

**ASPIRE****IIT & MEDICAL**

AN INITIATIVE BY IITIANS



# BRAIN OF HIMACHAL

## ASPIRE TALENT HUNT EXAM

FOR

**CLASS 8Th - QUESTION PAPER**Time: 120 MinutesMaximum Marks: 400

### INSTRUCTIONS:

PLEASE FILL DETAILS CAREFULLY

NAME \_\_\_\_\_

FATHER NAME \_\_\_\_\_

SCHOOL NAME \_\_\_\_\_

CONTACT NUMBER \_\_\_\_\_

Read the instructions carefully. 5 minutes are allowed specifically for this purpose.

1. Answer all questions
2. This booklet is your question paper containing **100** questions
3. The question paper consist of **5 sections** I, II, III, IV, V.
4. Section-I **Physics** (Questions -1 to 14), Section-II **Chemistry** (15-26), Section-III **Biology** (27-40), Section-IV **Mathematics** (40-60), Section-V **Mental ability** (60-100).
5. Each question has **only one correct** answer. Once you have marked an option you can't mark a fresh option
6. For each **correct** answer **+4** marks will be awarded. For **wrong** answer **-1** mark will be deducted.
7. Fill your **OMR** sheet carefully.
8. All the Notations used in this paper are standard.
9. No use of electronic gadgets, calculators, mobile phones etc are allowed.
10. **In case of any discrepancy do not ask anyone one including your invigilator. Try to attempt question and mark the best possible answer.**

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| Roll No. |  |  |  |  |  |  |  |  |  |  |
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## Section-I ( PHYSICS )

1. **A Batsman hits a cricket ball which then rolls on a level ground .After covering a short distance, the ball comes to rest. The ball Slows down to stop because**
  - (a) the batsman did not hit the ball shows down to stop because
  - (b) Velocity is proportional to the force exerted on the ball
  - (c) there is a force on the ball opposing the motion
  - (d) there is no unbalanced force on the ball, so the ball would come to rest
2. **An object rest. on a horizontal frication less surface. A horizontal force of magnitude F is applied. 'force produces an acceleration**
  - (a) Only if F is greater than the weight of the body
  - (b) Only if F is increasing
  - (c) Always
  - (d) None of the above
3. **What principle is used in a Newton spring balance?**
  - (a) The mass of an object depends on its density.
  - (b) The mass of an object depends on the gravity pulling it.
  - (c) The weight of an object is directly proportional to its mass.
  - (d) The extension of the spring is directly proportional to the force pulling it, and weight depends upon mass.

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Rough work

4. When a body is thrown up , the force of gravity is
- (a) in in the upward direction
  - (b) in the downward direction
  - (c) zero
  - (d) in the horizontal direction
5. A large truck and a car is moving with same velocity have a head on collision. Which of the following is an incorrect statement?
- (a) Both vehicles experience equal force of impact.
  - (b) The car will experience greater force of impact.
  - (c) The truck will experience lesser acceleration.
  - (d) The car will experience greater acceleration
6. At the centre of the earth acceleration due to gravity is:
- (a) Infinite
  - (b) zero
  - (c)  $9.8 \text{ m s}^{-2}$
  - (d) all of these
7. The maximum distance of a vibrating body from its mean position is called its –
- (a) Frequency
  - (b) Quality
  - (c) Amplitude
  - (d) Pitch
8. Two wires A and B of equal length differ only in their thickness. A is thinner than B. If both are plucked with same force, then–
- (a) A will produce sound of higher pitch than B
  - (b) A will produce sound of lower pitch tha B
  - (c) Both will produce sounds of equal pitch
  - (d) None of these

Rough work

9. Sound travels in air at  $0^{\circ}\text{C}$  with a velocity of about  
(a) 300 m/s (b) 330 m/s  
(c) 360 m/s (d) 380 m/s
10. A tightened string of instrument produces sound of ..... frequency, a  
(a) lower (b) higher  
(c) same (d) none of these
11. A force that opposes the motion of one surface sliding over another is called  
(a) friction (b) newton  
(c) lubrication (d) ball bearing
12. Which among the following will exert maximum pressure when pushed with the same amount of force ?  
(a) An eraser of area  $2\text{ cm}^2$   
(b) A sharpened pencil tip  
(c) The blunt end of a pencil  
(d) The rear portion of closed safety pin
13. A camel can walk/run in deserts very easily as compared to horse, donkey etc., because is –  
(a) feet are smaller (b) weight is lesser  
(c) feet are broader (d) heavier body
14. Which of the statement is correct about rolling and sliding friction ?  
(a) Rolling friction is greater than sliding friction  
(b) Rolling friction is lesser than sliding friction  
(c) Rolling and sliding frictions acting on a body are equal  
(d) None of these

Rough work

## Section-II ( CHEMISTRY )

15. Styrofoam cup is used to serve hot tea or coffee

because

- (a) It is a good conductor of heat                      (b) it is a poor conductor of heat  
(c) It is very flexible in nature                      (d) it is easy to clean.

16. This takes so many years to regenerate

- (a) Wool                      (b) synthetic fibre                      (c) Polyester                      (d) nylon.

17. List-I                      List-II

- (P) Bakelite                      1. Used to make water tanks  
  
(Q) Nylon                      2. Used to make ropes, mats  
  
(R) Coir                      3. Used to make radio, telephone set  
  
(S) PVC                      4. Used to make fishing net

Code :

|     | P | Q | R | S |
|-----|---|---|---|---|
| (a) | 3 | 2 | 4 | 1 |
| (b) | 3 | 4 | 2 | 1 |
| (c) | 1 | 3 | 4 | 2 |
| (d) | 4 | 3 | 1 | 2 |

18. Which of these elements is used as an antiseptic in medicine?

- (a) Carbon                      (b) Oxygen                      (c) Nitrogen                      (d) Iodine

Rough work

19. The metal which is present in brass, bronze and German silver is  
(a) Mg (b) Zn (c) Cu (d) Al
20. Which of the following metals occurs in Free State in nature?  
(a) Aluminium (b) Calcium (c) Gold (d) Sodium
21. Tungsten is used in electric bulbs because  
(a) It is sonorous (b) it has high melting point (c) It has high tensile strength (d) it has high density.
22. Non-metals do not conduct electricity because  
(a) They have free electrons (b) they do not have free electrons  
(c) They are electron donors (d) they are electron acceptors.
23. Process of conversion of wood into coal by biochemical process over millions of years is called  
(a) Carbonisation (b) destructive distillation (c) Fractional distillation (d) catenation.
24. Ethyl mercaptan is added to LPG  
(a) To give colour to it (b) to give volume to it (c) To give smell to it (d) to make it liquid.
25. 

| List-I         |  | List-II       |  |
|----------------|--|---------------|--|
| (P) Peat       |  | 1. 98% carbon |  |
| (Q) Lignite    |  | 2. 90% carbon |  |
| (R) Anthracite |  | 3. 70% carbon |  |
| (S) Lampblack  |  | 4. 60% carbon |  |

Code :

|     | P | Q | R | S |
|-----|---|---|---|---|
| (a) | 4 | 2 | 1 | 3 |
| (b) | 4 | 3 | 2 | 1 |
| (c) | 1 | 2 | 4 | 3 |
| (d) | 3 | 1 | 2 | 4 |
26. **Assertion:** Sugar charcoal is prepared by dehydration of sugar.  
**Reason:** Sulphuric acid is a dehydrating agent.  
(a) If both assertion and reason are true and reason is the correct explanation of assertion.  
(b) If both assertion and reason are true but reason is not the correct explanation of assertion.  
(c) If assertion is true but reason is false.  
(d) If both assertion and reason are false

**Section-III ( BIOLOGY )**

27. Keeping land uncultivated for some time so as to replenish the lost nutrients is called  
(a) Crop rotation      (b) Multiple cropping      (c) Fallow      (d) Intercropping
28. Which of the given practices damage the soil fertility?  
(a) Intercropping      (b) Crop rotation      (c) Fallow      (d) Monocropping
29. Food production can be increased to meet the demand of an increasing population by  
(i) Practicing efficient land management and development  
(ii) Continuous research to ensure sustainable development  
(iii) Using more pesticides to control pests.  
(1) i and ii      (2) i and iii      (3) ii and iii      (4) i, ii and iii
30. Fertilisers are the chemicals rich in  
(1) N      (2) P      (3) K      (4) All of these
31. Fungi can be distinguished by  
(1) Absence of chlorophyll      (2) Presence of chitin in cell wall  
(3) Presence of plastids      (4) Both a and b
32. Which of the following is matched correctly in the table given below?
- | Disease                | Transmission                   |
|------------------------|--------------------------------|
| I. AIDS                | Through sexual intercourse     |
| II. Malaria            | Through body contact           |
| III. Hepatitis A and B | Through body contaminated food |
- (1) i only      (2) i and ii      (3) i and iii      (4) ii and iii

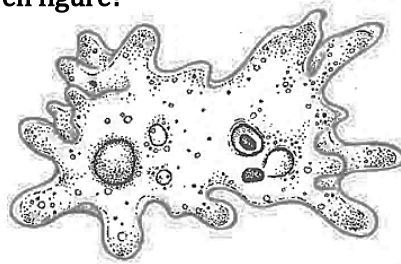
Rough work

33. The factors that pose a great threat to biodiversity are
- (a) habitat destruction (b) introduction of alien species  
(c) pollution (d) all of these.
34. Which control method(s) should be adopted to restore balance in the ecosystems?
- (a) Rainwater harvesting for conservation and management of water  
(b) Conservation of ocean resources and preservation of marine life  
(c) Public awareness programmes concerning conservation of wildlife  
(d) All of these
35. Harrow is an implement used to remove
- (a) weeds (b) crop plants (c) stones (d) rocks.
36. Falling of mature crops due to excessive irrigation is known as
- (a) water logging (b) water lodging (c) transplantation (d) none of these.
37. To prevent seed-borne diseases, the seeds must be
- (a) sown at right depth (b) spaced at right intervals  
(c) sown in highly wet soil (d) treated with fungicide solutions.
38. At 37°C and in damp conditions, bacteria reproduce easily through
- (a) budding (b) binary fission (c) conjugation (d) spore formation

Rough work

39. Which of the following statement is incorrect for the given figure?

- (a) It is single celled and possesses nucleus.
- (b) It has parasitic nutrition.
- (c) It reproduces asexually by binary fission.
- (d) It lacks cell wall and is pleomorphic.



**Assertion & Reason Type**

**Directions:** In each of the following questions, a statement of Assertion is given followed by a corresponding statement of Reason just below it. Of the statements, mark the correct answer as

- (a) If both assertion and reason are true and reason is the correct explanation of assertion.
- (b) If both assertion and reason are true but reason is not the correct explanation of assertion.
- (c) If assertion is true but reason is false.
- (d) If both assertion and reason are false.

40. **Assertion :** Budding occurs in yeast.

**Reason-**Budding is similar to the fission process of bacteria.

Rough work

## Section-IV ( MATHEMATICS )

41. If  $\frac{2}{5} \times \frac{-8}{9} + p \times \frac{5}{9} = \frac{2}{5} \times [q+r]$ , then  $p$ ,  $q$  and  $r$  are

- (a)  $\frac{2}{5}, \frac{8}{9}, \frac{5}{9}$  (b)  $\frac{2}{5}, \frac{8}{9}, \frac{-5}{9}$  (c)  $\frac{-2}{5}, \frac{-8}{9}, \frac{-5}{9}$  (d)  $\frac{-2}{5}, \frac{-8}{9}, \frac{5}{9}$

42. Radha takes some flowers in a basket and visits three temples one by one. At each temple, she offers one half of the flowers from the basket. If she is left with 3 flowers at the end, find the number of flowers she had in the beginning.

- (a) 25 (b) 26 (c) 27 (d) 24

43. Match the following :

## List-I

- (P)  $\frac{2}{3}$  of a number is 20 less than the original number, then the number is  
 (Q) Four-fifths of a number is 10 more than two-thirds of a number, then the number is  
 (R) A number whose double is 45 greater than its half, then the number is  
 (S) A number whose fifth part increased by 5 is equal to its fourth part diminished by 5, then the number is

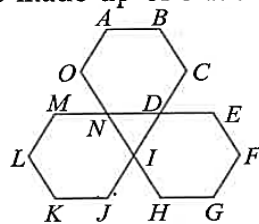
## List-II

- (1) 30  
 (2) 200  
 (3) 75  
 (4) 60

- (a) P-3, Q-4, R-1, S-2  
 (c) P-4, Q-3, R-1, S-2

- (b) P-4, Q-3, R-2, S-1  
 (d) P-1, Q-2, R-4, S-3

44. If the given figure is made up of 3 identical regular polygons, then find



(i)  $\angle ABC$

(i)

- (a)  $120^\circ$   
 (b)  $100^\circ$   
 (c)  $120^\circ$   
 (d)  $120^\circ$

(ii)  $\angle DIN$

(ii)

- $60^\circ$   
 $60^\circ$   
 $60^\circ$   
 $80^\circ$

(iii)  $\angle IOC$ .

(iii)

- $120^\circ$   
 $120^\circ$   
 $60^\circ$   
 $100^\circ$

Rough work

45. Match the lists :
- | List-I                                                                                                                                                                  | List-II         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| (P) $ABCDE$ is a regular pentagon. The bisector of $\angle A$ of the pentagon meets the side $CD$ at $M$ . Then $m\angle AMC$ is                                        | (1) $70^\circ$  |
| (Q) The angles of a quadrilateral are respectively equal to $110^\circ$ , $50^\circ$ and $40^\circ$ . The fourth angle is                                               | (2) $80^\circ$  |
| (R) In a quadrilateral $ABCD$ , the bisector of $\angle A$ and $\angle B$ meet at point $P$ . If $\angle C = 100^\circ$ , $\angle D = 60^\circ$ , then $m\angle APB$ is | (3) $90^\circ$  |
| (S) Three angles of a quadrilateral are equal. Fourth angle is of measure $150^\circ$ . The measure of equal angles is                                                  | (4) $160^\circ$ |
- (a) P-1, Q-2, R-3, S-4      (b) P-2, Q-4, R-3, S-1      (c) P-3, Q-4, R-2, S-1      (d) P-4, Q-3, R-2, S-1
46. Arrange the following steps in correct order to construct a quadrilateral  $ABCD$ , where  $AB = 4$  cm,  $BC = 5$  cm,  $CD = 3.5$  cm,  $DA = 5.5$  cm and  $\angle A = 75^\circ$ .
- Step I : With  $D$  as the centre and a radius  $3.5$  cm, draw an arc on one side of  $AD$ .
- Step II : Draw  $\angle BAP = 75^\circ$ .
- Step III : With  $B$  as the centre and a radius  $5$  cm, draw an arc intersecting the previous arc at  $C$ .
- Step IV : Draw  $AB = 4$  cm.
- Step V : With  $A$  as the centre and a radius  $5.5$  cm, draw an arc intersecting  $\overrightarrow{AP}$  at  $D$ .
- Step VI : Join  $D$  to  $C$  and  $B$  to  $C$ .
- (a) IV, III, II, V, I, VI      (b) IV, II, V, III, I, VI      (c) IV, II, V, I, III, VI      (d) II, IV, V, I, III, VI

Rough work

47. Match the probabilities given in List-II with the statements given in List-I.

**List-I****List-II**

(P) A bag contains 10 red and 8 white balls. One ball is drawn at random. The probability that the ball drawn is white, is

(1)  $\frac{1}{5}$

(Q) The probability that a number, selected from the numbers 1, 2, 3, ..., 15 is a multiple of 4, is

(2)  $\frac{21}{26}$

(R) A bag contains 5 white and 7 blue balls. One ball is drawn at random. The probability of getting a white ball is

(3)  $\frac{5}{12}$

(S) If we put 21 consonants and 5 vowels in a bag. The probability of getting a consonant is

(4)  $\frac{4}{9}$

(a) P-4, Q-1, R-3, S-2

(b) P-1, Q-4, R-3, S-2

(c) P-4, Q-3, R-1, S-2

(d) P-2, Q-1, R-3, S-4

48. Which of the following is not true?

(a) A square number is never negative.

(b) A square number never ends in 2, 3, 7 or 8.

(c) The number of zeros at the end of a perfect square is always even.

(d) The square of an even number is odd.

49. The smallest number by which 33075 must be multiplied to obtain a perfect cube is

(a) 12

(b) 35

(c) 6

(d) 15

50. In an examination, 42% students failed in Hindi and 52% failed in English. If 17% failed in both the subjects, the percentage of those who passed in both the subjects, is

(a) 23%

(b) 27%

(c) 34%

(d) 40%

Rough work

51. Match the following polynomials given in List-I as monomial, binomial, trinomial and quadrinomial given in List-II.

**List-I**

- (P)  $y + 3$   
 (Q) 300  
 (R)  $1 + y^2 + y^3 + y^4$   
 (S)  $8 + x + 5y$

- (a) P-4, Q-2, R-1, S-3  
 (c) P-2, Q-3, R-4, S-1

**List-II**

- (1) Trinomial  
 (2) Binomial  
 (3) Monomial  
 (4) **Quadrinomial**  
 (b) P-1, Q-4, R-3, S-2  
 (d) P-2, Q-4, R-1, S-3

52. The length and the breadth of a rectangle are  $(2x + 1)$  units and  $(x + y + 1)$  units respectively. Find its area (in sq. units).

- (a)  $2x^2 + 2xy + 3x + y + 1$   
 (b)  $2x^2 + xy + 2x + y + 1$   
 (c)  $2x^2 + xy + x + 2y + 2$   
 (d)  $2x^2 + 2xy + 2x + y + 2$

53. A merchant has 120 kg of rice. He sells a part of it at a profit of 10% and the rest at a profit of 25%. He gains 15% on the whole. Quantity of rice he sold at 25% gain is

- (a) 30 kg      (b) 40 kg      (c) 50 kg      (d) 55 kg

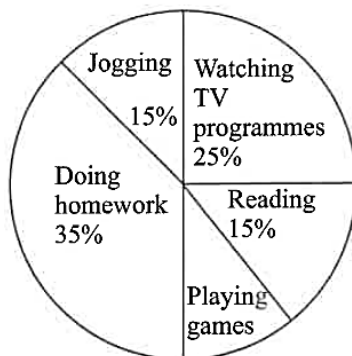
54. If  $\sqrt[3]{(156 + x)} = 12$ , then the value of  $x$  is

- (a) 1570      (b) 1572      (c) 1560      (d) 1512

55. Find the least number which must be added to 306452 to make it a perfect square.

- (a) 643      (b) 554      (c) 464      (d) 644

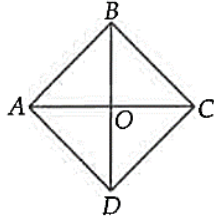
56. The pie chart below shows percentage of evening time spent by Mini on different activities.



If Mini spent 2 hrs 30 mins in watching TV programmes, then how much time she spent on jogging?

- (a) 1 hr 15 mins      (b) 1 hr 30 mins      (c) 2 hrs 15 mins      (d) 2 hrs 45 mins

Rough work

57. If PQRS is a parallelogram, then which of the following is a false statement?  
 (a) Opposite sides are equal  
 (b) Opposite angles are equal  
 (c) Diagonals bisect each other  
 (d) Diagonals bisect each other at right angles
58. If ABCD is a rhombus and  $BO = 3$  cm and  $AO = 4$  cm, then find the length of each side of rhombus.  
 (a) 5 cm (b) 25 cm  
 (c) 10 cm (d) 15 cm
- 
59. A father is 7 times as old as his son. Two years ago, the father was 13 times as old as his son. Father's present age is  
 (a) 24 years (b) 28 years (c) 30 years (d) 32 years
60. Which of the following statements is true?  
 (a)  $\frac{5}{7} < \frac{7}{9} < \frac{9}{11} < \frac{11}{13}$  (b)  $\frac{11}{13} < \frac{9}{11} < \frac{7}{9} < \frac{5}{7}$   
 (c)  $\frac{5}{7} < \frac{11}{13} < \frac{7}{9} < \frac{9}{11}$  (d)  $\frac{5}{7} < \frac{9}{11} < \frac{11}{13} < \frac{7}{9}$

## Section-V ( MENTAL ABILITY )

61. In a certain code language, 'PARENTS' is written as 'RCTGPVU'. How will 'CHILDREN' be written in same code language?  
 (a) EFJKPCPM (b) EJKNFTGP (c) DGJKCQDO (d) MDGFKSNB
62. In a certain code language, '851' means 'good sweet fruit'; '783' means 'good red rose' and '341' means 'rose and fruit'. Which of the following digits stand for 'sweet' in that language?  
 (a) 8 (b) 5 (c) 1 (d) 3
63. In the following question three of the following groups are similar in connection with the position of these letters in English alphabet and hence form a group. Which one does not belong to the group?  
 (a) ADFG (b) MPQR (c) EHJK (d) ILNO

Rough work

64. In the following question, three of the following have similar relationship and hence belong to the group. Find the one which does not belong to the group.  
(a) DISTASTE : AFSATSXI (b) GASWORKS : DXROWSNV  
(c) MARTYRED : JXRYTRIH (d) OUTHOUSE : LRUOHTWI
65. Choose the set of numbers from the four alternatives which is similar to the given set.  
Given set (9, 15, 21)  
(a) (10,14,16) (b) (7,21,28) (c) (5,10,25) (d) (4,8,12)
66. What number will come in place of question mark?  
2836 : 13; 9423: 14; 7229: ?  
(a) 16 (b) 18 (c) 20 (d) 12
67. Answer the question referring to the letter sequence given below.  
N O P Q Y B Z A R S H I K L M T U V G F E W X D C  
If the letter of the above given series are written in reverse order, then which letter will be third to the left of eighteenth letter from your right?  
(a) Z (b) F (c) I (d) L
68. A meaningful word is made, if we take the first, fourth, fifth, seventh, tenth, eleventh and twelfth letters of the word 'FELICITATIONS'. Which of the following will be the fifth letter of that word from the right end of that word?  
(a) T (b) C (c) N (d) I
69. In the following question, a letter series is given in which some of the letters are missing. The missing letters are given in that order as one of the alternatives below it. Choose the correct alternative.  
\_ \_ a b a \_ b a \_ a b  
(a) a b b a b (b) a b b b a (c) b a a b b (d) b b a b a
70. Find the missing term in the following series.  
APZLT, CQYNR, ERXPP, GSWRN, ITVTL, ?  
(a) KUUVJ (b) KVUUJ (c) JUVUR (d) KVUVJ
71. How many 8s are there in the following number sequence which are immediately followed by 5 but not immediately preceded by 3?  
3 8 5 6 8 5 8 5 7 3 8 5 2 8 5 6 3 8 5 7 8 5 3 2 5 8 5  
(a) Five (b) Six (c) Seven (d) Four

Rough work

72. In the following series of numbers, how many times 1, 3 and 7 have appeared together, 7 being in the middle and 1 and 3 on either side of 7?  
**2 9 7 3 1 7 3 7 7 1 3 3 1 7 3 8 5 7 1 3 7 7 1 7 3 9 0 6**  
 (a) Three (b) More than three (c) Two (d) More than five

**Directions (Ques. No 73-74)** In the following questions, arrange the given words in a meaningful sequence and then choose the most appropriate sequence from the options given below in each question.

73. (1) Kanchanjunga (2) Nanda Devi (3) Godwin Austin (4) Nanga Parbat (5) Everest  
 (a) (5), (4), (3), (2), (1) (b) (5), (3), (4), (1), (2) (c) (5), (3), (1), (4), (2) (d) (5), (4), (3), (1), (2)
74. (1) Table (2) Tree (3) Wood (4) Plant (5) Seed  
 (a) (4), (5), (3), (2), (1) (b) (1), (2), (3), (4), (5) (c) (5), (4), (2), (3), (1) (d) (5), (4), (1), (2), (3)
75. P, Q, R, S, T, U and V are seven members of a family consisting of four adults and three children, two of whom, U and V are girls. P and S are brothers and Q is a doctor. T is an engineer married to one of the brothers and has two children. Q is married to S and V is their child. Who is R?  
 (a) P's son (b) T's daughter (c) U's father (d) V's brother
76. Pointing towards a girl, a teacher said, "she is the only daughter of the only son of the wife of the father-in-law of my wife". How is the girl related with the teacher?  
 (a) Daughter (b) Niece (c) Sister (d) Daughter in law

**Directions:- (Q. Nos. 77-78)** Study the information given below carefully and answer the questions that follow.

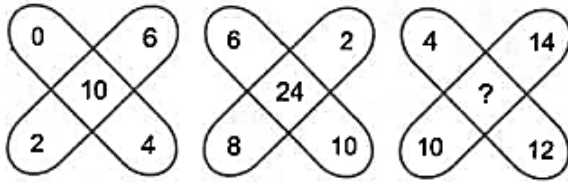
Anshu started from 'A' and walked 10 km Eastwards to reach 'B', then turned to North and walked 3 km to reach 'C' and then turned West and walked 12 km to reach 'D'. He then again turned South and walked 3 km to reach 'E'.

77. How far is Anshu from his starting point?  
 (a) 2 km (b) 3 km (c) 1 km (d) 2.5 km
78. In which direction is point 'E' from point 'A'?  
 (a) East (b) West (c) North (d) South

Rough work

**Directions:- (Q. Nos. 79-80)** Insert the missing number or letter from among the given alternatives.

79.



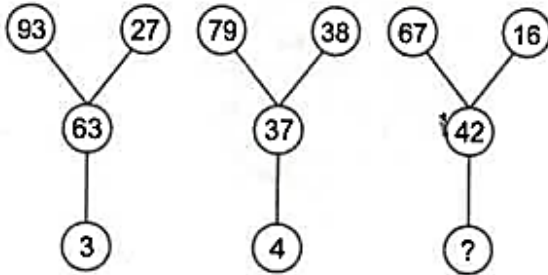
(a) 36

(b) 48

(c) 38

(d) 30

80.



(a) 5

(b) 6

(c) 8

(d) 9

81. In a row of thirty boys, R is fourth from the right end and W is tenth from the left end. How many boys are there between R and W?

(a) 15

(b) 16

(c) 17

(d) Cannot be determined

82. Three persons P, Q and R are standing in a queue. There are eight persons between P and Q and twelve persons between Q and R. If there be seven persons ahead of R and twenty eight persons behind P, what could be the minimum number of persons in the queue?

(a) 57

(b) 42

(c) 40

(d) Data inadequate

83. If 100 cats kill 100 mice in 100 days, then 4 cats would kill 4 mice in how many days?

(a) 4 days

(b) 10 days

(c) 40 days

(d) 100 days

84. Divide ₹ 320 among A, B and C, so that A may have ₹30 more than B and C may have ₹ 20 more than A.

(a) ₹ 110, ₹ 80 and ₹ 130

(b) ₹ 110, ₹ 150 and ₹ 70

(c) ₹ 80, ₹ 120 and ₹ 120

(d) ₹ 100, ₹ 100 and ₹ 120

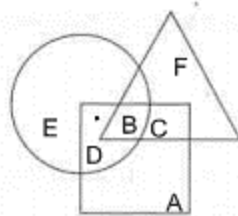
85. If  $\times$  stands for  $+$ ,  $<$  stands for  $-$ ,  $>$  stands for  $\times$ ,  $+$  stands for  $\div$ ,  $-$  stands for  $=$ ,  $\div$  stands for  $>$  and  $=$  stand for  $<$ , then which of the given equation is correct

(a)  $8 < 4 \times 3 - 3 \times 2 \times 1$ (b)  $8 > 4 < 3 - 3 > 2 < 1$ (c)  $8 + 4 < 3 \div 3 < 2 < 1$ (d)  $8 + 4 \times 3 = 3 > 2 > 1$ 

Rough work

86. If A denotes +, B denotes  $\times$ , C denotes  $-$  and D denotes  $\div$ , then what is the value of  
 $5 B 9 A 7 C 9 D 3 A 6?$   
 (a) 55 (b) 54 (c) 45 (d) 50
87. If the second, third, fifth, eighth and ninth letters of the word 'CONTEMPLATION' are combined to form a meaningful word, what will be the middle letter of the word? If more than one such words can be formed, your answer is X and if no such word can be formed your answer is Y.  
 (a) A (b) O (c) X (d) Y
88. A, B, C, D and E when arranged in descending order of their weight from the top, A becomes third, E is between D and A while C and D are not at the top. Who among them is the second?  
 (a) C (b) B (c) E (d) Data inadequate
89. If Saturday falls on 4<sup>th</sup> January 1997, what day of the week will fall on 4<sup>th</sup> January 1998?  
 (a) Monday (b) Friday (c) Wednesday (d) Sunday
90. How many weeks are there in 3 yr 3 months?  
 (a) 150 (b) 160 (c) 170 (d) 169
91. An accurate clock shows 8 O' clock in the morning. Through how many degrees will the hour hand rotate when the clock shows 2 O' clock in the afternoon?  
 (a)  $144^\circ$  (b)  $150^\circ$  (c)  $168^\circ$  (d)  $180^\circ$
92. A clock is started at noon. By 10 min past 5, the hour hand has turned through  
 (a)  $145^\circ$  (b)  $150^\circ$  (c)  $155^\circ$  (d)  $160^\circ$

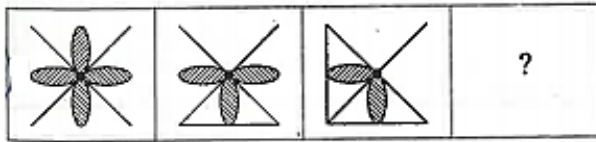
Direction:- (Q. Nos. 93-94) In the following diagram, three classes of population are represented by three geometrical figures. The triangle represents the teachers, the square represents the married persons and the circle represents the persons living in joint families.



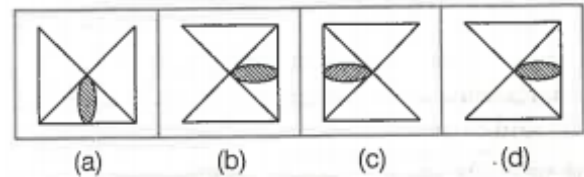
93. Married persons living in joint families but not working as teachers are represented by  
 (a) C (b) F (c) D (d) A

Rough work

94. Persons who live in the joint families, are unmarried and who do not work as teachers are represented by  
 (a) C (b) B (c) E (d) D
95. In the following question, four problem figures are given. Select a figure from amongst the answer figure which will continue the same series as given in the problem figure.

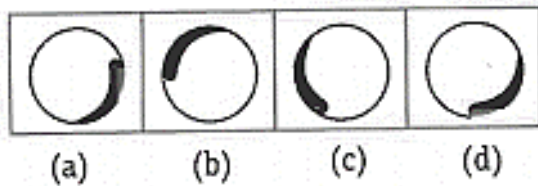


Question figure

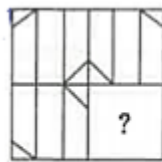


Answer figure

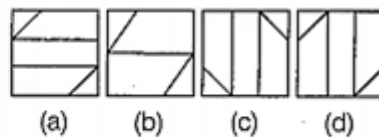
96. Choose the figure which is different from the other.



97. In this question, problem figure is given on the left side of the line, which is incomplete. One, out of the four answer figures (a), (b), (c) and (d) can complete the same. You have to locate the answer figure which is inserted in the problem figure without changing the direction completes the same

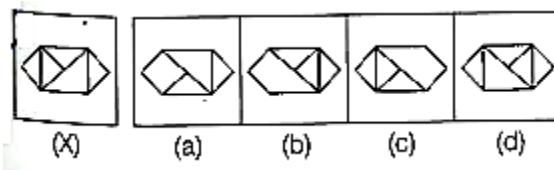


Problem figure



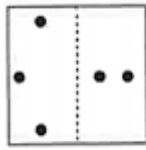
Answer figure

98. In the following question, choose the correct mirror image of the figure(X) from amongst the four alternatives (a), (b), (c) and (d) given along with it.

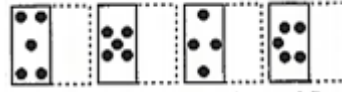


Rough work

99. In the following question, find the one correct answer figure from four alternatives which resembles the pattern formed when the transparent sheet, having a design folded along the dotted line.

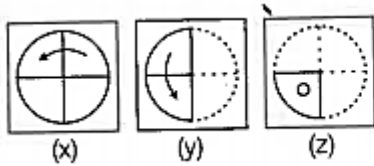


Problem figure

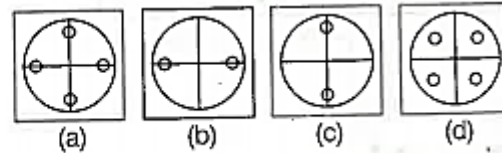


Answer figure

100. In the following question, three figures (x), (y), (z) showing a sequence of folding a paper are given. The figure depicts the cut made on the folded paper. Select the answer from the alternatives, which would most closely resemble the third figure, when it is unfolded.



Question figure



Answer figure

Rough work

## Rough work



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