

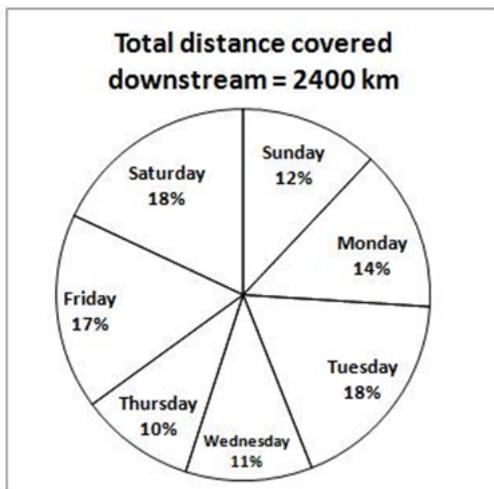
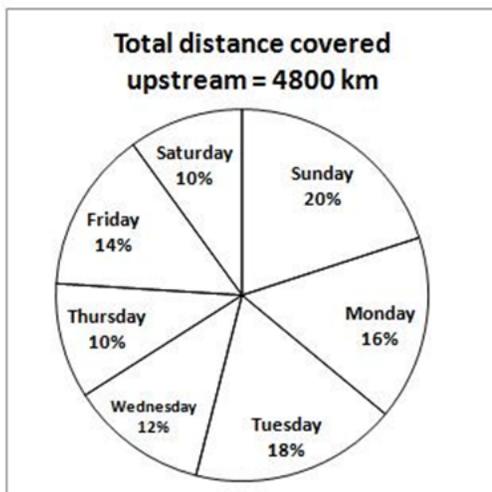
IPMAT IIM Rohtak 2019(PYSP)

Mock Test Questions & Solutions

Mock Test Solutions in English

Questions

1. **Direction:** Study the data given below and answer the following questions. The pie charts shown below shows the distance covered by a boat moving upstream and downstream in different days of a week. And the table shows the speed of stream in km/hr. in different days of a week.



Day	Speed of stream (km/hr)
Monday	5
Tuesday	2
Wednesday	6
Thursday	—
Friday	1
Saturday	—
Sunday	3

If the time taken by boat to travel upstream on Wednesday is $\frac{6}{7}$ times than the time taken to travel downstream on Monday and the speed of boat in still water on Monday is 15 kmph then find the speed of boat in still water on Wednesday? (speed of boat in still water is different for different days)

- A. 52 kmph
- B. 62 kmph
- C. 42 kmph
- D. 46 kmph

2. If the time taken by boat to travel upstream on Monday is $27\frac{1}{5}$ hrs. more than the time taken by it to travel downstream on the same day, then find the speed of boat in still water on Monday ? (speed of boat in still water is same in upstream as in downstream)

- A. 25 kmph
- B. 18 kmph
- C. 20 kmph
- D. 15 kmph
- E. None of these

3. If the speed of boat in still water on Saturday was 27 km/hr and the speed of boat in still water on Wednesday was $66\frac{2}{3}\%$ more than that of Saturday and time taken to travel upstream on Wednesday is $\frac{16}{13}$ times than time taken by it to travel downstream on Saturday, then find the speed of stream (in kmph) on Saturday?

- A. 2
- B. 4
- C. 9
- D. 8

4. The speed of boat in still water on Saturday was 21 km/hr. and that on Sunday was $28\frac{4}{7}\%$ more than that on Saturday, if the time taken by boat to travel upstream on Saturday is $2\frac{1}{2}$ times than time taken to travel downstream on Sunday, then find the time taken by the boat to cover a distance of 125 km upstream on Saturday?

- A. 6 hrs. 45 min.
- B. 2 hrs. 45 min.
- C. 4 hrs. 30 min.
- D. 6 hrs. 15 min.

5. If the time taken by boat to travel upstream on Friday is 30 hours more than the time taken by it to travel

downstream on Wednesday and the speed of boat in still water on Friday is 17 kmph, then find the upstream speed of boat on Wednesday? (speed of boat in still water is different on different days)

- A. 27 kmph
- B. 22 kmph
- C. 20 kmph
- D. 10 kmph

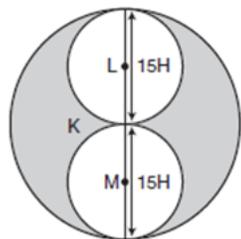
6. A Container contains 'X' Liters of Milk. A thief stole 50 Liters of Milk and replaced it with the same quantity of water. He repeated the same process further two times. And thus Milk in the container is only 'X-122' liters. Then what is the quantity of water in the final mixture?

- A. 122 Liter
- B. 124 Liter
- C. 128 Liter
- D. 250 Liter

7. Veena has to pay Rs. 2460 to Sita, 5 Months later at 6% SI per annum, and Gita has to pay Sita same amount at 7.5% SI per annum after certain months. If both took the same amount of loan from Sita then Gita paid loan after how many months?

- A. 3 Months
- B. 4 Months
- C. 6 Months
- D. 12 Months

8. Use the figure below to answer questions.



What is the area of the shaded figure?

- A. 56.25π square feet
- B. 112.5π square feet
- C. 225π square feet
- D. 337.4π square feet

9. What is the ratio of the area of Circle M and the area of Circle K?

- A. 1:8
- B. 1:4
- C. 1:2
- D. 1:1

10. If x% of y is equal to z then what percentage of z is x?

- A. $\frac{y^2}{100}$
- B. $\frac{x^2}{100}$

C. $\frac{100^2}{y}$

D. $\frac{100^2}{x}$

11. Train A takes 45 minutes more than train B to travel 450 km. Due to engine trouble, speed of train B falls by a quarter. So it takes 30 minutes more than Train A to complete the same journey. Find the speed of Train A .
- A. 120 km/hr
B. 110 km/hr
C. 100 km/hr
D. 90 km/hr
12. One Trader calculates the percentage of profit on the buying price and another calculates on the selling price. When their selling prices are same, then the difference of their actual profit is Rs 85 and both claim to have made 20 % profit. What is the selling price for each?
- A. Rs 3000
B. Rs 2550
C. Rs 2800
D. Rs 4000
13. Due to increase of 20% in the price of eggs, 2 eggs less are available for Rs 24. The present rate of eggs per dozen is
- A. RS 28.8/dozen
B. Rs 24.8/dozen
C. Rs 25.8/dozen
D. Rs 30/dozen
14. $\sin\left(\frac{13\pi}{6}\right) = ?$
- A. $1/2$
B. $1/\sqrt{2}$
C. $1/\sqrt{3}$
D. $\sqrt{3}$
15. Fruits were purchased for Rs 350. 9 boys ate $3/5$ th of them in 2 hours. 6 boys feel their stomach as full so do not eat further. In how many hours the remaining fruits will get finished by remaining boys?
- A. 2 hours
B. 3 hours
C. 5 hours
D. 4 hours
16. If minimum value of $f(x) = x^2 + 2bx + 2c^2$ is greater than the maximum value of $g(x) = -x^2 - 2cx + b^2$, then for real value of x
- A. $|c| > |b|/2$
B. $|c|\sqrt{2} > b$
C. $0 < c < \sqrt{2}b$
D. no real value of a
17. The set of all real numbers x for which $x^2 - |x + 2| + x > 0$, is
- A. $(-\infty, -2) \cup (2, \infty)$
B. $(-\infty, -\sqrt{2}) \cup (\sqrt{2}, \infty)$
C. $(-\infty, -1) \cup (1, \infty)$
D. $(\sqrt{2}, \infty)$

18. What should come at the place of question mark?
46080, 3840, 384, 48, 8, 2, ?
A. 1
B. $\frac{1}{64}$
C. $\frac{1}{8}$
D. None of these
19. A room has floor size of 15×6 sq cm. What is the height of the room, if the sum of the areas of the base and roof is equal to the sum of the areas of the four walls?
A. 1.12cm
B. 3.24cm
C. 4.29cm
D. 2.5cm
20. The sum of third and ninth term of an A.P is 8 . Find the sum of the first 11 terms of the progression.
A. 44
B. 22
C. 19
D. None of the above
21. Given $A = 2^{65}$ and $B = (2^{64} + 2^{63} + 2^{62} + \dots + 2^0)$, which of the following is true?
A. B is 264 larger than A
B. A and B are equal
C. B is larger than A by 1
D. A is larger than B by 1
22. A line from center to circumference of a circle is known as
A. diameter
B. radius
C. area
D. midpoint
23. A bag contains 4 blue, 5 white and 6 green balls. Two balls are drawn at random. What is the probability that one ball is white?
A. $\frac{10}{21}$
B. $\frac{1}{2}$
C. $\frac{3}{4}$
D. $\frac{2}{35}$
24. Two pipes P and Q can fill a tank in 20hrs and 25hrs respectively while a third pipe R can empty the tank in 30hrs. If all the pipes are opened together for 10hrs and then pipe R is closed then in what time the tank can be filled.
A. $\frac{400}{23}$ hrs
B. $\frac{400}{27}$ hrs
C. $\frac{200}{23}$ hrs
D. $\frac{200}{27}$ hrs
25. Given ratio are
 $a : b = 2:3$
 $b : c = 5:2$

$$c : d = 1:4$$

Find $a : b : c$

A. 2:3:6

B. 4:5:6

C. 10:15:6

D. 1:5:7

26. If there are Rs 495 in a bag in denominations of one-rupee, 50 paise and 25 paise coins, which are in the ratio $1 : 8 : 16$. How many 50 paise coins are there in the bag?
- A. 50
B. 220
C. 440
D. None of these
27. What decimal of an hour is a second
- A. .00028
B. .00027
C. .00026
D. .00025
28. What will be vulgar fraction of 0.0056
- A. $\frac{7}{1150}$
B. $\frac{7}{1175}$
C. $\frac{7}{1250}$
D. $\frac{7}{1275}$
29. One-fifth of a number is equal to $\frac{5}{8}$ th of another number. If 35 is added to the first number, it becomes four times of the second number. Find the second number.
- A. 39
B. 70
C. 40
D. 25
30. If $* = +, / = -, + = *, - = /$ then $43*561+500-100/10 = ?$
- A. 3211
B. 2388
C. 2883
D. 2838
31. A circle is inscribed in an equilateral triangle of side 24 cm, touching its sides. What is the area of the remaining portion of the triangle?
- A. $144\sqrt{3} - 48\pi \text{ cm}^2$
B. $121\sqrt{3} - 36\pi \text{ cm}^2$
C. $144\sqrt{3} - 36\pi \text{ cm}^2$
D. $121\sqrt{3} - 48\pi \text{ cm}^2$
32. A clock strikes 4 taking 9 seconds. In order to strike 12 at the same rate, the time taken is
- A. 33 seconds
B. 30 seconds
C. 36 seconds
D. 27 seconds
33. John's present age is one fourth of his father's age two years ago. John's father's age will be twice Raman's age after 10 years. If Raman's 12th birthday was celebrated 2 years ago, then what is John's

present age?

- A. 5 years
- B. 7 years
- C. 9 years
- D. 11 years

34. Raj invested Rs 76000 in a business. After few months Monty joined him and invests Rs 57000. At the end of the year, both of them share the profits at the ratio of 2:1. After how many months Monty joined Raj?

- A. 4 Months
- B. 7 Months
- C. 8 Months
- D. 12 Months

35. Work done by P in one day is double the work done by Q in one day and work done by Q in one day is thrice the work done by R in one day. If P, Q and R together can complete the work in 30 days then in how many days P alone can do the work?

- A. 52 days
- B. 42 days
- C. 30 days
- D. 50 days

36. A boatman goes 2 km against the current of the stream in 1 hour and goes 1 km along the current in 10 minutes. How long will it take to go 5 km in stationary water?

- A. 40 minutes
- B. 1 hour
- C. 1 hr 15 min
- D. 1 hr 30 min

37. Simplification: $25^{(2.7)} \times 5^{(4.2)} \div 5^{(5.4)} = ?$

- A. 5^4
- B. $5^{(3.2)}$
- C. $5^{(4.1)}$
- D. $5^{(4.2)}$

38. $18800 / 470 / 20$

- A. 1
- B. 2
- C. 3
- D. 4

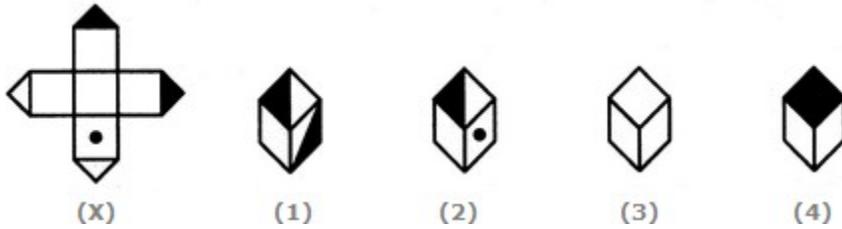
39. Find the HCF of $\frac{2}{3}, \frac{4}{6}, \frac{8}{27}$

- A. $\frac{2}{27}$
- B. $\frac{8}{3}$
- C. $\frac{2}{3}$
- D. $\frac{8}{27}$

40. If $\log 2$, $\log (2x - 1)$ and $\log (2x + 3)$ are in A.P, then x is equal to _____

- A. $\frac{5}{2}$
- B. $\log 25$
- C. $\log 32$
- D. $\frac{3}{2}$

41. Choose the box that is similar to the box formed from the given sheet of paper (X).



- A. 1 and 2 only
- B. 2 and 4 only
- C. 2 and 3 only
- D. 1 and 4 only

42. Pointing to Manju, Raju said, "The son of her only brother is the brother of my wife". How is Manju related to Raju?

- A. Mother's sister
- B. Grandmother
- C. Mother-in-law
- D. Sister of father-in-law

43. **Direction:** In each questions, a pair of words is given, followed by four pairs of words as alternatives. The candidate is required to choose the pair in which the words bear the same relationship to each other as the words of the given pair bear.

Arrows: Quiver

- A. Fear: Tremble
- B. Money: Bank
- C. Sound: Music
- D. Coin: Mint

44. Embarrass: Humiliate

- A. Enquire: Ask
- B. Embezzle: Peculate
- C. Gamble: Investment
- D. Annoy: Exasperate

45. **Direction:** Considering given statements as true, select a logical conclusion based on the given statements.

Statements:

No tree is a flower.

Some trees are fruits.

Conclusions:

- (I) Fruits that are trees are not flowers.
- (II) No fruit is a flower.

A. Only conclusion I follows.

C. Either conclusion I or II follows.

B. Only conclusion II follows.

D. Neither conclusion I nor conclusion II follows.

46. Statements:

Lady's Finger is tastier than cabbage.

Cauliflower is tastier than Lady's Finger.

Cabbage is not tastier than peas.

A. Peas are as tasty as Lady's Finger.

C. Peas are not tastier than Lady's finger.

B. Peas are as tasty as cauliflower and Lady's finger.

D. Cauliflower is tastier than cabbage.

47. Statements:

Some A are B

Some C are A

Conclusions:

(I) Some C are B

(II) Some B are A

A. Only conclusion I follows.

C. Either conclusion I or II follows.

B. Only conclusion II follows.

D. Neither conclusion I nor conclusion II follows.

48. **Direction:** Study the following information carefully and answer the given questions.

Seven friends P, Q, R, S, T, U and V are sitting in a straight line which is composed with eight seats, some of them are facing north and some of them are facing south. Each of them likes different colors viz., Blue, White, Black, Yellow, Orange, Red and Purple. All the above information is not necessarily in the same order.

Three seats are there between T and P and both of them are not sitting at the extreme ends. The one who likes white color is not sitting adjacent to the vacant seat. The one who likes red is an immediate neighbor of the one who likes White. The number of persons between U and Q is one less than the number of persons between Q and S. The only neighbor of V sits third to the left of R. U is facing same direction as T and opposite as Q. The immediate neighbour of V is not facing north direction. The one who likes Orange

sits third to the left of T who likes neither blue nor black. The persons sit at the extreme ends are facing opposite direction. The number of seats between the one who likes Blue and Yellow is double than the number of persons between the one who likes Red and Black. P neither likes Red nor likes Black. The one who likes Yellow is not facing the same direction as T, who does not like white. The persons sitting adjacent to the vacant seat are facing same direction as their neighbor. V does not sit at any of the ends. V and P are not immediate neighbours.

Who sits third to the left of the one who sits second to the left of the person likes purple color?

- A. The person who likes black color.
- B. The person who likes white color.
- C. The person who likes blue color.
- D. The person who likes yellow color.

49. How many persons sit between the person who likes Red color and the vacant seat?

- A. Two
- B. Six
- C. Three
- D. None

50. If the vacant seat is related to V and T in a certain way and in a same way P is related to U and Q, then which of the following is related to U?

- A. R and T
- B. R and P
- C. P and U
- D. U and V

51. Which of the following persons are sit at the extreme ends of the line?

- A. The person who likes Purple and Black color.
- B. The person who likes White and Blue color.
- C. The person who likes Blue and Yellow color.
- D. The person who likes Red and Orange color.

52. If the vacant seat is occupied with N then who among the following persons is sitting second to the left of Q?

- A. R
- B. T
- C. P
- D. N

53. Choose the alternative which closely resembles the mirror image of the given combination.

TARAIN1014A

(1) AƆ101NIARAL

(2) A101ƆNIARAT

(3) A101ƆNIARAT

(4) AƆ101NIARAL

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

54. **Direction:** Study the following information carefully and answer the given questions.

Five plays A, B, C, D and E are to be staged from Monday to Friday of a week. On each day, only one play will be staged. D or E should not be either the first or last to be staged. E should be immediately followed by C. B should be staged immediately after D. One play is staged between A and B

Which is the first play to be staged?

- A. A
- B. B
- C. C
- D. Cannot be determined

55. Which of the following is the correct sequence of staging all the plays?

- A. ADBEC
- B. AECDB
- C. BDAEC
- D. DBECA

56. Which play was staged on Wednesday?

- A. A
- B. B
- C. Either B or C
- D. Cannot be determined

57. **Direction:** Each Question given below has a problem and two statements numbered I and II giving certain information. You have to decide if the information given in the statements is sufficient for answering the problem.

Who is C's partner in a game of cards involving four players A, B, C and D?

I. D is sitting opposite to A

II. B is sitting right of A and left of D

- A. If the data in statement I alone are sufficient to answer the question;
- B. If the data in statement II alone are sufficient to answer the question;
- C. If the data even in both the statements together are not sufficient to answer the question;
- D. If the data either in I or II alone are sufficient to answer the question.

58. What day is the fourteenth of a given month?

I. The last day of the month is a Wednesday.

II. The third Saturday of the month was seventeenth.

- A. If the data in statement I alone are sufficient to answer the question;
- B. If the data in statement II alone are sufficient to answer the question;
- C. If the data even in both the statements together
- D. If the data either in I or II alone are sufficient to

are not sufficient to answer the question; answer the question.

59. In a certain code 'SEQUENCE' is coded as 'FDOFVRFT'. How is 'CHILDREN' coded in that code?
A. OFESJMID
B. OFSEMJID
C. OFSEJIMD
D. OFSEJMID
60. In a code language, 'Elephant is told as Jackal', 'Jackal is told as Monkey', 'Monkey is told as Dog', 'Dog is told as Lion', 'Lion is told as Goat', 'Goat is told as Mouse', then who will be the king of jungle?
A. Mouse
B. Goat
C. Lion
D. Jackal
61. **Direction:** In each question below is given a statement followed by two assumptions numbered I and II. You have to consider the statement and the following assumptions and decide which of the assumptions is implicit in the statement.
- Statement: It is desirable to put the child in school at the age of 5 or so.
- Assumptions:
- I. At that age the child reaches appropriate level of development and is ready to learn.
II. The schools do not admit children after six years of age.
- A. Only assumption I is implicit.
B. Only assumption II is implicit.
C. Either I or II is implicit.
D. Neither I nor II is implicit.
62. Statement: "In order to bring punctuality in our office, we must provide conveyance allowance to our employees." - In charge of a company tells Personnel Manager.
- Assumptions:
- I. Conveyance allowance will not help in bringing punctuality.
II. Discipline and reward should always go hand in hand.
- A. Only assumption I is implicit.
B. Only assumption II is implicit.
C. Either I or II is implicit.
D. Neither I nor II is implicit.
63. A man walks 5 km toward south and then turns to the right. After walking 3 km he turns to the left and walks 5 km. Now in which direction is he from the starting place?
A. West
B. South

C. North-East

D. South-West

64. Find the missing number in the given series.

2, 7, 10, 22, 18, 37, 26, ?

A. 52

B. 42

C. 62

D. 46

65. Look at this series: 544, 509, 474, 439, ... What number should come next?

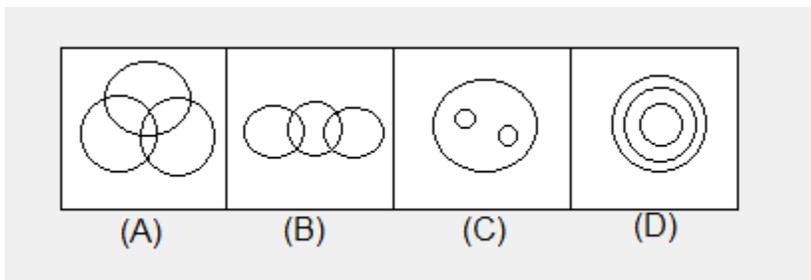
A. 414

B. 404

C. 445

D. 420

66. Which of the following Venn diagrams given below correctly represents the students who learn law & music, music & dance, law & dance and law, music & dance?



A. (A)

B. (B)

C. (C)

D. (D)

67. **Direction:** In each question below is given a statement followed by two conclusions numbered I and II. You have to assume everything in the statement to be true, then consider the two conclusions together and decide which of them logically follows beyond a reasonable doubt from the information given in the statement.

Statement: In a one day cricket match, the total runs made by a team were 200. Out of these 160 runs were made by spinners.

Conclusion:

I. 80% of the team consists of spinners.

II. The opening batsmen were spinners.

A. Only conclusion I follows;

B. Only conclusion II follows;

C. Either I or II follows; D. Neither I nor II follows.

68. Statement: The old order changed yielding place to new.

Conclusions:

I. Change is the law of nature.

II. Discard old ideas because they are old.

A. Only conclusion I follows;

B. Only conclusion II follows;

C. Either I or II follows;

D. Neither I nor II follows;

69. **Direction:** Given an input line a machine generates pass codes step by step following certain rules as illustrated below.

Step I: 95 13 67 84 76 18 38 78

Step II: 95 84 13 67 76 18 38 78

Step III: 95 84 78 13 67 76 18 38

Step IV: 95 84 78 76 13 67 18 38

Step V: 95 84 78 76 67 13 18 38

Step VI: 95 84 78 76 67 38 13 18

Step VII: 95 84 78 76 67 38 18 13

Which number comes in between 1st and 3rd number from left of 6th step of input?

A. 84

B. 13

C. 67

D. 18

70. Which number comes after '18' in the 4th step?

A. 95

B. 76

C. 38

D. 78

71. Which number comes in between 3rd and 5th number from left of 7th step of input?

A. 84

B. 13

C. 67

D. 76

Fact 3: Some chairs are stuffed with beans

If the first three statements are facts, which of the following statements must also be a fact?

I: Only children's chairs are stuffed with beans

II: All stuffed tigers are stuffed with beans

III: Stuffed monkeys are not stuffed with beans

A. I only

B. II only

C. II and III only

D. None of the statements is a known fact.

77. If Atul 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 28 boys in the line?

A. 12

B. 13

C. 14

D. 20

78. **Direction:** Each Question given below has a problem and two statements numbered I and II giving certain information. You have to decide if the information given in the statements is sufficient for answering the problem.

Five persons- A, B, C, D and E are sitting in a row. Who is sitting in the middle?

I. B is between E and C.

II. B is to the right of E.

III. D is between A and E.

A. I and II together.

B. II and III together.

C. I and III together.

D. I, II and III together.

79. In which year was Sanjay born?

I. Sanjay is six years older than Gopal.

II. Gopal's brother was born in 1982

III. Sanjay's brother is two years younger than Gopal's brother who was eight years younger than Gopal.

A. I and II together.

B. II and III together.

C. I and III together.

D. I, II and III together.

80. In a certain code IMTITJU is written as TMIIUJT. How is TEMREMP written in that code?

A. METERPM

B. METRPME

C. ETRMMEP

D. MTERPME

81. **Direction:** In the following questions choose the word which is the exact OPPOSITE of the given words.

ABOMINATE:

A. gratify

B. esteem

C. console

D. support

82. ABHOR

A. inspire

B. credit

C. improve

D. greatly admire

83. ENORMOUS

A. Soft

B. Average

C. Tiny

D. Weak

84. **Direction:** In the following the questions choose the word which best expresses the meaning of the given word.

IMPROMPTU

A. Offhand

B. Unimportant

C. Unreal

D. Effective

85. WRETCHED

A. Poor

B. Foolish

C. Insane

D. Strained

86. erroneous

A. digressive

B. confused

C. impenetrable

D. incorrect

87. **Direction:** Read the passage below and answer the questions that follow:

Harold a professional man who had worked in an office for many years had a fearful dream. In it, he found himself in a land where small slug-like animals with slimy tentacles lived on people's bodies. The people tolerated the loathsome creatures because after many years they grew into elephants which then became

the nation's system of transport, carrying everyone wherever he wanted to go. Harold suddenly realised that he himself was covered with these things, and he woke up screaming.

In a vivid sequence of pictures this dream dramatised for Harold what he had never been able to put in to words; he saw himself as letting society feed on his body in his early years so that it would carry him when he retired. He later threw off the "security bug" and took up freelance work.

In his dream Harold found the loathsome creatures

- A. in his village
- B. in his own house
- C. in a different land
- D. in his office

88. Which one of the following phrases best helps to bring out the precise meaning of 'loathsome creatures'?
- A. Security bug and slimy tentacles
 - B. Fearful dream and slug-like animals
 - C. Slimy tentacles and slug-like animals
 - D. slug-like animals and security bug
89. The statement that 'he later threw off the security bug' means that
- A. Harold succeeded in overcoming the need for security
 - B. Harold stopped giving much importance to dreams
 - C. Harold started tolerating social victimisation
 - D. Harold killed all the bugs troubled him
90. Harold's dream was fearful because
- A. it brought him face to face with reality
 - B. it was full of vivid pictures of snakes
 - C. he saw huge elephant in it
 - D. in it he saw slimy creatures feeding on people's bodies
91. **Direction:** In each question, an incomplete statement followed by fillers is given. Pick out the best one which can complete incomplete statement correctly and meaningfully.

His appearance is unsmiling but

- A. his heart is full of compassion for others
- B. he looks very serious on most occasions
- C. people are afraid of him
- D. he is uncompromising on matters of task performance

92. In order to help the company attain its goal of enhancing profit, all the employees

- A. urged the management to grant paid leave
- B. appealed the management to implement new welfare schemes
- C. voluntarily offered to work overtime with lucrative compensation
- D. voluntarily offered to render additional services in lieu of nothing

93. The manners and of the nouveau riche is a recurrent in the literature.

- A. style, motif
B. morals, story
C. wealth, theme.
D. morals, theme

94. **Direction:** In questions below, each passage consists of six sentences. The first and sixth sentence are given in the beginning. The middle four sentences in each have been removed and jumbled up. These are labelled as P, Q, R and S. Find out the proper order for the four sentences.

S1: The future beckons to us.

P : In fact we have hard work ahead.

Q : Where do we go and what shall be our endeavour?

R : We shall also have to fight and end poverty, ignorance and disease.

S : It will be to bring freedom and opportunity to the common man.

S6: There is no resting for any one of us till we redeem our pledge in full.

The Proper sequence should be:

- A. PSRQ
B. QPSR
C. QSRP
D. SRPQ

95. S1: I had halted on the road.

P : As soon as I saw the elephant I knew I should not shoot him.

Q : It is a serious matter to shoot a working elephant.

R : I knew that his 'must' was already passing off.

S : The elephant was standing 8 yards from the road.

S6: I decided to watch him for a while and then go home.

The Proper sequence should be:

- A. SPQR
B. PQSR
C. RQPS
D. SRPQ

punctuation, if any).

Solve as per the direction given above

- A. When I were a newspaper journalist
- B. I always relied on the news editor and
- C. the subs to put things right.
- D. no errors

102. Solve as per the direction given above

- A. I could count on one
- B. hand the things
- C. I know about my friend.
- D. no errors

103. **Statement:** The average family income in the metros has increased today as compared to earlier, as in most families these days' husbands and wives both are working.

Which of the following inferences cannot be drawn from the above statement?

- A. Wives earn more than their husbands today.
- B. It was less prevalent for the spouse to work earlier than today.
- C. The family income level was lower a few years ago.
- D. More husbands and wives are working today as compared to last few years.

104. Should powerful nations attack relatively weaker nations which pose probable danger to world peace?

Arguments:

1. Yes. War is justified for the noble purpose of peacekeeping.

2. No. War/violence should never be resorted to.

- A. If only 1 is implicit
- B. If only 2 is implicit
- C. If either assumption 1 or 2 is implicit
- D. If neither assumption 1 nor 2 is implicit

105. **Direction:** Fill in the blanks with appropriate homonym.

_____ is the most important city of a country.

- A. Capitol
- B. Capetol
- C. Capital
- D. Capitalisation

106. Which of these expresses distance?

- A. Farther
- B. Father
- C. Further
- D. Ferther

107. **Direction:** In questions given below, a part of the sentence is underlined. Below are given alternatives to

the underlined part which may improve the sentence.

Choose the correct alternative. In case no improvement is needed, option 'D' is the answer.

There is no more room for you in this compartment.

- A. there is no more seat
B. there is no more space
C. there is no more accommodation
D. No improvement

108. If he would have tried he would have succeeded.

- A. is tried
B. was tried
C. had tried
D. No improvement

109. **Direction:** In each of the following questions, a word has been used in sentences in THREE different ways. Choose the option corresponding to the sentence in which the usage of the word is CORRECT or APPROPRIATE.

CONFLATE

(I) I was able to conflate the two processes into one, blending it down into a solid formula.

(II) The bag is divided into conflate compartments.

(III) The dogs started to snarl at each other so I had to conflate them.

- A. Only (I)
B. Only (II)
C. Only (III)
D. Both (I) and (II)

110. RARE

(I) The coin was a rare edition and was not found in many collections around the world.

(II) Diagnosed with a rare form of bone cancer, the patient's doctors knew little about his unique condition.

(III) Standing in the rare of the long line, the family could barely see the entrance to the theatre.

- A. Only (I)
B. Only (II)
C. Only (III)
D. Both (I) and (II)

111. **Direction:** Read the passage below and answer the questions that follow:

Concussions are brain injuries that occur when a person receives a blow to the head, face, or neck. Although most people who suffer a concussion experience initial bouts of dizziness, nausea, and drowsiness, these symptoms often disappear after a few days. The long-term effects of concussions, however, are less understood and far more severe. Recent studies suggest that people who suffer multiple concussions are at significant risk for developing chronic traumatic encephalopathy (CTE), a degenerative brain disorder that causes a variety of dangerous mental and emotional problems to arise weeks, months, or even years after the initial injury. These psychological problems can include depression, anxiety, memory loss, inability to concentrate, and aggression. In extreme cases, people suffering from CTE have even committed suicide or homicide. The majority of people who develop these issues are athletes who participate in popular high impact sports, especially football. Although new sports regulations and improvements in helmet technology can help protect players, amateur leagues, the sports media, and fans all bear some of the responsibility for reducing the incidence of these devastating injuries.

Improvements in diagnostic technology have provided substantial evidence to link severe—and often fatal—psychological disorders to the head injuries that players receive while on the field. Recent autopsies performed on the brains of football players who have committed suicide have shown advanced cases of CTE in every single victim. In response to the growing understanding of this danger, the National Football League (NFL) has revised its safety regulations.

Players who have suffered a head injury on the field must undergo a “concussion sideline assessment”—a series of mental and physical fitness tests—before being allowed back in the game. In an effort to diminish the amount of head and neck injuries on the field, NFL officials began enforcing stricter penalty calls for helmet to-helmet contact, leading with the head, and hitting a defenseless player. Furthermore, as of 2010, if a player’s helmet is accidentally wrenched from his head during play, the ball is immediately whistled dead. It is hoped that these new regulations, coupled with advances in helmet design, will reduce the number of concussions, and thus curb further cases of CTE. Efforts by the NFL and other professional sports leagues are certainly laudable; we should commend every attempt to protect the mental and physical health of players. However, new regulations at the professional level cannot protect amateur players, especially young people. Fatal cases of CTE have been reported in victims as young as 21.

Proper tackling form—using the arms and shoulders to aim for a player’s midsection—should be taught at an early age. Youth, high school, and college leagues should also adopt safety rules even more stringent than those of the NFL. Furthermore, young athletes should be educated about the serious dangers of head injuries at an early age. Perhaps the most important factor in reducing the number of traumatic brain

injuries, however, lies not with the players, the coaches, or the administrators, but with the media and fans. Sports media producers have become accustomed to showcasing the most aggressive tackles and the most intense plays. NFL broadcasts often replay especially violent collisions while the commentators marvel at the players' physical prowess.

Some sports highlights television programs even feature weekly countdowns of the "hardest hits." When the media exalts such dangerous behavior, professionals are rewarded for injuring each other on the field and amateurs become more likely to try to imitate their favorite NFL athletes. Announcers, commentators, television producers, and sportswriters should engage in a collective effort to cease glorifying brutal plays. In turn, fans should stop expecting their favorite players to put their lives on the line for the purposes of entertainment. Players must not be encouraged to trade their careers, their health, their happiness, and even their lives for the sake of a game.

Based on information in the passage, it can be inferred that all of the following statements are true except

- | | |
|--|--|
| A. tackling is not always dangerous; however, players who use improper tackling form may injure others | B. scientists have established a definitive link between players who die untimely deaths and the onset of CTE |
| C. NFL officials have done little to address the problem of CTE | D. athletes who are praised for exceptionally brutal hits are likely to continue engaging in such dangerous behavior |

112. According to the passage, which of the following factors contribute(s) to the incidence of CTE in amateur players?

- I. inconsistent application of safety regulations for all levels
- II. lack of education about the dangers of head injuries
- III. amateur players' desire to emulate professionals

- | | |
|------------------|--------------------|
| A. I only | B. II only |
| C. I and II only | D. II and III only |

113. As used in paragraph 3, which is the best synonym for laudable?

- | | |
|-----------------|----------------|
| A. praiseworthy | B. ineffectual |
| C. memorable | D. audacious |

114. The author's tone in the final paragraph can best be described as

- A. remorseful
- B. hopeless
- C. perplexed
- D. insistent

115. As used in the final paragraph, which is the best antonym for exalts?

- A. despise
- B. venerates
- C. mollifies
- D. expedites

116. In describing the sports media, the author emphasizes its

- A. responsibility
- B. entertainment value
- C. senselessness
- D. danger

117. In the final paragraph, the author mentions “sports highlights television programs” as an example of how

- I. the media glorifies violence
- II. amateurs learn to mimic professional athletes
- III. professional athletes gain approval

- A. I only
- B. II only
- C. I and II only
- D. II and III only

118. **Direction:** Read the passage below and answer the questions that follow:

The ravages [of the storm] were terrible in America, Europe, and Asia. Towns were overthrown, forests uprooted, coasts devastated by the mountains of water which were precipitated on them, vessels cast on the shore, whole districts leveled by waterspouts, several thousand people crushed on land or drowned at sea; such were the traces of its (468) _____, left by this devastating tempest.

—Ralph Waldo Emerson

What is the meaning of the word overthrown in the context of this passage?

- A. surrendered
- B. devastated
- C. capitulated
- D. yielded

119. What is the meaning of the word leveled as it is used in the passage?

- A. razed
- B. marked
- C. spread
- D. raised

120. Which word, if inserted in the blank, makes the most sense in the context of the passage?

- A. velocity
- B. fury

C. reward

D. benevolence

Solutions

1. D

Sol. Let the speed of boat in still water on Wednesday = x kmph.

$$\text{Time taken by boat to travel upstream} = \frac{4800 \times \frac{12}{100}}{x-6} = \frac{48 \times 12}{x-6} \text{ hr}$$

$$\text{Time taken by boat to travel downstream} = \frac{2400 \times \frac{14}{100}}{15+5} = \frac{24 \times 14}{20} \text{ hr.}$$

$$\text{Now, according to the question } \frac{48 \times 12}{x-6} = \frac{24 \times 14}{20} \times \frac{6}{7}$$

$$\Rightarrow x-6 = \frac{2 \times 12 \times 5}{3} = 40$$

$$\Rightarrow x = 46 \text{ kmph}$$

2. A

Sol. Let speed of boat in still water on Monday = x kmph

According to the question

$$\frac{16 \times 48}{x-5} = \frac{14 \times 24}{x+5} + 27 \frac{1}{5}$$
$$\Rightarrow \frac{16 \times 48}{x-5} = \frac{14 \times 24}{x+5} + \frac{136}{5}$$

Here, $x = 25$ satisfy the above equation,

So, speed of boat on Monday = 25 kmph

3. C

Sol. Given,

Speed of boat in still water on Saturday = 27 km/hr

Speed of boat in still water on Wednesday = $27 + 66 \frac{2}{3} \% \text{ of } 27 = 27 + 18 = 45 \text{ km/hr.}$

Let speed of stream on Saturday = x km/hr.

Now, according to the question,

$$\frac{12 \times 48}{45 - 6} = \frac{18 \times 24}{27 + x} \times \frac{16}{13}$$
$$\Rightarrow \frac{12 \times 48}{39} = \frac{18 \times 24}{27 + x} \times \frac{16}{13}$$
$$\Rightarrow 27 + x = \frac{18 \times 24 \times 16}{192} = 36$$
$$\Rightarrow x = 9 \text{ km/hr.}$$

4. D

Sol. Given, speed of boat in still water on Saturday = 21 km/hr.

$$\text{Speed of boat in still water on Sunday} = 21 + 28\frac{4}{7}\% \text{ of } 21 = 21 + 6 = 27 \text{ km/hr.}$$

Let Speed of stream on Saturday be x km/hr.

Then, according to the question

$$\frac{10 \times 48}{21 - x} = \frac{12 \times 24}{27 + 3} \times \frac{5}{2}$$
$$\Rightarrow 21 - x = 20 \Rightarrow x = 1 \text{ km/hr.}$$

$$\text{Required time} = \frac{125}{21 - 1} = \frac{125}{20} = 6.25 \text{ hr} = 6 \text{ hr } 15 \text{ min.}$$

5. D

Sol. Let speed of boat on Wednesday be x km/hr.

According to the question,

$$\frac{14 \times 48}{17 - 1} = \frac{11 \times 24}{x + 6} + 30$$
$$\Rightarrow \frac{14 \times 48}{16} = \frac{11 \times 24}{x + 6} + 30$$
$$\Rightarrow x + 6 = 22 \Rightarrow x = 16 \text{ km/hr.}$$

Upstream speed of boat on Wednesday = $16 - 6 = 10$ km/hr.

6. A

Sol.

$$(X - 122) = X \left(1 - \frac{50}{X}\right)^3 \Rightarrow (X - 122) = X \left(\frac{X - 50}{X}\right)^3$$

When we put $X = 250$, above equation will be satisfy with this.

So, $X = 250$ litres.

Quantity of milk = $X - 122 = 250 - 122 = 128$ litres

Quantity of water = 122 litres.

7. B

Sol. Let principal amount be Rs. P and Gita pay loan after x months.

$$\text{Now, } 2460 = \frac{P \times 6 \times 5}{12 \times 100} + P$$

$$\Rightarrow 2460 = \frac{30P + 1200P}{1200}$$

$$\Rightarrow 1230P = 2460 \times 1200$$

$$\Rightarrow P = \text{Rs. } 2400$$

$$\text{again, } 2460 = 2400 + \frac{2400 \times 7.5 \times x}{12 \times 100}$$

$$\Rightarrow 60 = 15x$$

$$\Rightarrow x = 4$$

Hence, required time = 4 months.

8. B

Sol. Area of shaded region = $2 \times$ area of circle L

$$\text{Radius of circle } L = \frac{15}{2} = 7.5 \text{ feet}$$

$$\text{Area of circle L} = \pi r^2 = \pi(7.5)^2 = 56.25\pi \text{ sq. feet}$$

$$\text{Area of shaded region} = 2 \times 56.25 \pi = 112.5 \pi \text{ sq. feet}$$

$$\text{Area of circle K} = \frac{\pi(15)^2}{4} = 225\pi \text{ Sq. feet}$$

$$\text{Area of shaded region} = 225\pi - 112.5\pi = 112.5\pi \text{ sq. feet}$$

9. B

Sol. It is obvious that radius of circle M is twice of radius of circle K.

$$\text{Radius of circle M} = R \text{ (Say)}$$

$$\text{Radius of circle K} = 2R$$

$$\text{Now, area of circle M} = \pi R^2$$

Therefore, area of circle $K = \pi(2R)^2 = 4\pi R^2$

$$\text{Required ratio} = \frac{\pi R^2}{4\pi R^2} = \frac{1}{4} = 1:4$$

10. C

Sol. $x\%$ of $y = z$

$$\Rightarrow \frac{xy}{100} = z$$

$$\text{and } x = \frac{100z}{y}$$

$$\begin{aligned} \text{Required percentage} &= \frac{x \times 100}{z} \\ &= \frac{x \times 100 \times 100}{xy} \\ &= \frac{(100)^2}{y} \end{aligned}$$

11. C

Sol. Let speed of train A and B be x and y km/hr respectively.

Now, according to the question,

$$\frac{450}{x} - \frac{450}{y} = \frac{3}{4} \left[\because 45 \text{ min} = \frac{45}{60} \text{ hr} \right]$$

$$\tilde{A} \quad \frac{450y - 450x}{xy} = \frac{3}{4}$$

$$\tilde{A} \quad xy = 600y - 600x \quad \dots (i)$$

Again, after engine trouble,

$$\frac{450}{3y/4} - \frac{450}{x} = \frac{1}{2}$$

$$\tilde{A} \quad \frac{450 \times 4}{3y} - \frac{450}{x} = \frac{1}{2}$$

$$\tilde{A} \quad \frac{450 \times 4x - 450 \times 3y}{3xy} = \frac{1}{2}$$

$$\tilde{A} \quad xy = 1200x - 900y \quad \dots (ii)$$

From (i) and (ii),

$$600y - 600x = 1200x - 900y$$

$$\tilde{\text{A}} \quad 1500y = 1800x$$

$$\tilde{\text{A}} \quad y = \frac{1800x}{1500} = \frac{6}{5}x$$

Put $y = \frac{6}{5}x$ in equation (i),

$$x \times \frac{6}{5}x = 600 \times \frac{6}{5}x - 600x$$

$$\tilde{\text{A}} \quad \frac{6x^2}{5} = 720x - 600x = 120x$$

$$\tilde{\text{A}} \quad x^2 = \frac{120x \times 5}{6} = 100x$$

$$\tilde{\text{A}} \quad x = 100$$

Hence, speed of train A = 100 km/hr.

12. B

Sol. Let C.P for the first trader be Rs. 100.

$$\text{S.P} = \frac{100 \times \frac{120}{100}}{100} = \text{Rs. } 120.$$

Again S.P for second trader = 120

gain = 20%

Let C.P for second trader be Rs. x

$$\tilde{\text{A}} \quad \frac{120-x}{120} \times 100 = 20$$

$$\tilde{\text{A}} \quad 12000 - 100x = 2400$$

$$\tilde{\text{A}} \quad 100x = 9600$$

$$\tilde{\text{A}} \quad x = 96$$

$$\text{g} = 120 - 96 = \text{Rs. } 24$$

Difference of gain for both the trader

$$= 24 - 20 = \text{Rs. } 4$$

Now,

If difference = 4, S.P = 120

If difference = 85, S.P = $\frac{85}{4} \times 120 = 2550$

Hence, S.P for both traders = Rs. 2550

13. A

Sol. Let initial price of egg. be Rs. x per egg.

$$\text{present rate} = x \times \frac{120}{100} = \frac{6}{5}x$$

Now, according to the question,

$$\frac{24}{x} - \frac{24 \times 5}{6x} = 2.$$

$$\tilde{A} \frac{144 - 120}{6x} = 2 \quad \tilde{A} 6x = 12$$

$$\tilde{A} x = 2$$

Initial per dozen price = $12 \times 2 = \text{Rs. } 24$

Present per dozen price = $24 \times 1.2 = \text{Rs. } 28.8$

14. A

Sol. $\sin\left(\frac{13\pi}{6}\right) = \sin\left(2\pi + \frac{\pi}{6}\right)$
 $= \sin\left(\frac{\pi}{6}\right) = \sin 30^\circ = \frac{1}{2}$

15. D

Sol. Remaining number of boys = $9 - 6 = 3$

Remaining quantity of fruits = $1 - \frac{3}{5} = \frac{2}{5}$ th

From Man, Day, Hour formula,

$$\frac{M_1 \times D_1 \times H_1}{W_1} = \frac{M_2 \times D_2 \times H_2}{W_2}$$

$$\tilde{A} \frac{9 \times 1 \times 2}{3/5} = \frac{3 \times 1 \times H_2}{2/5}$$

$$\tilde{A} 6 = \frac{3}{2} H_2$$

$$\tilde{A} H_2 = 4$$

so, remaining time = 4 hours.

16. A

Sol. $f(x) = x^2 + 2bx + 2c^2$

$$= (x + b)^2 + 2c^2 - b^2$$

Minimum value of $f(x) = 2c^2 - b^2$

same as $g(x) = -x^2 - 2cx + b^2$

$$= -(x + c)^2 + b^2 + c^2$$

Maximum value of $g(x) = b^2 + c^2$

Now, according to the question,

$$\min f(x) > \max g(x)$$

$$\tilde{\sim} 2c^2 - b^2 > b^2 + c^2$$

$$\tilde{\sim} c^2 > 2b^2 \tilde{\sim} |c| > \sqrt{2}|b|$$

17. B

Sol. Given, $x^2 - |x + 2| + x > 0$

When, $x + 2 \geq 0$

$$x^2 - x - 2 + x > 0$$

$$\tilde{\sim} x^2 - 2 > 0$$

$$\tilde{\sim} x < -\sqrt{2} \text{ or } x > \sqrt{2}$$

$$\tilde{\sim} x \in (-\infty, -\sqrt{2}) \cup (\sqrt{2}, \infty) \quad \dots (i)$$

When, $x + 2 < 0$

$$x^2 - (-x - 2) + x > 0$$

$$\tilde{\sim} x^2 + x + 2 + x > 0$$

$$\tilde{\sim} x^2 + 2x + 2 > 0$$

$$\tilde{\sim} (x + 1)^2 + 1 > 0$$

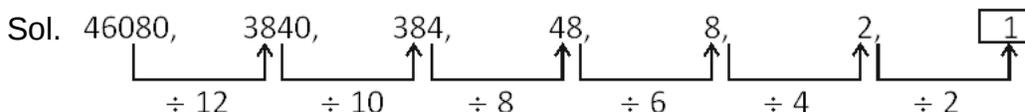
Which is true for all x.

$$x < -2 \text{ or } x \in (-\infty, -2) \dots \text{(ii)}$$

From (i) and (ii),

$$x \in (-\infty, -\sqrt{2}) \cup (\sqrt{2}, \infty)$$

18. A



Hence, required number will be 1.

19. C

Sol. According to the question,

Sum of the areas of base and roof = sum of the areas of four walls

$$l \times b + l \times b = 2h(l + b)$$

$$2lb = 2h(l + b)$$

$$h = \frac{lb}{l+b} = \frac{15 \times 6}{15+6}$$

$$h = \frac{90}{21} = 4.29 \text{ cm}$$

20. A

Sol. $t_3 = a + 2d$

$$t_9 = a + 8d$$

$$t_3 + t_9 = 2a + 10d = 8$$

sum of first 11 terms of an A.P.

$$= \frac{11}{2} [2a + 10d]$$

$$= \frac{11}{2} \times 8 = 44$$

21. D

Sol. Given, $A = 2^{65}$

$$B = 2^{64} + 2^{63} + 2^{62} + \dots + 2^0$$

clearly B is in G.P,

$$a = 2^0, r = 2, n = 65$$

$$S_n = \frac{a(r^n - 1)}{r - 1} = \frac{2^0(2^{65} - 1)}{2 - 1} = 2^{65} - 1$$

$$\setminus B = 2^{65} - 1 = A - 1$$

$$\tilde{A} = B + 1$$

Hence, A is larger than B by 1.

22. B

Sol. A line from centre to circumference is called radius of the circle.

23. A

Sol. Here, possible outcomes is either 1 white and 1 blue ball or 1 white and 1 green ball.

$$\text{Required probability} = \frac{\text{Number of possible outcomes}}{\text{Total number of outcomes}}$$

$$\begin{aligned} &= \frac{{}^5C_1 \times {}^4C_1 + {}^5C_1 \times {}^6C_1}{15C_2} \\ &= \frac{5 \times 4}{105} + \frac{5 \times 6}{105} \\ &= \frac{20}{105} + \frac{30}{105} = \frac{50}{105} = \frac{10}{21} \end{aligned}$$

24. B

Sol. Work done by all three pipes in 10 hours

$$\begin{aligned} &= 10 \left(\frac{1}{20} + \frac{1}{25} - \frac{1}{30} \right) \\ &= 10 \left(\frac{15 + 12 - 10}{300} \right) = \frac{17}{30} \end{aligned}$$

$$\text{Remaining part of tank to be filled} = 1 - \frac{17}{30} = \frac{13}{30}$$

$$\text{Part of tank filled by pipes P and Q in 1 hour} = \frac{1}{20} + \frac{1}{25} = \frac{5 + 4}{100} = \frac{9}{100}$$

Since, $\frac{9}{100}$ part fill in 1 hour.

$$\text{So, } \frac{13}{30} \text{ part can fill in } \frac{13}{30} \times \frac{100}{9} \times 1$$
$$= \frac{130}{27} \text{ hours}$$

$$\text{Hence, required time} = 10 + \frac{130}{27} = \frac{270 + 130}{27}$$
$$= \frac{400}{27} \text{ hours.}$$

25. C

Sol.

$$a : b = 2 : 3$$
$$= 2 \times 5 : 3 \times 5 = 10 : 15$$
$$b : c = 5 : 2$$
$$= 5 \times 3 : 2 \times 3 = 15 : 6$$
$$a : b : c = 10 : 15 : 6$$

26. C

Sol. Let number of one-rupee, 50 paise and 25 paise coins are x , $8x$ and $16x$ respectively.

According to the question,

$$x + \frac{1}{2} \times 8x + \frac{1}{4} \times 16x = 495$$

$$\Rightarrow x + 4x + 4x = 495$$

$$\Rightarrow 9x = 495 \Rightarrow x = 55$$

$$\text{Number of 50 paise coins} = 55 \times 8 = 440$$

27. B

Sol.

$$\text{Required decimal} = \frac{1}{60 \times 60}$$

$$= \frac{1}{3600} = .00027$$

28. C

Sol.

$$0.0056 = \frac{56}{10000} = \frac{7}{1250}$$

29. C

Sol. Let first and second number be x and y respectively.

According to the question,

$$\frac{x}{5} = \frac{5}{8}y \Rightarrow x = \frac{25}{8}y \dots(i)$$

$$x + 35 = 4y \Rightarrow x = 4y - 35 \dots(ii)$$

$$\text{From (i) and (ii), } \frac{25}{8}y = 4y - 35$$

$$\Rightarrow 25y = 32y - 280 \Rightarrow 7y = 280 \Rightarrow y = 40$$

Hence, second number = 40

30. D

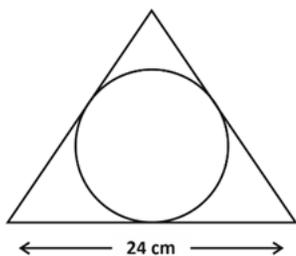
Sol. According to the given information, $43 + 561 \times 500/100 - 10$

$$= 43 + 561 \times 5 - 10 \text{ (Applying BODMAS rule)}$$

$$= 43 + 2805 - 10 = 2838$$

31. A

Sol.



We know that, when a circle is inscribed in an equilateral triangle, radius of the circle will be $1/3^{\text{rd}}$ of the height of the triangle.

Now, height of an equilateral triangle, $h = \frac{\sqrt{3}}{2}a$, (where a is the side of an equilateral triangle)

$$= \frac{\sqrt{3}}{2} \times 24 = 12\sqrt{3} \text{ cm}$$

$$\begin{aligned} \text{Area of equilateral triangle} &= \frac{\sqrt{3}}{2} a^2 = \frac{\sqrt{3}}{4} \times 24 \times 24 \\ &= 144\sqrt{3} \text{ cm}^2 \end{aligned}$$

$$\begin{aligned} \text{Area of circle} &= \pi r^2 \\ &= \pi \times \left(\frac{12\sqrt{3}}{3}\right)^2 \left[\text{since, } r = \frac{h}{3} \right] \text{ where h is height of an equilateral triangle.} \\ &= \pi \times 48 = 48\pi \text{ cm}^2 \end{aligned}$$

$$\text{Hence, remaining area} = (144\sqrt{3} - 48\pi) \text{ cm}^2$$

32. A

Sol. There are 3 intervals when the clock strikes 4, so time taken in 3 intervals = 9 seconds.

So, time taken for 1 interval = $9/3 = 3$ seconds.

In order to strike 12 there are 11 intervals, so time required = $11 \times 3 = 33$ seconds.

33. C

Sol. Let present age of father be x years.

$$\text{Present age of John} = \frac{1}{4}(x-2)$$

Again, let present age of Raman = ' y ' years.

According to the question, $x + 10 = 2(y + 10)$

$$\text{and, } y - 2 = 12$$

$$\Rightarrow y = 14$$

$$\Rightarrow x + 10 = 2(14 + 10) = 48$$

$$\Rightarrow x = 38$$

$$\text{Hence, present age of John} = \frac{1}{4}(38-2) = \frac{1}{4} \times 36 = 9 \text{ years}$$

34. A

Sol. Let Monty invested for ' x ' months.

$$\text{Now, } 76000 \times 12 : 57000 \times x = 2 : 1$$

$$\Rightarrow \frac{76000 \times 12}{57000 \times x} = \frac{2}{1}$$

$$\Rightarrow x = \frac{76 \times 12}{57 \times 2} = 8$$

Now, required number of months = $12 - 8 = 4$ months

35. D

Sol. Let P completes work in x days.

Then, Q completes the work in $2x$ days and R completes the same work in $6x$ days.

$$\text{Now, } \frac{1}{x} + \frac{1}{2x} + \frac{1}{6x} = \frac{1}{30}$$

$$\Rightarrow \frac{6+3+1}{6x} = \frac{1}{30}$$

$$\Rightarrow 6x = 300 \Rightarrow x = 50$$

Hence, P alone can complete the work in 50 days.

36. C

Sol. Let speed of boat be x km/hr and speed of stream be y km/hr.

According to the question,

$$\frac{2}{x-y} = 1 \text{ and } \frac{1}{x+y} = \frac{10}{60} = \frac{1}{6}$$

$$\Rightarrow x - y = 2 \text{ and } x + y = 6$$

After solving both above equation we get

$$x = 4 \text{ and } y = 2$$

$$\text{Hence, required time} = \frac{5}{4} \text{ hr}$$

$$= 1\frac{1}{4} \text{ hr} = 1 \text{ hr } 15 \text{ minutes}$$

37. D

Sol. $25^{2.7} \times 5^{4.2} \div 5^{5.4}$

$$= (5^2)^{2.7} \times 5^{4.2} \div 5^{5.4}$$

$$= 5^{5.4} \times 5^{4.2} \div 5^{5.4}$$
$$= 5^{5.4 + 4.2 - 5.4} = 5^{4.2}$$

38. B

Sol. 18800/470/20

$$= \frac{18800}{470} \times \frac{1}{20} = \frac{40}{20} = 2$$

39. A

Sol. HCF of $\frac{2}{3}, \frac{4}{6}, \frac{8}{27} = \text{HCF of } \frac{2}{3}, \frac{2}{3}, \frac{8}{27}$

$$= \frac{\text{HCF of } (2, 2, 8)}{\text{LCM of } (3, 3, 27)} = \frac{2}{27}$$

40. A

Sol. $\log 2, \log (2x - 1), \log (2x + 3) \rightarrow \text{A.P}$

$$\Rightarrow 2, (2x - 1), (2x + 3) \rightarrow \text{G.P.}$$

$$\Rightarrow (2x - 1)^2 = 2 \times (2x + 3) \quad [\text{if } a, b, c \text{ are in G.P then } b^2 = ac]$$

$$\Rightarrow 4x^2 + 1 - 4x = 4x + 6$$

$$\Rightarrow 4x^2 - 8x - 5 = 0$$

$$\Rightarrow 4x^2 - 10x + 2x - 5 = 0$$

$$\Rightarrow 2x(2x - 5) + 1(2x - 5) = 0$$

$$\Rightarrow (2x - 5) (2x + 1) = 0$$

$$\Rightarrow x = \frac{5}{2}, -\frac{1}{2}$$

If $x = -\frac{1}{2}$, then second term will be $\log (-2)$, which is not possible.

So, $x = \frac{5}{2}$

41. C

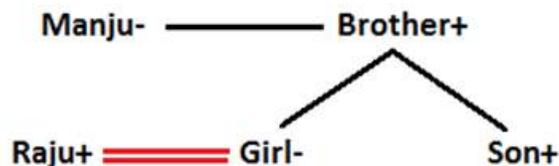
Sol. The figure (X) is similar to the form VI. So, when a cube is formed by folding the sheet shown

in fig. (X), then  is one of the faces of the cube. However, the cube in figure (1) has two

such faces and figure (4) has a face which is completely shaded. So, these two cubes cannot be formed. Hence, only the cubes in figures (2) and (3) can be formed.

42. D

Sol. Family tree:



Clearly, Manju's brother is the father of Raju's wife's brother which means he is Raju's father-in-law. Thus, Manju is the sister of Raju's father-in-law.

43. B

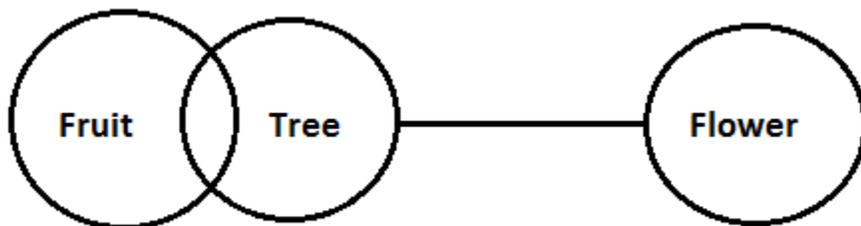
Sol. The former is kept in the latter. Arrows are kept in quiver. Similarly, money is kept in the bank.

44. D

Sol. 'Embarrass' and 'Humiliate' are synonyms. Similarly, 'Annoy' and 'Exasperate' are synonyms.

45. A

Sol. Least possible Venn diagram:



Conclusions:

(I) Fruits that are trees are not flowers → True, as fruits that are trees can never be the flowers because no tree is a flower.

(II) No fruit is a flower → Not true, as fruits that are not tree can be flowers.

Therefore, only conclusion I follows.

46. D

Sol. Steps:

1] Lady's Finger is tastier than cabbage.

Lady's Finger > cabbage

2] Cauliflower is tastier than Lady's Finger.

Cauliflower > Lady's Finger > Cabbage

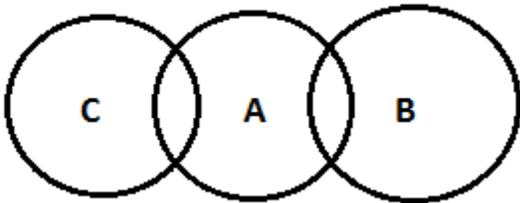
3] Cabbage is not tastier than peas.

Cauliflower > Lady's Finger > Cabbage; Peas > Cabbage

Clearly, cauliflower is tastier than cabbage.

47. B

Sol. Least possible Venn diagram:



Conclusions:

(I) Some C are B → Not definite as there is no direct relation between C and B.

(II) Some B are A → True as some A are B.

Therefore, only conclusion II follows.

48. C

Sol. Persons: P, Q, R, S, T, U and V

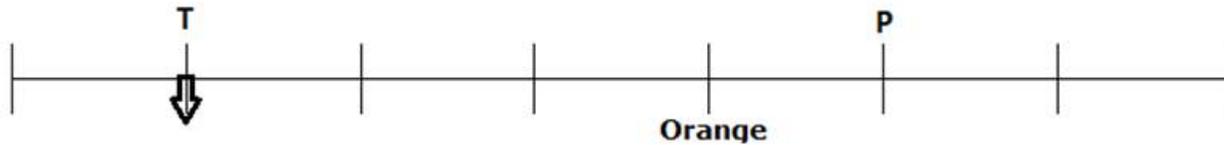
Colors: Blue, White, Black, Yellow, Orange, Red and Purple

Steps:

1] Three seats are there between T and P and both of them are not sitting at the extreme ends.

2] The one who likes Orange sits third to the left of T who likes neither blue nor black.

Case 1:



Case 2:



Case 3:



Case 4:



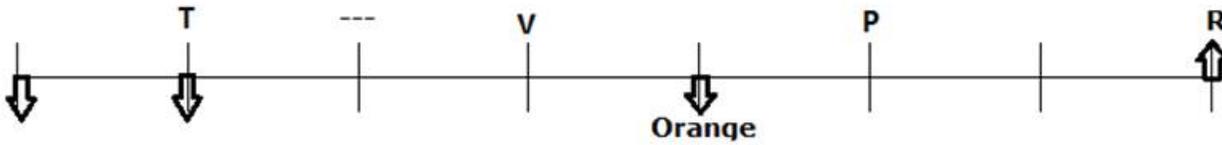
3] The persons sitting adjacent to the vacant seat are facing same direction as their neighbor. It means persons sitting adjacent to the vacant seat are not sitting at the extreme ends of the row.

4] The persons sit at the extreme ends are facing opposite direction. It means the extreme ends are not vacant.

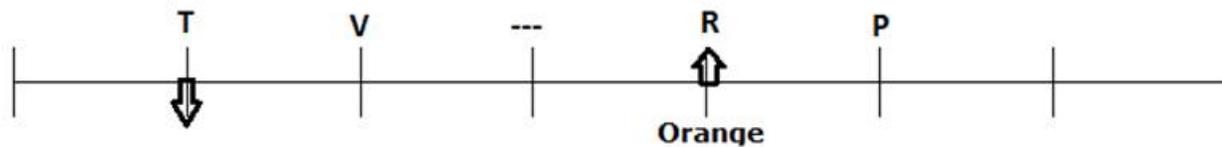
5] The only neighbor of V sits third to the left of R. V does not sit at any of the ends. It means case 2a and case 3 are ruled out.

6] The immediate neighbour of V is not facing north direction. V and P are not immediate neighbours.

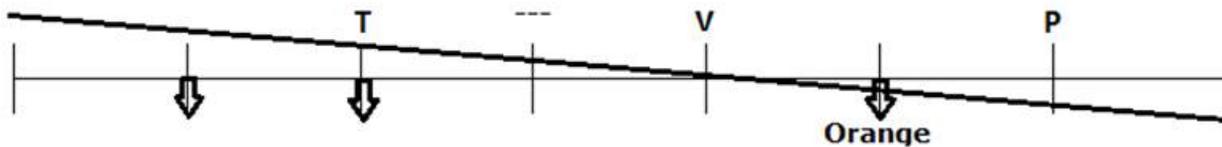
Case 1a:



Case 1b:



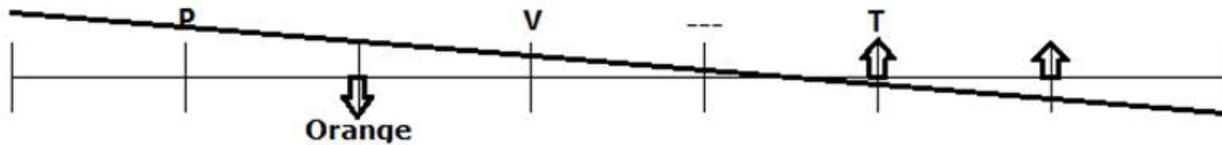
Case 2a: Ruled out



Case 2b:



Case 3: Ruled out

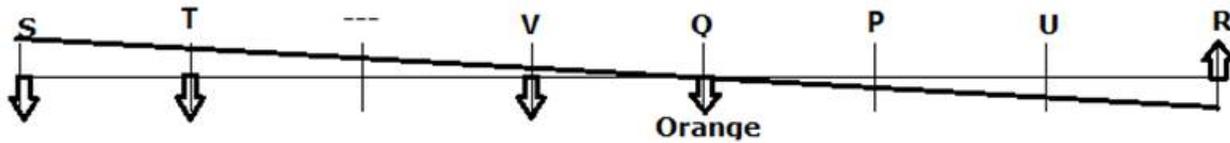


Case 4:

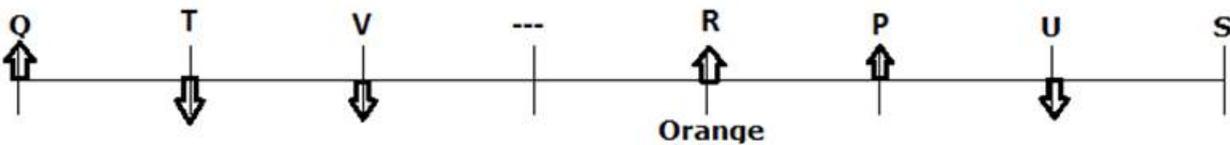


- 7] The persons sitting adjacent to the vacant seat are facing same direction as their neighbor.
- 8] The number of persons between U and Q is one less than the number of persons between Q and S.
- 9] U is facing same direction as T and opposite as Q. It means case 1a is ruled out.

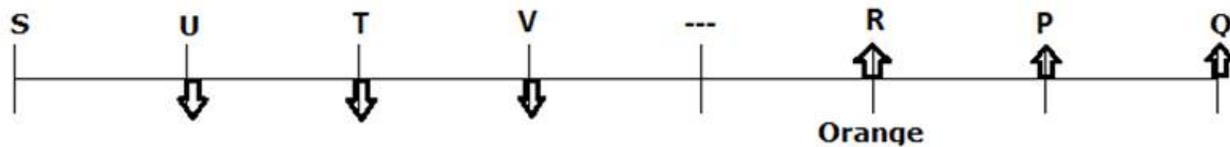
Case 1a:



Case 1b:



Case 2b:



Case 4:



10] The persons sit at the extreme ends are facing opposite direction.

11] The one who likes Yellow is not facing the same direction as T, who does not like white.

12] T neither likes blue nor black. It means T either likes purple or likes red.

13] The one who likes white color is not sitting adjacent to the vacant seat.

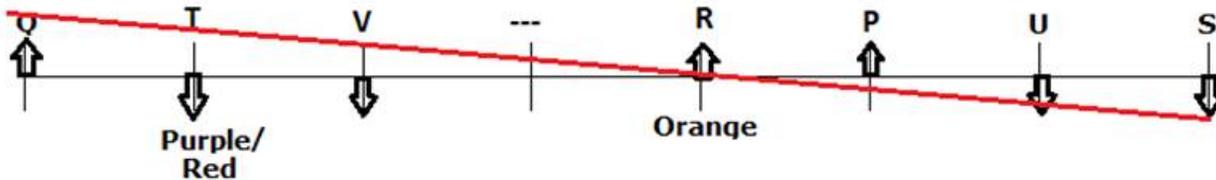
14] The one who likes red is an immediate neighbor of the one who likes White.

15] The number of seats between the one who likes Blue and Yellow is double than the number of persons between the one who likes Red and Black. P neither likes Red nor likes Black.

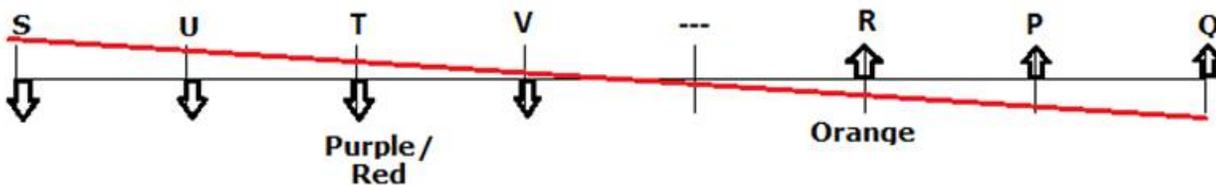
Case 1b is ruled out because either Q or P likes yellow. In both the cases we cannot place the suitable positions for those who like red and black.

Case 2b is ruled out because either Q or P likes yellow. We can make position for red if P likes yellow but then white cannot take place.

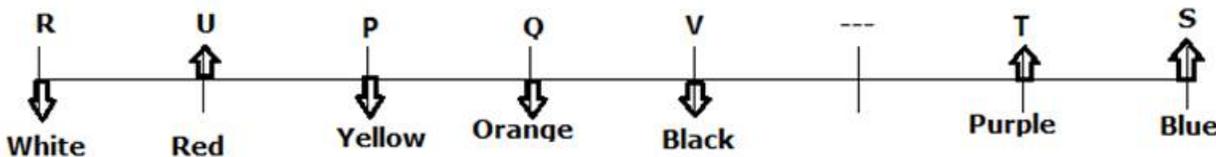
Case 1b (Ruled out):



Case 2b: Ruled out



Case 4:



Clearly, V sits second to the left of T (purple) and P (blue) sits third to the left of V.

49. C

Sol. Persons: P, Q, R, S, T, U and V

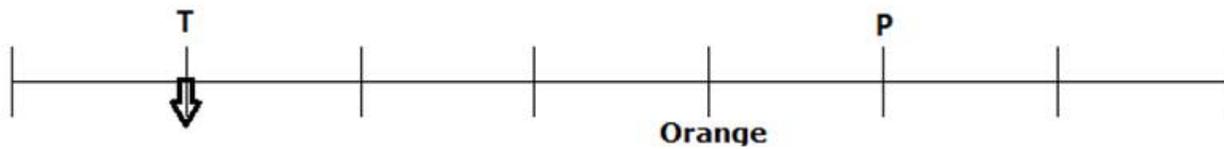
Colors: Blue, White, Black, Yellow, Orange, Red and Purple

Steps:

1] Three seats are there between T and P and both of them are not sitting at the extreme ends.

2] The one who likes Orange sits third to the left of T who likes neither blue nor black.

Case 1:



Case 2:



Case 3:



Case 4:



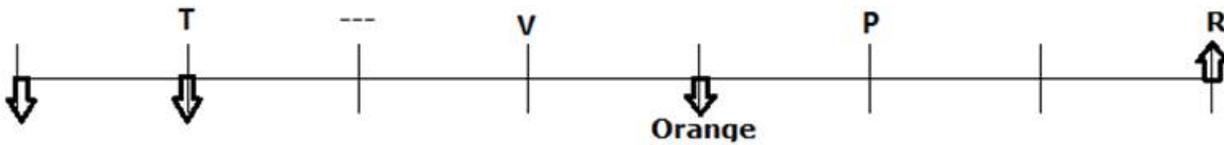
3] The persons sitting adjacent to the vacant seat are facing same direction as their neighbor. It means persons sitting adjacent to the vacant seat are not sitting at the extreme ends of the row.

4] The persons sit at the extreme ends are facing opposite direction. It means the extreme ends are not vacant.

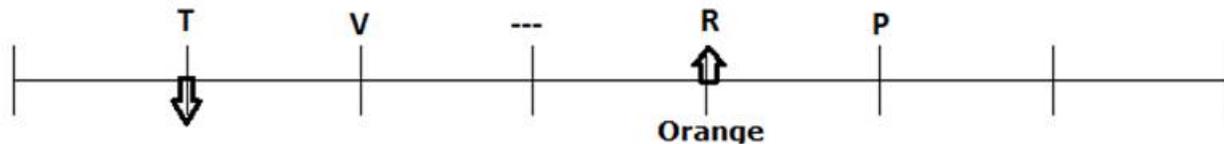
5] The only neighbor of V sits third to the left of R. V does not sit at any of the ends. It means case 2a and case 3 are ruled out.

6] The immediate neighbour of V is not facing north direction. V and P are not immediate neighbours.

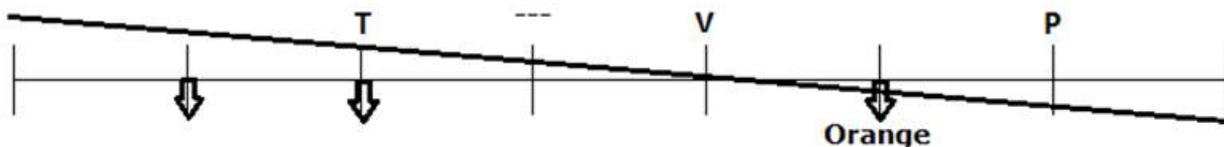
Case 1a:



Case 1b:



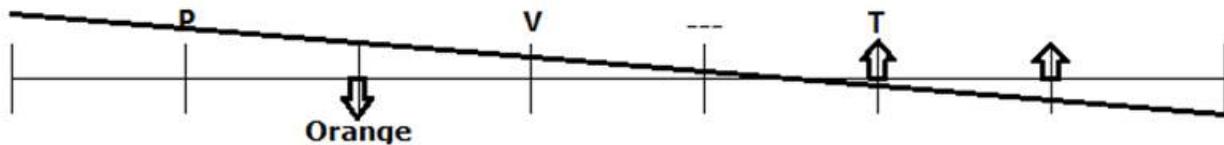
Case 2a: Ruled out



Case 2b:



Case 3: Ruled out



Case 4:

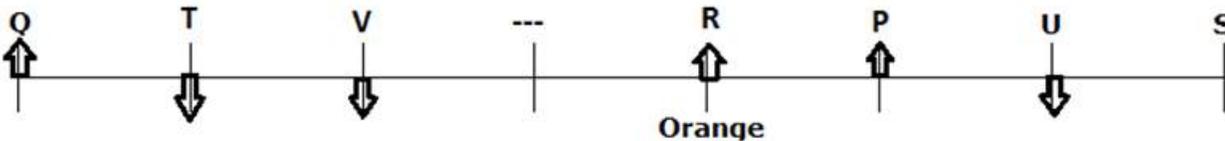


- 7] The persons sitting adjacent to the vacant seat are facing same direction as their neighbor.
- 8] The number of persons between U and Q is one less than the number of persons between Q and S.
- 9] U is facing same direction as T and opposite as Q. It means case 1a is ruled out.

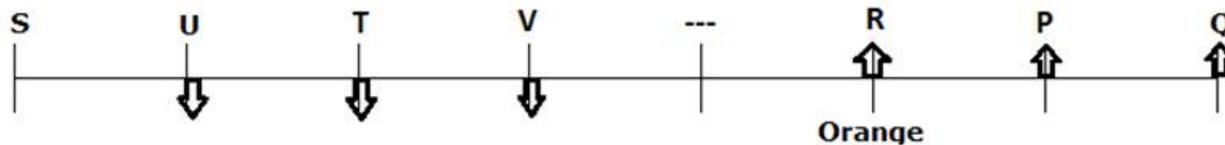
Case 1a:



Case 1b:



Case 2b:



Case 4:

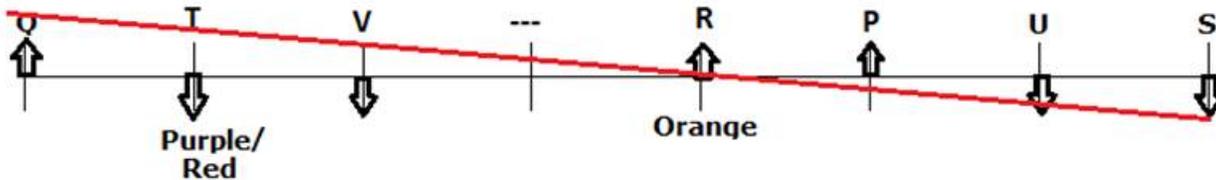


- 10] The persons sit at the extreme ends are facing opposite direction.
- 11] The one who likes Yellow is not facing the same direction as T, who does not like white.
- 12] T neither likes blue nor black. It means T either likes purple or likes red.
- 13] The one who likes white color is not sitting adjacent to the vacant seat.
- 14] The one who likes red is an immediate neighbor of the one who likes White.
- 15] The number of seats between the one who likes Blue and Yellow is double than the number of persons between the one who likes Red and Black. P neither likes Red nor likes Black.

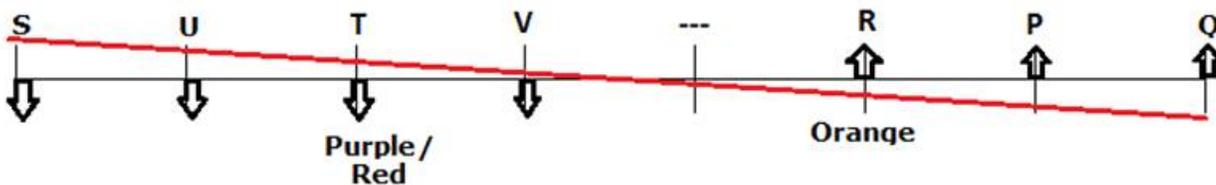
Case 1b is ruled out because either Q or P likes yellow. In both the cases we cannot place the suitable positions for those who like red and black.

Case 2b is ruled out because either Q or P likes yellow. We can make position for red if P likes yellow but then white cannot take place.

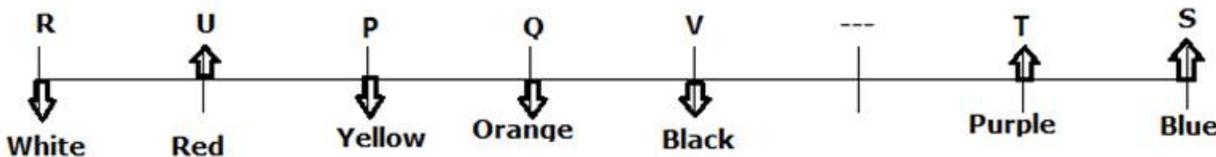
Case 1b (Ruled out):



Case 2b: Ruled out



Case 4:



Clearly, 3 persons sit between U and the vacant seat.

50. B

Sol. Persons: P, Q, R, S, T, U and V

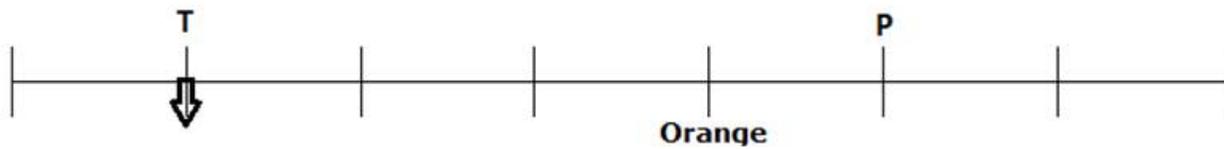
Colors: Blue, White, Black, Yellow, Orange, Red and Purple

Steps:

1] Three seats are there between T and P and both of them are not sitting at the extreme ends.

2] The one who likes Orange sits third to the left of T who likes neither blue nor black.

Case 1:



Case 2:



Case 3:



Case 4:



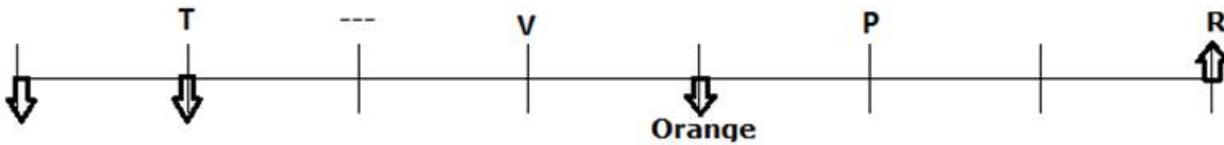
3] The persons sitting adjacent to the vacant seat are facing same direction as their neighbor. It means persons sitting adjacent to the vacant seat are not sitting at the extreme ends of the row.

4] The persons sit at the extreme ends are facing opposite direction. It means the extreme ends are not vacant.

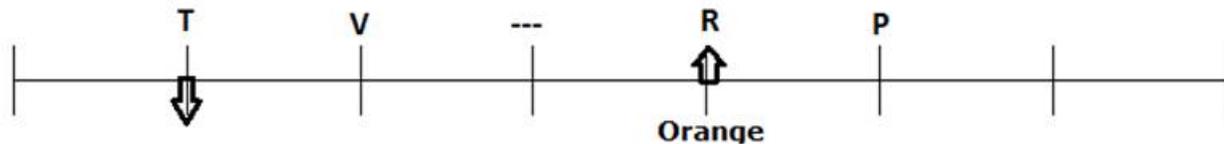
5] The only neighbor of V sits third to the left of R. V does not sit at any of the ends. It means case 2a and case 3 are ruled out.

6] The immediate neighbour of V is not facing north direction. V and P are not immediate neighbours.

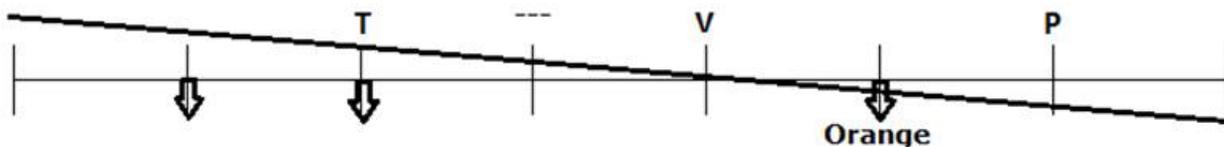
Case 1a:



Case 1b:



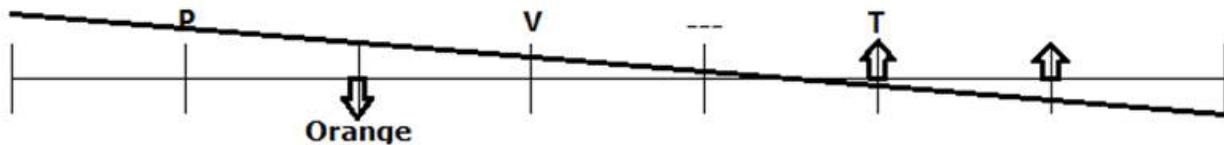
Case 2a: Ruled out



Case 2b:



Case 3: Ruled out



Case 4:

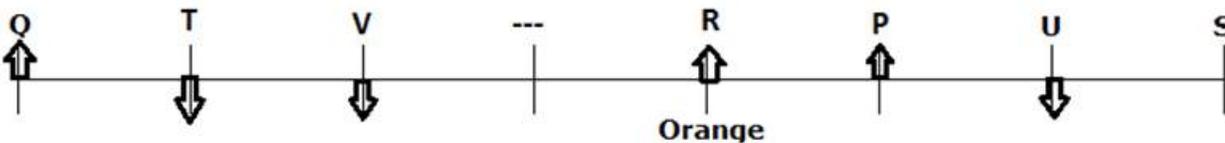


- 7] The persons sitting adjacent to the vacant seat are facing same direction as their neighbor.
- 8] The number of persons between U and Q is one less than the number of persons between Q and S.
- 9] U is facing same direction as T and opposite as Q. It means case 1a is ruled out.

Case 1a:



Case 1b:



Case 2b:



Case 4:



10] The persons sit at the extreme ends are facing opposite direction.

11] The one who likes Yellow is not facing the same direction as T, who does not like white.

12] T neither likes blue nor black. It means T either likes purple or likes red.

13] The one who likes white color is not sitting adjacent to the vacant seat.

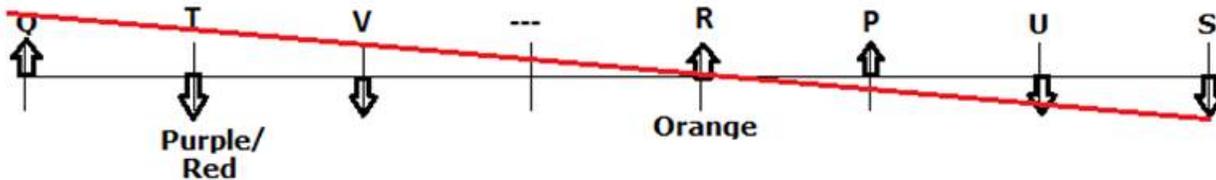
14] The one who likes red is an immediate neighbor of the one who likes White.

15] The number of seats between the one who likes Blue and Yellow is double than the number of persons between the one who likes Red and Black. P neither likes Red nor likes Black.

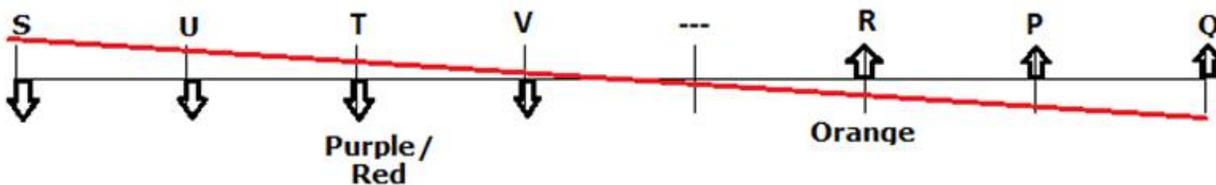
Case 1b is ruled out because either Q or P likes yellow. In both the cases we cannot place the suitable positions for those who like red and black.

Case 2b is ruled out because either Q or P likes yellow. We can make position for red if P likes yellow but then white cannot take place.

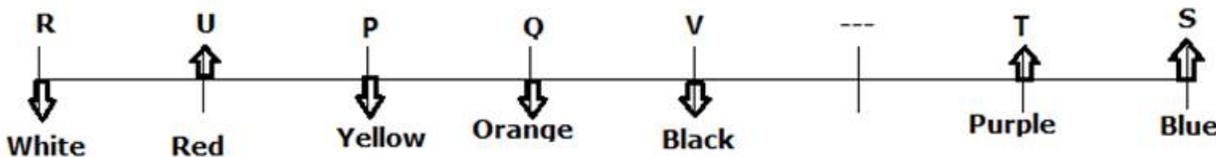
Case 1b (Ruled out):



Case 2b: Ruled out



Case 4:



Clearly, R and P are immediate neighbours of P.

51. B

Sol. Persons: P, Q, R, S, T, U and V

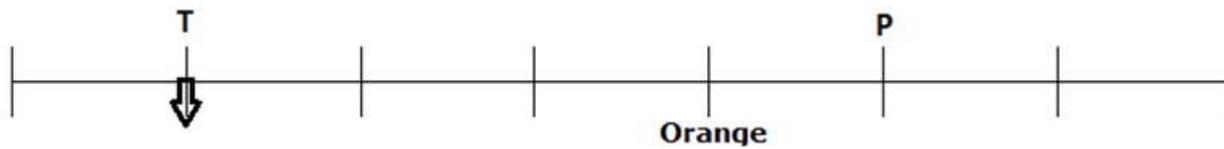
Colors: Blue, White, Black, Yellow, Orange, Red and Purple

Steps:

1] Three seats are there between T and P and both of them are not sitting at the extreme ends.

2] The one who likes Orange sits third to the left of T who likes neither blue nor black.

Case 1:



Case 2:



Case 3:



Case 4:



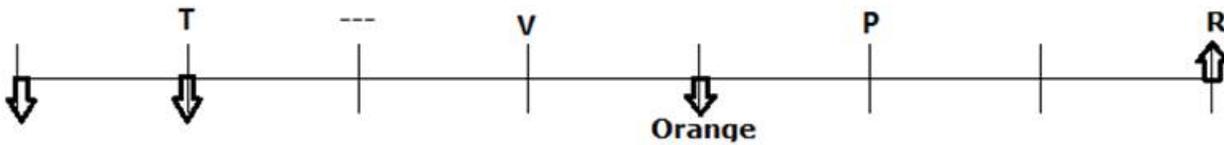
3] The persons sitting adjacent to the vacant seat are facing same direction as their neighbor. It means persons sitting adjacent to the vacant seat are not sitting at the extreme ends of the row.

4] The persons sit at the extreme ends are facing opposite direction. It means the extreme ends are not vacant.

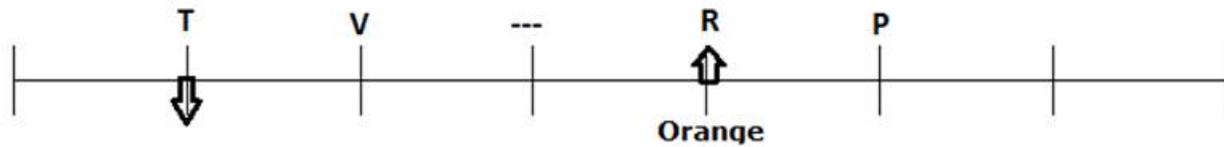
5] The only neighbor of V sits third to the left of R. V does not sit at any of the ends. It means case 2a and case 3 are ruled out.

6] The immediate neighbour of V is not facing north direction. V and P are not immediate neighbours.

Case 1a:



Case 1b:



Case 2a: Ruled out



Case 2b:



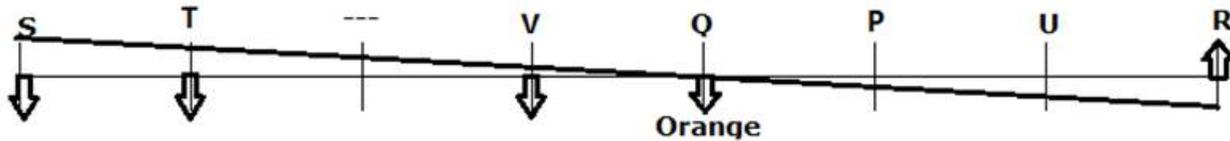
Case 3: Ruled out



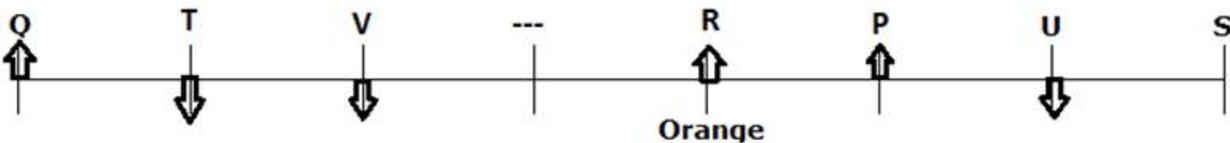
Case 4:

- 7] The persons sitting adjacent to the vacant seat are facing same direction as their neighbor.
- 8] The number of persons between U and Q is one less than the number of persons between Q and S.
- 9] U is facing same direction as T and opposite as Q. It means case 1a is ruled out.

Case 1a:



Case 1b:



Case 2b:



Case 4:

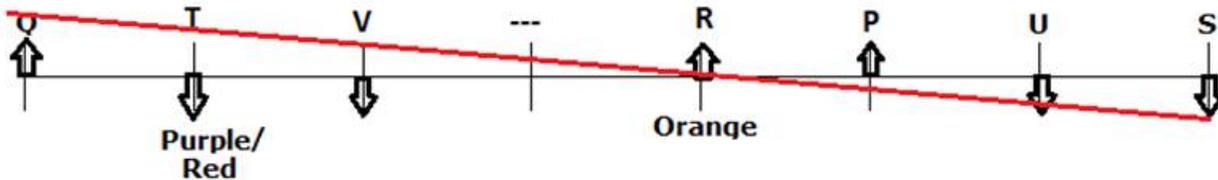


- 10] The persons sit at the extreme ends are facing opposite direction.
- 11] The one who likes Yellow is not facing the same direction as T, who does not like white.
- 12] T neither likes blue nor black. It means T either likes purple or likes red.
- 13] The one who likes white color is not sitting adjacent to the vacant seat.
- 14] The one who likes red is an immediate neighbor of the one who likes White.
- 15] The number of seats between the one who likes Blue and Yellow is double than the number of persons between the one who likes Red and Black. P neither likes Red nor likes Black.

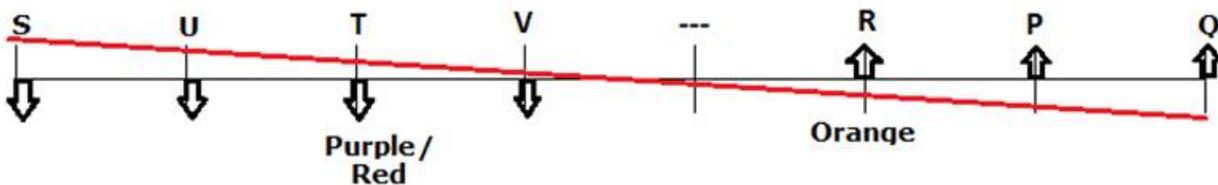
Case 1b is ruled out because either Q or P likes yellow. In both the cases we cannot place the suitable positions for those who like red and black.

Case 2b is ruled out because either Q or P likes yellow. We can make position for red if P likes yellow but then white cannot take place.

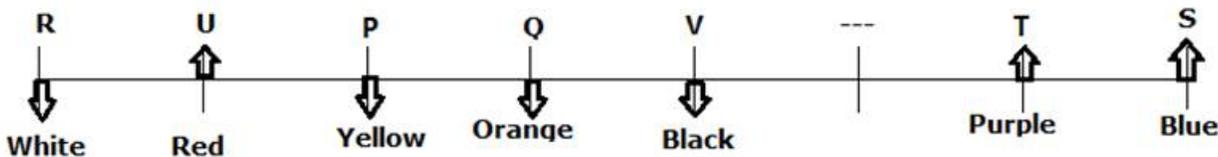
Case 1b (Ruled out):



Case 2b: Ruled out



Case 4:



Clearly, R (white) and S (blue) sit at extreme ends.

52. D

Sol. Persons: P, Q, R, S, T, U and V

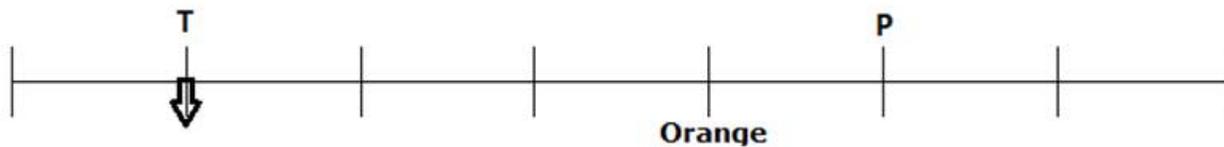
Colors: Blue, White, Black, Yellow, Orange, Red and Purple

Steps:

1] Three seats are there between T and P and both of them are not sitting at the extreme ends.

2] The one who likes Orange sits third to the left of T who likes neither blue nor black.

Case 1:



Case 2:



Case 3:



Case 4:



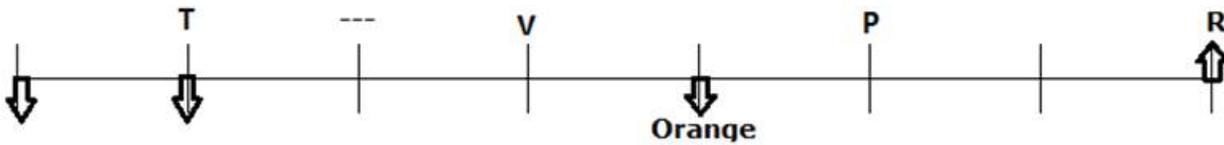
3] The persons sitting adjacent to the vacant seat are facing same direction as their neighbor. It means persons sitting adjacent to the vacant seat are not sitting at the extreme ends of the row.

4] The persons sit at the extreme ends are facing opposite direction. It means the extreme ends are not vacant.

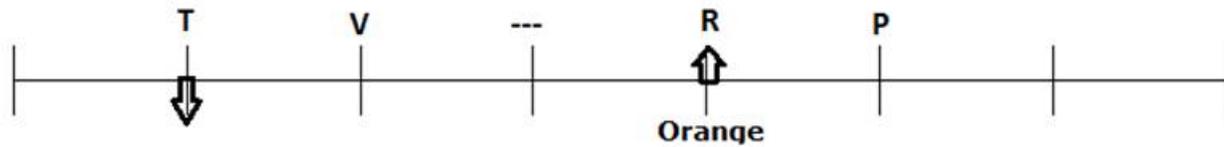
5] The only neighbor of V sits third to the left of R. V does not sit at any of the ends. It means case 2a and case 3 are ruled out.

6] The immediate neighbour of V is not facing north direction. V and P are not immediate neighbours.

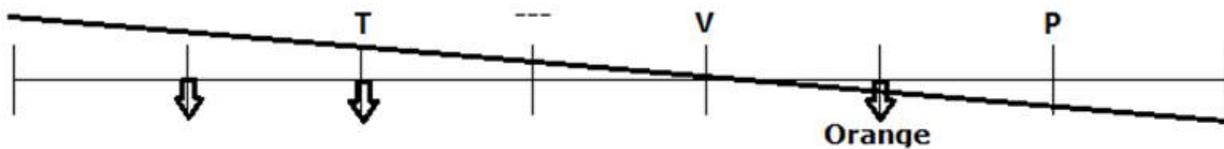
Case 1a:



Case 1b:



Case 2a: Ruled out



Case 2b:



Case 3: Ruled out

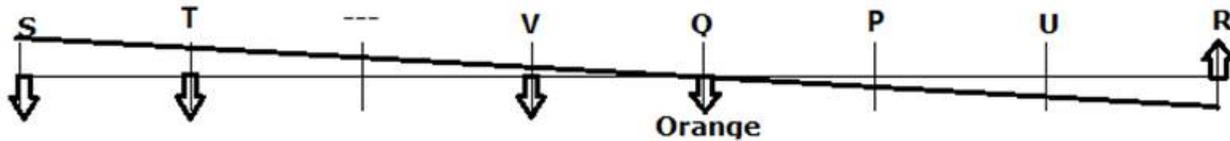


Case 4:

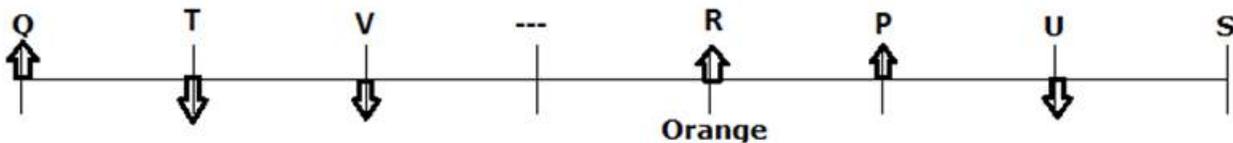


- 7] The persons sitting adjacent to the vacant seat are facing same direction as their neighbor.
- 8] The number of persons between U and Q is one less than the number of persons between Q and S.
- 9] U is facing same direction as T and opposite as Q. It means case 1a is ruled out.

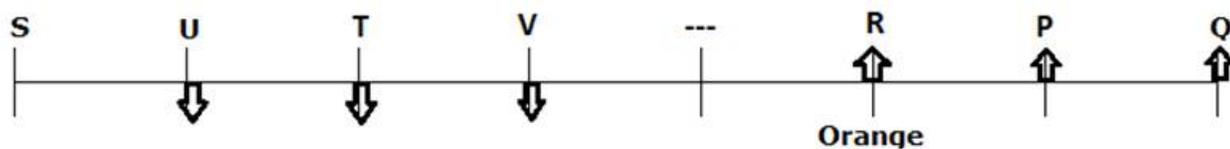
Case 1a:



Case 1b:



Case 2b:



Case 4:



10] The persons sit at the extreme ends are facing opposite direction.

11] The one who likes Yellow is not facing the same direction as T, who does not like white.

12] T neither likes blue nor black. It means T either likes purple or likes red.

13] The one who likes white color is not sitting adjacent to the vacant seat.

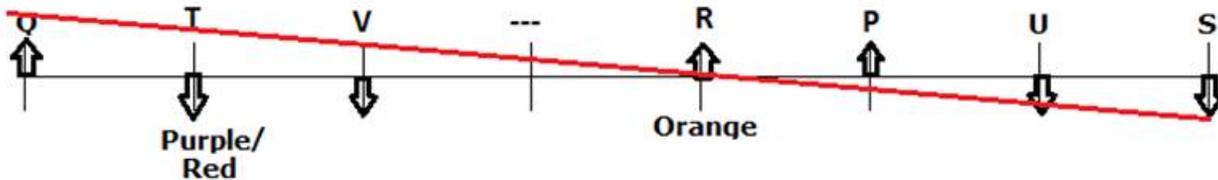
14] The one who likes red is an immediate neighbor of the one who likes White.

15] The number of seats between the one who likes Blue and Yellow is double than the number of persons between the one who likes Red and Black. P neither likes Red nor likes Black.

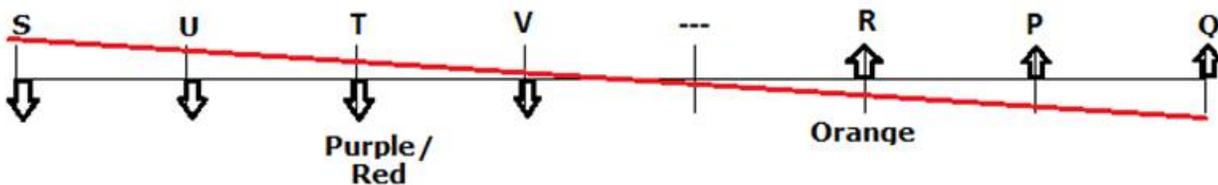
Case 1b is ruled out because either Q or P likes yellow. In both the cases we cannot place the suitable positions for those who like red and black.

Case 2b is ruled out because either Q or P likes yellow. We can make position for red if P likes yellow but then white cannot take place.

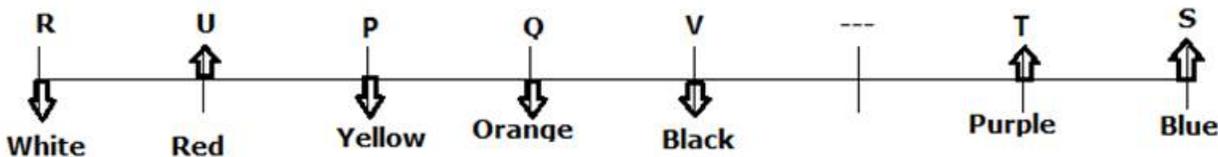
Case 1b (Ruled out):



Case 2b: Ruled out



Case 4:



Clearly, N (vacant) sits second to the left of Q.

53. D

Sol. In mirror image, the image flips horizontally.



54. A

Sol. Plays: A, B, C, D and E

Days: Monday to Friday

Steps:

1] B should be staged immediately after D.

2] D or E should not be either the first or last to be staged.

	Case 1	Case 2	Case 3
Day	Play	Play	Play
Monday			
Tuesday	D		
Wednesday	B	D	
Thursday		B	D
Friday			B

3] E should be immediately followed by C.

4] D or E should not be either the first or last to be staged. It means case 2 is ruled out.

Day	Case 1 Play	Case 2 Play	Case 3 Play
Monday	A	E	A
Tuesday	D	C	E
Wednesday	B	D	C
Thursday	E	B	D
Friday	C	A	B

5] One play is staged between A and B. It means case 3 is ruled out.

Day	Play
Monday	A
Tuesday	D
Wednesday	B
Thursday	E
Friday	C

Clearly, A is the 1st play to be staged.

55. A

Sol. Plays: A, B, C, D and E

Days: Monday to Friday

Steps:

1] B should be staged immediately after D.

2] D or E should not be either the first or last to be staged.

	Case 1	Case 2	Case 3
Day	Play	Play	Play
Monday			
Tuesday	D		
Wednesday	B	D	
Thursday		B	D
Friday			B

3] E should be immediately followed by C.

4] D or E should not be either the first or last to be staged. It means case 2 is ruled out.

Day	Case 1 Play	Case 2 Play	Case 3 Play
Monday	A	E	A
Tuesday	D	C	E
Wednesday	B	D	C
Thursday	E	B	D
Friday	C	A	B

5] One play is staged between A and B. It means case 3 is ruled out.

Day	Play
Monday	A
Tuesday	D
Wednesday	B
Thursday	E
Friday	C

Clearly, ADBEC is the correct sequence.

56. B

Sol. Plays: A, B, C, D and E

Days: Monday to Friday

Steps:

1] B should be staged immediately after D.

2] D or E should not be either the first or last to be staged.

	Case 1	Case 2	Case 3
Day	Play	Play	Play
Monday			
Tuesday	D		
Wednesday	B	D	
Thursday		B	D
Friday			B

3] E should be immediately followed by C.

4] D or E should not be either the first or last to be staged. It means case 2 is ruled out.

Day	Case 1 Play	Case 2 Play	Case 3 Play
Monday	A	E	A
Tuesday	D	C	E
Wednesday	B	D	C
Thursday	E	B	D
Friday	C	A	B

5] One play is staged between A and B. It means case 3 is ruled out.

Day	Play
Monday	A
Tuesday	D
Wednesday	B
Thursday	E
Friday	C

Clearly, B was staged on Wednesday.

57. D

Sol. From statement I:

Clearly, D is sitting opposite to A which means they are partners. It means that C is sitting opposite to B and both of them are partners. So, statement I alone is sufficient.

From statement II:

Clearly, B is sitting right of A and left of D, which means C is sitting opposite to B and hence both of them are partners. So, statement II alone is sufficient.

Therefore, the data either in I or II alone are sufficient to answer the question.

58. B

Sol. From statement I:

Clearly, the month is not mentioned so we cannot determine the last date of the month. So, statement I alone is not sufficient.

From statement II:

Clearly, if 17th was the third Saturday then 14th was the Wednesday. So, statement II alone is sufficient.

59. B

Sol.

S E Q U E N C E	C H I L D R E N
↓ Reverse the word	↓ Reverse the word
E C N E U Q E S	N E R D L I H C
↓ +1 in each letter	↓ +1 in each letter
F D O F V R F T	O F S E M J I D

60. B

Sol. 'Lion' is known as the king of the jungle and according to the code 'Lion is told as Goat'. So, goat is the king of the jungle.

61. A

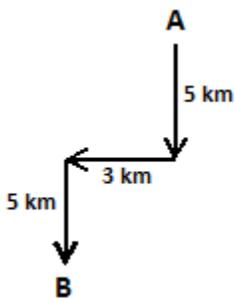
Sol. Assumption I is implicit because the statement only says about the desirable age of the child to put him or her in the school and at that age the child is mentally set up for learning and understanding. Statement II is not implicit because there is no mention of the schools policies.

62. B

Sol. Assumption I is not implicit because it opposes the given statement. Assumption II is implicit because it has a positive point that may help the employees to follow the time (i.e., punctuality) and this is what the main statement is all about.

63. D

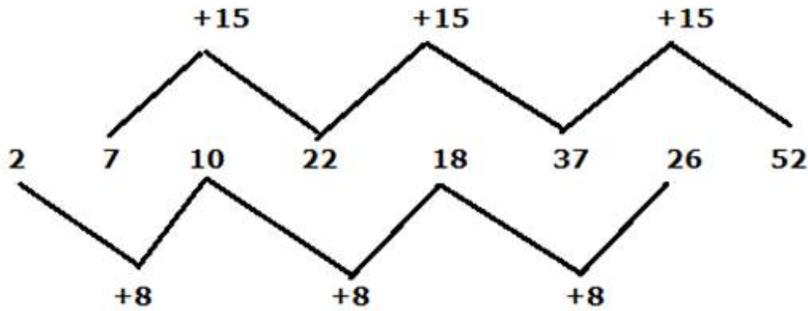
Sol. The distance covered by the man is shown by the given figure (A is the starting point and B is the end point):



Clearly, he is in the south-west direction from point A.

64. A

Sol.



65. B

Sol. $544 - 35 = 509$;

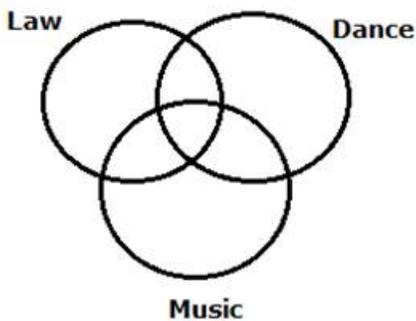
$509 - 35 = 474$;

$474 - 35 = 439$;

$439 - 35 = 404$.

66. A

Sol. Clearly, law, music and dance all are connected with each other. It can be represented by the given figure:



67. D

Sol. According to the statement, 80% runs are made by the spinners. It does not mean that the team consists 80% of the spinners. So, conclusion I does not follow. Nothing about opening batsmen is mentioned in the statement. So, conclusion II does not follow.

68. A

Sol. Clearly, conclusion I directly follows from the given statement. Also, it is mentioned that old ideas are replaced by new ones, as thinking changes with the progressing time. So,

conclusion II does not follow.

69. A

Sol. Clearly, '95' and '78' are the first and third numbers from the left in step VI respectively. Number '84' comes in between '95' and '78' in step VI.

70. C

Sol. Step IV: 95 84 78 76 13 67 18 38

Clearly, '38' comes after '18' in step IV.

71. D

Sol. Step VII: 95 84 78 76 67 38 18 13

Clearly, '78' is the 3rd number and '67' is the 5th number from the left and '76' comes between them in step VII.

72. C

Sol. Let Tanya's present age is T and her grandfather's present age is G.

16 years ago from present age:

$$(G - 16) = 8(T - 16)$$

$$G - 16 = 8T - 128$$

$$G = 8T - 112 \text{ ..(1)}$$

8 year after from present age:

$$(G + 8) = 3(T + 8)$$

$$G + 8 = 3T + 24$$

$$G = 3T + 16 \text{ ..(2)}$$

From equation (1) and (2),

$$8T - 112 = 3T + 16$$

$$5T = 128$$

$$T = 128/5$$

$$\text{So, } G = 3(128/5) + 16 = 464/5$$

$$\text{Required ratio} = \frac{128}{5} - 8 : \frac{464}{5} - 8 = 88 : 424 = 11 : 53$$

73. A

Sol. Actual time passed = (24 hours x 6 days) + 19 hours = 163 hours

Now, according to the question, the clock loses 4 minutes each day.

It means, in 1440 minutes (24 hours x 60 minutes) it loses 4 minutes.

Thus, the minute hand moves at a slightly slower manner.

The speed of the minute hand in 1 minute = 1436/1440

So, the actual time elapsed in 163 hours = $163 \times 60 \times \frac{1440}{1436}$ (minute hand)

But due to loss in time, the time elapsed by clock is different by 163 x 60.

$$\text{So, right time} = 163 \times 60 \times \frac{1440}{1436} - 163 \times 60 = \frac{9780}{359}$$

74. D

Sol. Statement: $A < M = V < S \leq R \leq U$

Conclusions:

I. $U > S$ à False (as $S \leq R \leq U$ à $S \leq U$)

II. $R = S$ à False (as $S \leq R$)

III. $R > S$ à False (as $S \leq R$)

Therefore, either II or III is true.

75. D

Sol. Conclusions:

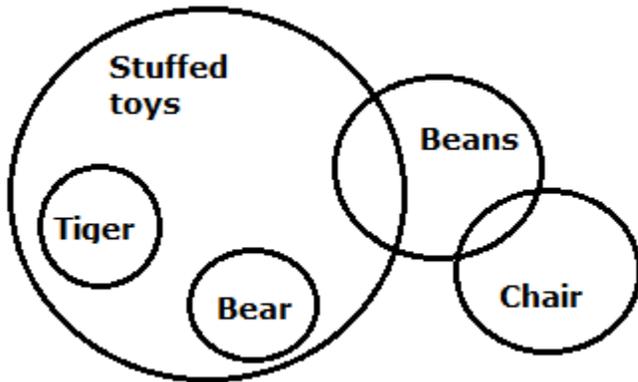
I. $U > V$ à False (as $U < S \geq V$ à No relation between U and V)

II. $B < C$ à True (as $C = P > A > B$ à $C > B$)

III. $Q > D$ à True (as $Q > C \geq D$ à $Q > D$)

76. D

Sol. Least possible Venn diagram:



I: Only children's chairs are stuffed with beans à False as nothing is mentioned about the children's chair.

II: All stuffed tigers are stuffed with beans à Not true as there is no direct relation between stuffed tiger and beans

III: Stuffed monkeys are not stuffed with beans à False as nothing is mentioned about stuffed monkeys.

Therefore, none of the statements is a known fact.

77. B

Sol. Atul's position from the right = 12^{th}

Atul's position from the left = 4^{th}

Total boys in the line = $12 + 4 - 1 = 15$

So, required number of boys = $28 - 15 = 13$

78. D

Sol. From statement I:

Order: E B C (or) C E B

From statement II:

Order: E B

From statement III:

Order: A D E (or) E D A

From statements I, II and III together:

Order: A D E B C

Therefore, all I, II and III are necessary.

79. D

Sol. From statement II:

Birth year of Gopal's brother = 1982

From statements II and III:

Birth year of Gopal = $1982 - 8 = 1974$

From statements I, II and III:

Birth year of Sanjay = $1974 - 6 = 1968$

Therefore, all I, II and III are required.

80. B

Sol.

I M T I T J U X X T M I I U J T	T E M R E M P X X M E T R P M E
--	--

81. B

Sol. Abominate means to feel hatred for someone or something. Hence, option B is the right answer.

82. D

Sol. Abhor means to hate something to the core. Hence, the correct answer is option D.

83. C

Sol. Enormous refers to something very large in size, quantity or extent. Hence, the correct answer is option C.

84. A

Sol. Impromptu refers to something which is done without any preparation. Hence, option A is the

right answer.

85. A

Sol. Wretched refers to someone who is in a very poor or unfortunate state. Hence, option A is the right answer.

86. D

Sol. Erroneous refers to something which is wrong. Hence, option D is the right answer.

87. C

Sol. Refer to these lines:

“In it, he found himself in a land where small slug-like animals with slimy tentacles lived on people's bodies.”

From the context, it is clear that option C is the closest to the right answer. Rest of the options are incorrect because a specific location has not been stated in the passage.

88. C

Sol. Slug-like animals with slimy tentacles is the exact description of the loathsome creatures. Hence, option C is the right answer.

89. A

Sol. From the last few lines, we can infer that Harold was able to successfully leave the job which acted as a security bug for him and took up freelancing work to support himself. Hence, option A is the right answer.

90. A

Sol. Refer to these lines:

“Harold suddenly realised that he himself was covered with these things, and he woke up screaming.”

Hence, option A is the right answer.

91. B

Sol. Only option A can justify the context here. The presence of conjunction ‘but’ indicates that the blanks should be filled by a phrase that highlights the good side of the person being talked about. Hence, option A is the right answer.

92. D

- Sol. The given goal can only be achieved if option D is placed in the blank. This will help in maximizing work output without any additional impact on costs involved. Hence, option D is the right answer.
93. C
- Sol. From the context, we can infer that option C is the right answer here. Since the manners of nouveau are already mentioned, we do not need to include style or morals of the people mentioned in the statement. Hence, option C is the right answer.
94. B
- Sol. Options A and D are clearly wrong because it is clear from the context that their opening statement looks to emphasize on a particular idea. Now, QS is an obvious pair because one answers the question posed by the other. Hence, option B is the right answer.
95. A
- Sol. From the context, we can infer that the pair of statements that are complementary to one another are QS6, PQ and S1S. Hence, option A is the right answer.
96. B
- Sol. QP is a clear pair of complementary statements because it brings out the contrast present in the context. Also, statement Q logically follows the 1st statement. Hence, option B is the right answer.
97. B
- Sol. Decimal is a number system with ten as base. Similarly, binary is a number system with bases as two. Hence, option B is the right answer.
98. B
- Sol. A paw is a foot-like part of a cat. Similarly, hoof is the foot-like part of a horse. Hence, option B is the right answer.
99. C
- Sol. The idiom in question means to speak openly and honestly about something without any reservations. Hence, option C is the right answer.
100. A
- Sol. The idiom in question means to do something so as to serve a personal agenda. Hence,

option A is the right answer.

101. A

Sol. 'I' is a singular subject and hence, a singular helping verb should be used in option A. Hence, it is the right answer.

102. A

Sol. 'Could' needs to be replaced by 'can' here. Hence, option A is the right answer.

103. A

Sol. Only option A can't be inferred here because we don't have the data to conclusively prove that wives earn more than their husbands. Hence, option A is the right answer.

104. B

Sol. Extreme steps like going to war can never be justified, even if it is for the noble purpose of peacekeeping. War needs to be avoided at all costs if we wish to preserve peace. Hence, option B is the right answer.

105. C

Sol. 'Capital' is the most prominent place in a country. Hence, option C is the right answer.

106. A

Sol. 'Farther' is the comparative degree of 'far', which refers to a great distance. Hence, option A is the right answer.

107. D

Sol. The given statement does not need any improvement. It is brief and precise. Hence, option D is the right answer.

108. C

Sol. 'Would have' can be replaced by 'had' because both of them expresses the same meaning. Hence, Option C is the right answer.

109. A

Sol. Conflate means to combine two or more things into one. Clearly, option A is the right answer here.

110. D

Sol. Statement III is incorrect because the word 'rear' should have been used instead of the word

'rare'. Rear refers to the back part of something, which explains the context in the 3rd statement. Rest of the statements are correct. Hence, option D is the right answer.

111. C

Sol. Option C can be clearly negated from the initial few lines of the 3rd paragraph. It has been explicitly mentioned there that the steps taken by NFL are certainly laudable. Hence, option C is the right answer.

112. C

Sol. Except statement III, rest of the statements are clearly mentioned in the 3rd paragraph, as shown in the following lines:

"However, new regulations at the professional level cannot protect amateur players, especially young people. Fatal cases of CTE have been reported in victims as young as 21.

Proper tackling form—using the arms and shoulders to aim for a player's midsection—should be taught at an early age. Youth, high school, and college leagues should also adopt safety rules even more stringent than those of the NFL.

Furthermore, young athletes should be educated about the serious dangers of head injuries at an early age."

Hence, option C is the right answer.

113. A

Sol. Laudable refers to something which deserves praise and commendation. Hence, option A is the right answer.

114. D

Sol. From the last few lines of the passage, we can infer that the author is adamant on discouraging dangerous play for the sake of players' health. Hence, option D is the right answer.

115. A

Sol. Exalt means to think or speak very highly of someone or something. Hence, the correct answer is option A

116. C

Sol. From the context, we can infer that the author is highlighting the senselessness of the sports media. The author believes that by glorifying dangerous play, the sports media is playing with the lives of athletes. Hence, option C is the right answer.

117. C

Sol. Refer to these lines:

“Some sports highlights television programs even feature weekly countdowns of the “hardest hits.” When the media exalts such dangerous behavior, professionals are rewarded for injuring each other on the field and amateurs become more likely to try to imitate their favorite NFL athletes.”

Hence, option C is the right answer here.

118. B

Sol. Overthrow means to devastate someone or something by the use of force. Hence, option B is the right answer.

119. A

Sol. From the context, we can infer that the whole district was destroyed by water jets occurring due to the storm. Hence, option A is the right answer.

120. B

Sol. From the context, we can infer that ‘it’ refers to the storm. And since a storm is never rewarding, option C and D are neglected. Now, by looking at the demolition caused by the storm, it is clear that the word to be used here should be fury, which means rage. Hence, option B is the right answer.