acid is
 (A) oxygen (B) hydrogen (C) chlorine (D) manganese chloride
28. Silk route refers to the route for
 (A) tourists (B) industries (C) traders (D) producers
29. Match the words in column - I with column-II.

Column-I

- (A) Scouring
 (B) Cocoon
 (C) Mulberry
 (D) Yak

Column-II

- (P) Reeling
 (Q) Wool
 (R) Animal
 (S) Leaves

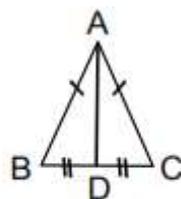
- (A) A - S, B - R, C - Q, D - P (B) A - Q, B - P, C - S, D - R
 (C) A - P, B - S, C - R, D - Q (D) A - R, B - Q, C - S, D - P

30. The staple fibre among the following is
 (A) silk (B) wool (C) nylon (D) all the three

Section-III : MATHEMATICS

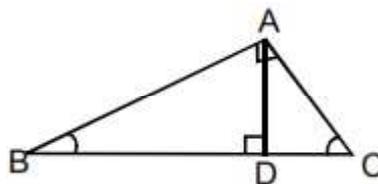
This section contains **15 Multiple Choice Questions**. Each question has four choices (A), (B), (C) and (D) out of which **ONLY ONE** is correct.

31. In the given $\triangle ABC$ if $AB = AC$ and $BD = DC$, then $\angle ADC =$



- (A) 60° (B) 120° (C) 90° (D) 45°

32. In $\triangle ABC$, $AB \perp AC$ and $AD \perp BC$. If $\angle BAD = 50^\circ$, then $\angle ACD$ is

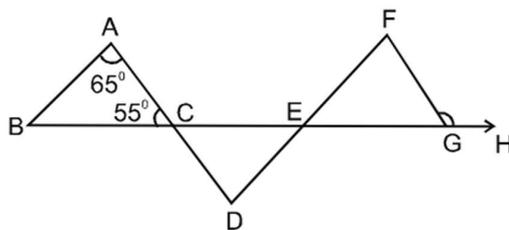


- (A) 40° (B) 50° (C) 140° (D) 60°

33. If $\left(\frac{1}{5}\right)^{3y} = 0.008$, then $(0.25)^y$ will be _____.

- (A) 1 (B) 0.25 (C) 0.0625 (D) 0.125

34. In given figure if $AB \parallel DF$, $AD \parallel FG$, $\angle BAC = 65^\circ$, $\angle ACB = 55^\circ$, then $\angle FGH$ is :

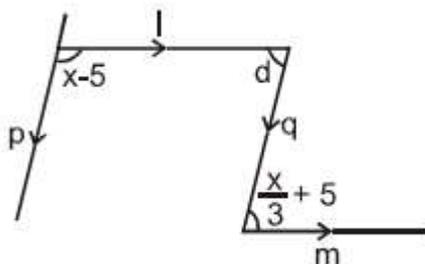


- (A) 120° (B) 125° (C) 115° (D) 140°

35. The measure of that angle which is four times its supplement is :

- (A) 36° (B) 144° (C) 155° (D) 180°

36. In the given figure lines p and q are parallel. Find value of x so that lines l and m be parallel.



- (A) 45° (B) 100° (C) 135° (D) 60°

37. The value of $(-5) + (-4) - (-4) - (-5) + (-5) + (-4) - (-5) + (-4)$ is

- (A) -4 (B) -5 (C) 0 (D) -8

38. Simplify $222 - \left[\frac{1}{3} \{ 42 + (56 - 8 + 9) \} + 108 \right]$

- (A) 87 (B) 100 (C) 89 (D) 90

39. For integers :

- (A) Addition is associative (B) Addition is commutative
(C) Integer "0" is the identity under addition (D) All of the above

40. Find the value. $4\frac{5}{6} - 2\frac{3}{8} + 3\frac{7}{12}$

- (A) $\frac{145}{24}$ (B) $\frac{145}{12}$ (C) $\frac{92}{21}$ (D) $\frac{145}{4}$

41. Descending order of fractions, $\frac{1}{5}, \frac{3}{7}, \frac{7}{10}, \frac{13}{28}$

- (A) $\frac{13}{28} > \frac{7}{10} > \frac{3}{7} > \frac{1}{5}$ (B) $\frac{13}{8} < \frac{7}{10} < \frac{3}{7} < \frac{1}{5}$ (C) $\frac{7}{10} > \frac{13}{28} > \frac{3}{7} > \frac{1}{5}$ (D) None of these

42. If $x = 2$, then find the value of $x + \frac{2}{1 - \frac{1}{1 - \frac{1}{x}}}$

- (A) -3 (B) 34 (C) $\frac{4}{3}$ (D) 0

43. If $\frac{-9}{5} = \frac{a}{20} = \frac{27}{b} = \frac{-45}{c}$, then values of a, b and c are

- (A) -15, 25, -36 (B) -36, -15, 25 (C) 25, -36, -15 (D) -15, -36, 25

44. The number of rational numbers between two numbers is

- (A) zero. (B) one. (C) two. (D) infinite.

45. A tin of oil was $\frac{4}{5}$ full. When six bottle of oil were taken out and four bottles of oil were poured in, it was $\frac{3}{4}$ full.

How many bottles of oil did the tin contain initially?

- (A) 16 (B) 40 (C) 32 (D) None of these

Section-IV : BIOLOGY

This section contains **15 Multiple Choice Questions**. Each question has four choices (A), (B), (C) and (D) out of which **ONLY ONE** is correct.

46. Match Column I with Column II and choose the correct option.

Column I

P. Insect

Q. Fishes

R. Earthworm

S. Human

Column II

I. Skin

II. Gills

III. Trachea

IV. Lungs

(A) P - III, Q - II, R - I, S - IV

(B) P - I, Q - II, R - III, S - IV

(C) P - IV, Q - III, R - II, S - I

(D) P - III, Q - I, R - II, S - IV

47. The first compartment of cattle's stomach whose main function is to digest cellulose is

- (A) Rumen (B) Reticulum (C) Omasum (D) Abomasum

48. Which of the following best explains why many birds and mammals migrate during the winter?

- (A) To escape predators.
(B) To reproduce in a more favourable environment.
(C) To find a better environment in which to settle permanently.
(D) To find a more favourable environment in which to hibernate.

49. Digestion of carbohydrate takes place in

- (A) Oesophagus and small intestine (B) Stomach and large intestine
(C) Buccal cavity and small intestine (D) Small intestine and large intestine

50. On what would an animal with a long digestive system and a large caecum probably feed on?

- (A) Insects (B) Bacteria (C) Plants (D) Herbivores

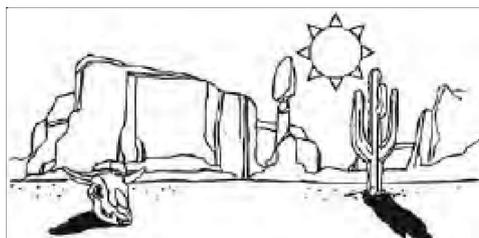
51. Abhi fell down from a tricycle and got minor injuries on his body. He noticed that blood was coming out from the injuries but it stopped after sometime and a dark red clot was formed there. The clot is formed because of the presence of

- (A) Red blood cells (B) Plasma (C) White blood cells (D) Platelets

52. If you chew on a piece of bread long enough, it will begin to taste sweet because

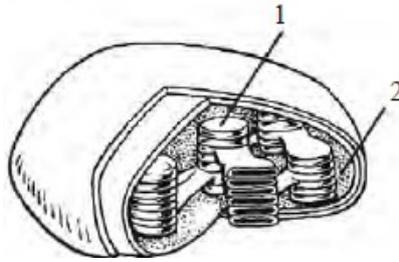
- (A) maltase is breaking down maltose
(B) lipases are forming fatty acids
(C) amylase is breaking down starches to disaccharides
(D) disaccharides are forming glucose

53. What type of plant would be best suited for the environment shown below?



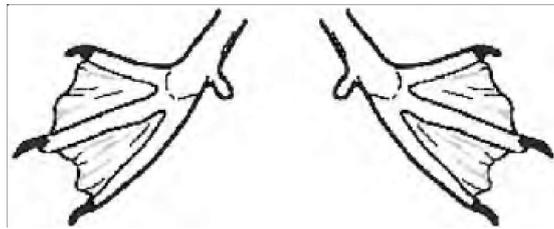
- (A) A large plant with large leaves (B) A small plant with large leaves
(C) A large plant with no leaves (D) A small plant with small and scaly leaves

54. Which reaction takes place in the thylakoid discs (1) of the chloroplast?



- (A) Carbon fixation
- (B) Light-dependent reaction
- (C) Light-independent reaction
- (D) Glycolysis

55. The following graphic shows a duck's feet. Which of the following explains how the structure of the feet enables the duck to survive in its environment ?



- (A) The number of toes on the foot enables the duck to capture prey.
- (B) The webbing on the feet enables the duck to move through water.
- (C) The shape of the foot enables the duck to walk to find sources of water.
- (D) The presence of claws on the feet enables the duck to glide through the air.

56. The transpiration in plants will be lowest when

- (A) There is high humidity in the atmosphere.
- (B) There is excess of water in the cell.
- (C) Environmental conditions are very dry.
- (D) There is high wind velocity.

57. Black bears have thick fur that traps air. How does this air insulate the bear in winter ?

- (A) The air reduces thermal (heat) energy flow to the environment.
- (B) The air produces thermal (heat) energy to keep the bear warm.
- (C) The air transforms chemical energy to thermal (heat) energy.
- (D) The air transfers thermal (heat) energy to the bear.

58. Which of the following organisms can take atmospheric nitrogen and convert it into usable form

- (A) Yeast
- (B) Rhizobium
- (C) Amarbel
- (D) Mushroom

59. Which of the following feeds on animals covered by hard shells of calcium carbonate

- (A) Eagle
- (B) Snail
- (C) Lice
- (D) Starfish

60. Cuscuta has 'X' mode of nutrition. Which of the following organisms belongs to 'X' mode of nutrition?

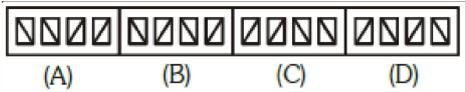
- (A) Pitcher plant
- (B) Ant
- (C) Bed bugs
- (D) Snail

Section-V : MENTAL ABILITY

This section contains **20 Multiple Choice Questions**. Each question has four choices (A), (B), (C) and (D) out of which **ONLY ONE** is correct.

61. Tick (✓) in the answer figures which comes next.

Problem Figure



Answer Figure

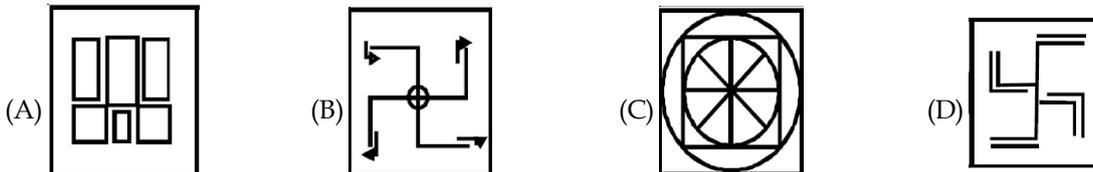
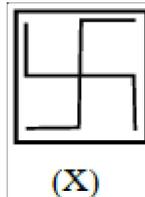


62. What number should replace the question mark in the diagram?

3	6	9
5	8	20
4	7	?

- (A) 11 (B) 14 (C) 28 (D) 12

63. In the question below, you are given a figure (X) followed by four alternative figures (A), (B), (C) and (D) such that fig. (X) is embedded in one of them. Trace out the figure which contains fig. (X) as its part.



Directions (Q.64 & Q.65) : Six persons A, B, C, D, E and F are sitting in two rows three in each, facing each other.

E is not at the end of any row.

D is second to the left of F.

C the neighbour of E, is sitting diagonally opposite to D.

B is the neighbour of F.

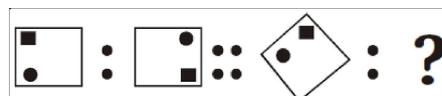
64. Who among the following are sitting in the same row ?

- (A) A and B (B) C and F (C) C and B (D) A and E

65. If D and E exchange their seats who will be the neighbours of D in the new seating arrangement ?

- (A) only C (B) only B (C) E and B (D) C and A

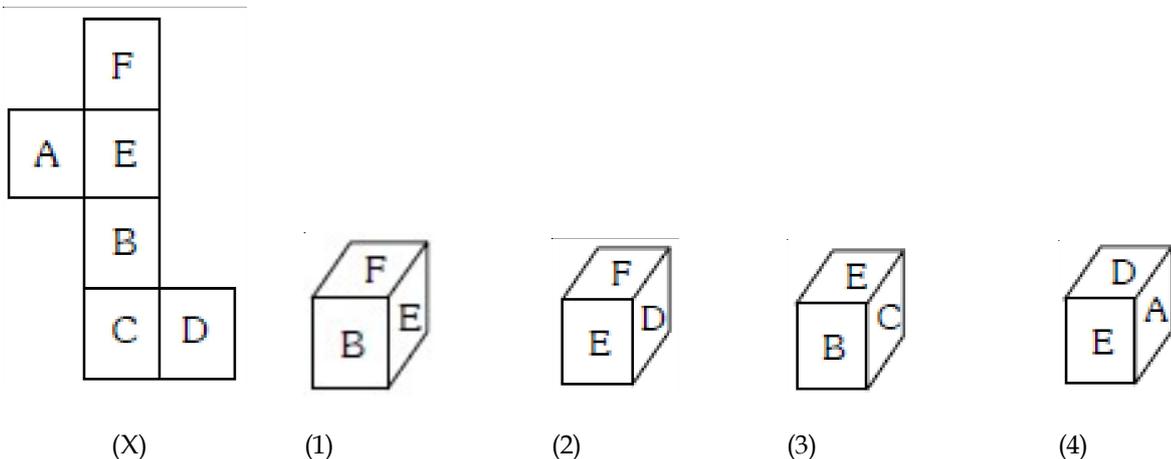
66. Find the matching pair.



67. If MUSK is coded as 146816, then ZERO will be coded as
 (A) 1015 (B) 122912 (C) 1813 (D) 914

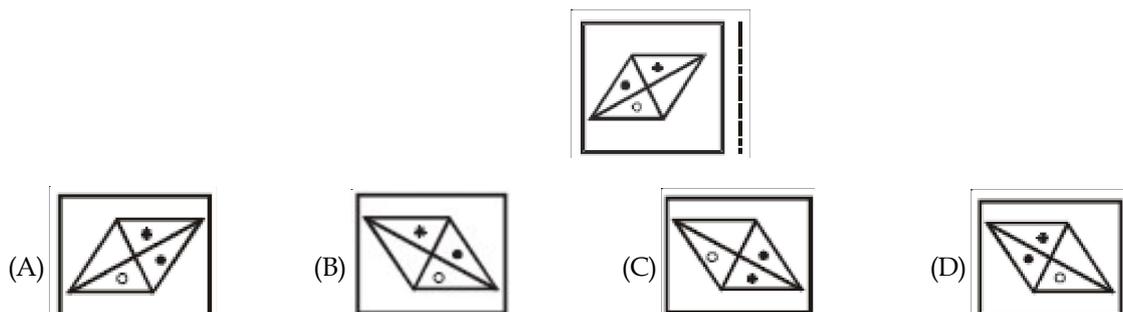
Directions (Q.68 & Q.69) Nine cricket fans are watching a match in a stadium. Seated in one row, they are J, K, L, M, N, O, P, Q and R. L is to the right of M and at third place to the right of N. K is at one end of the row. Q is seated adjacent to both O and P. O is at the third place to the left of K. J is immediate next to left of O.

68. Who is sitting at the centre of the row ?
 (A) L (B) J (C) O (D) R
69. Which of the following statement is true ?
 (A) N is two seats away from J.
 (B) M is at one extreme end.
 (C) R and P are neighbours.
 (D) There is one person between L and O.
70. How many p's are there with 'f' before and after them in the sequence?
 f p f p p c f f p f p f p p f f p p p f f f p f p f p f p p f f p f
 (A) 3 (B) 6 (C) 7 (D) 8
71. Choose the box that is similar to the box formed from the given sheet of paper (X).



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

72. If $27 * 3 = 243$ and $5 * 4 = 80$. Then what is the value of $3 * 7 = ?$
 (A) 84 (B) 147 (C) 63 (D) 23
73. In the following question, alphabet series is given with one term missing. Choose the correct alternative that will continue the same pattern and replace the question mark in the given series.
 AYBZC, DWEXF, GUHVI, JSKTL ?
 (A) MQORN (B) MQNRO (C) NQMOR (D) QMONR
74. If the dotted line shows the mirror, find the correct image of the object from the options (A), (B), (C) & (D).



75. Choose from the four diagrams marked (A), (B), (C) and (D) the one that best illustrates the relationship among three given classes.

Man, father, brother

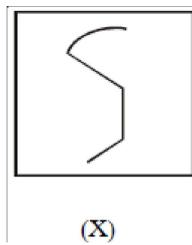


76. Find the missing letter (?)

A	D	H
F	I	M
?	N	R

- (A) K (B) N (C) O (D) P

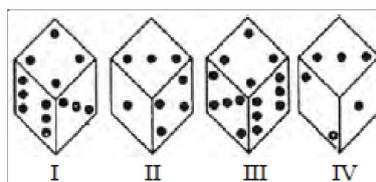
77. In the following question, you are given a figure (X) followed by four alternative figures (A), (B), (C) and (D) such that figure (X) is embedded in one of them. Trace out the alternative figures which contains figure (X) as its part.



78. Anmol finds that he is twelfth from the right in a line of boys and fourth from the left, how many boys should be added to the line such that there are 35 boys in the line ?

- (A) 19 (B) 31 (C) 14 (D) 20

79. How many dots are present on the dice face opposite to the three dots ?



- (A) 2 (B) 4 (C) 5 (D) 6

80. In the following question, select a figure from amongst the four alternatives, which when placed in the blank space of fig.(X) would complete the pattern.

