

IBPS RRB Officer Scale 1 (Pre) 2020 Previous Year Solved Papers



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

There are 10 people Q to Z sitting in a line facing towards the north. V is sitting 4th from the right end, also there is one person sitting between V and X. S is sitting 4th from the left of V. U and S are not sitting next to each other. There are as many people sitting on the left of S as are sitting on the right of Q. R, who does not sit next to X, is sitting on the 2nd to the right of Q. There are three people sitting between R and T. W is sitting on the immediate left of Y.

1. Who among the following sits to the immediate right of Z?

- A. Y
- B. W
- C. R
- D. T
- E. X

2. How many people are sitting between Y and U?

- A. 5
- B. 4
- C. 6
- D. 7
- E. 3

3. Which of the following statements is/are correct based on the given information?

- A. X sits third to the right of Q.
- B. U is the only neighbour of R in the row.
- C. S and V are adjacent to each other.
- D. Three people are sitting between Y and X.
- E. W and U are sitting at the ends of the row.

4. In which position is V seated with respect to W?

- A. sixth to the right
- B. fifth to the left
- C. third to the right

- D. second to the left
- E. None of the above

5. Who among the following sits second to the right of Z?

- A. V
- B. Q
- C. R
- D. T
- E. Y

6. If in the word 'PRODUCE', all the vowels are changed to the next letter and all the consonants are changed to the previous letter. Which of the following letters is fourth from the right end?

- A. P
- B. O
- C. V
- D. C
- E. None of the above

7. How many such pairs of letters are there in the word 'SEGMENT' each of which has as many letters between them in the word as in the English alphabet (Both forward and backward)?

- A. One
- B. Two
- C. Three
- D. More than three
- E. None

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

Point E is 5m to the North of point A. Point K is 8m to the West of point E. Point B is 3m to the North of point P, which is 8m to the East of point O. Point C is 8m to the North of point X, which is 10 to the East of point B. Point O is 10m to the South of point K.



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8. In which direction is point O with respect to point E?

- A. North-West
- B. South-West
- C. South
- D. East
- E. North

9. What is the approximate distance between points B and C?

- A. 10m
- B. 11m
- C. 13m
- D. 16m
- E. 18m

10. What is the distance between points A and B?

- A. 3m
- B. 2m
- C. 4m
- D. 5m
- E. Cannot be determined

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

Six boxes A, B, C, D, E, and F of different colours, viz., Black, Blue, Green, Grey, Red, and White are kept one above the other but not necessarily in the same order. The lowermost position is 1, the position immediately above is 2, and so on up to the topmost position is 6.

The Grey box is kept at the bottom-most position and immediately below the box E. Box E is neither White nor Blue in colour. A, the Black box, is kept at the topmost position. D is Red in colour and kept at an even number position. C is neither Blue nor Green and kept below D. Box B is not adjacent to D. The box on the fifth position is not Green in colour.

11. Which box is Green in colour?

- A. F
- B. D
- C. C
- D. B
- E. None of the above

12. Which of the following combinations is correct?

- A. E - Green
- B. F - Blue
- C. B - Grey
- D. D - Red
- E. All of the above

13. The Blue box is kept at the _____ position.

- A. fourth
- B. fifth
- C. black
- D. third

14. How many boxes are kept between D and the Green box?

- A. 2
- B. 3
- C. More than 3
- D. 1

15. Which of the following is kept at the third position?

- A. The green box
- B. F
- C. B
- D. The Blue box
- E. None of the above

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

In a certain code language,

‘Square disturb on down’ is coded as ‘dl ta ap ea’



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‘Square wall on disturb’ is coded as ‘dl ap ta uv’

‘down wings inner beauty’ is coded as ‘xy df ss ea’

‘disturb beauty wall down’ is coded as ‘ta ss uv ea’

16. How is ‘beauty’ coded in the given language?

- A. ss
- B. xy
- C. df
- D. ea
- E. None of the above

17. Which of the following is the code for ‘wings’?

- A. xy
- B. uv
- C. df
- D. Either xy or df
- E. ss

18. How will you code “Square Wall”?

- A. dl uv
- B. uv ap
- C. ap ta
- D. ta uv
- E. Cannot be determined

19. Which of the following is the code for ‘disturb’?

- A. uv
- B. ea
- C. dl
- D. ss
- E. None of the above

20. Code ‘ea’ represents the word _____.

- | | |
|----------------------|------------|
| A. Down | B. Disturb |
| C. Inner | D. Beauty |
| E. None of the above | |

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

Eight friends E, F, G, H, S, T, U, and V are sitting around a square table in such a way that four of them sit at four corners of the square table while four sit in the middle of each of the four sides. The ones who sit at the four corners face the centre while those who sit in the middle of the sides face outside.

S is an immediate neighbour of both E and V. S sits in the middle of one of the sides of the table. Only one person sits between E and H. T sits second to the right of U. U is not an immediate neighbour of E or V. F is not an immediate neighbour of G. G faces a direction opposite to that of U. (i.e, if U faces the centre, then G faces outside and vice versa)

21. How many people sit between F and G when counted from the right side of F?

- A. Three
- B. Four
- C. Two
- D. None
- E. One

22. Which of the following is true regarding F?

- A. Only three people sit between F and H.
- B. F sits in the middle of one of the sides.
- C. F sits second to right of U.
- D. None of the given options is true
- E. Both S and G are immediate neighbours of F.

23. Who sits on the immediate right of H?

- A. U
- B. S
- C. G
- D. F
- E. T



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24. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?

- A. H
- B. V
- C. G
- D. T
- E. E

25. What is the position of U with respect to E?

- A. Third to the right
- B. Fourth to the right
- C. Second to the left
- D. Third to the left
- E. Second to the right

In the given question assuming the given statements to be true, find which of the conclusion(s) is/are is definitely true and then give your answers accordingly.

26. **Statements:** $A > B < C = D \leq E$, $Q \geq R < O > E$

Conclusions:

I. $D > R$

II. $B < O$

- A. If only conclusion I is true.
- B. If only conclusion II is true.
- C. Either conclusion I or II is true.
- D. Neither conclusion I nor II is true.
- E. Both conclusions I and II are true.

In the given question assuming the given statements to be true, find which of the conclusion(s) is/are is definitely true and then give your answers accordingly.

27. **Statements:** $X < K \geq A = D < Y \leq M$, $C \geq N = D \geq I$

Conclusions:

I. $K > I$

II. $X < C$

- A. If only conclusion I is true.
- B. If only conclusion II is true.
- C. Either conclusion I or II is true.

D. Neither conclusion I nor II is true.

E. Both conclusions I and II are true.

In the given question assuming the given statements to be true, find which of the conclusion(s) is/are is definitely true and then give your answers accordingly.

28. **Statements:** $P > Q < A < B \geq E$, $M > N = B \leq X$

Conclusions:

I. $P > N$

II. $M > Q$

- A. If only conclusion I is true.
- B. If only conclusion II is true.
- C. Either conclusion I or II is true.
- D. Neither conclusion I nor II is true.
- E. Both conclusions I and II are true.

In the given question assuming the given statements to be true, find which of the conclusion(s) is/are is definitely true and then give your answers accordingly.

29. **Statement:** $A > N < J = L < D > U > W < G \leq Y \geq Z$

Conclusions:

I. $A < G$

II. $L > Z$

- A. If only conclusion I is true.
- B. If only conclusion II is true.
- C. Either conclusion I or II is true.
- D. Neither conclusion I nor II is true.
- E. Both conclusions I and II are true.

In the given question assuming the given statements to be true, find which of the conclusion(s) is/are is definitely true and then give your answers accordingly.

30. **Statement:** $E > G < F > A \geq Y \geq Q = V = D < W \leq H$

Conclusions:

I. $A > D$

II. $A = D$

- A. If only conclusion I is true.
- B. If only conclusion II is true.
- C. Either conclusion I or II is true.



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- D. Neither conclusion I nor II is true.
E. Both conclusions I and II are true.

Direction: In each of the questions given below, some statements are followed by some conclusions. You have to take the given statements to be true even if they seem to be at variance from commonly known facts. Read all the conclusions and then decide which of the given conclusions logically follows from the given statements disregarding commonly known facts.

31. Statements:

- I. Only a few pink is white.
II. Only White is black.

Conclusions:

- I. All White being Pink is a possibility.
II. Some Pink being Black is a possibility.
A. Only conclusion I follows
B. Only conclusion II follows
C. Both conclusions I and II follow
D. Neither conclusion I nor II follows
E. Either conclusion I or II follows

32.Statements:

- Some Tables are Chairs.
Some Sofa are Desks.
No Chair is Desk.

Conclusions:

- I. Some Chairs are not Sofa.
II. All Chairs are Sofa.
A. Only conclusion I follows
B. Only conclusion II follows
C. Both conclusions I and II follow
D. Neither conclusion I nor II follows
E. Either conclusion I or II follows

Direction: Study the following information and answer the given questions.

In a family of three generations and eight members, K is married to T, who is the only son of S. M is married to P, who is the mother

of Q. U, who is the sister-in-law of T, is married. T has no sibling. H is the only son of Q. S is a male person.

33.How is H related to M?

- A. Grandson
B. Brother
C. Father
D. Grandfather
E. None of the above

34.How many people are there in the third generation?

- A. 2
B. 3
C. 1
D. More than 3
E. None of the above

35.What is the ratio of the number of females to that of male members in the family?

- A. 5 : 3
B. 1 : 4
C. 1 : 1
D. 3 : 5
E. None of the above

Direction: Study the information given below and answer the questions based on it. There are 8 friends A, B, C, D, E, F, G and H in a group. They have their birthdays in different months - April, June, July and August of the same year but not necessarily in the same order on different dates viz. 9th and 16th.

E celebrates his birthday in the month which does not have 30 days. Only one person celebrates his birthday between E and G. C celebrates his birthday immediately before E. Only one person celebrates his birthday between C and F. D celebrates his birthday before G but not immediate of C and G. Only one person celebrates his birthday between D



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and A. H does not celebrate his birthday immediate of G. G does not celebrate his birthday in the month which has 30 days. A celebrates his birthday before D. D does not celebrate his birthday which has even number as the date of birth. B celebrates his birthday in the month of August but not immediately before or after G.

36. In which of the following month does G's birthday occur?

- A. April
- B. June
- C. July
- D. August
- E. Cannot be determined

37. Who among the following is elder to D?

- A. B
- B. G
- C. F
- D. E
- E. H

38. How many birthdays are there in between A and C?

- A. None
- B. Four
- C. One
- D. Two
- E. Three

39. Who among the following is younger than C?

- A. D
- B. H
- C. A
- D. B
- E. F

40. Who is the youngest of the given friends?

- A. None
- B. G
- C. B
- D. C
- E. D

Direction: What should come in place of the question mark '?' in the following number series?

41. 14, 8, 9, 14.5, 30, ?

- A. 75
- B. 76
- C. 77
- D. 78
- E. 79

42. 77, 85, 69, 101, 37, ?

- A. 100
- B. 110
- C. 140
- D. 155
- E. 165

43. 20, 29, 54, 103, 184, ?

- A. 315
- B. 310
- C. 305
- D. 300
- E. 295

44. 7, 8, 18, 57, ?, 1165

- A. 220
- B. 224
- C. 228
- D. 232
- E. 236

45. 121, 123, 118, 128, ?, 137

- A. 111
- B. 115
- C. 100
- D. 105
- E. 123



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Direction: What approximate value will come in place of the question mark (?) in the following question? (You are not expected to calculate the exact value)

46. $\sqrt{784.01} \times 7.142 + 351.99 \times 24.98 \% = ?$

- A. 320
- B. 400
- C. 240
- D. 284
- E. 450

47. $15.33^2 - 12.94^2 + 22.06^2 - 35.65 = ?$

- A. 720
- B. 505
- C. 402
- D. 600
- E. 300

48. $24.002 \times 14.005 - 7.775 \times 5.964 = ?$

- A. 400
- B. 350
- C. 288
- D. 220
- E. 150

49. $257.12 + 187.99 \times ? = (49.98)^2 + 30.99$

- A. 8
- B. 20
- C. 24
- D. 36
- E. 12

50. $\frac{2.99}{3.99} \times \sqrt[3]{511.99} + 123.9\% \text{ of } 650.11 = ?$

- A. 600
- B. 700
- C. 750
- D. 812
- E. 1000

Direction: Read the following table carefully and answer the given questions.

In the table, data of number of members participating in an event from 6 sports clubs – A, B, C, D, E and F.

| Sports club | Total no. of members | % of members participated |
|-------------|----------------------|---------------------------|
| A | 4000 | 65% |
| B | 9000 | 20% |
| C | 4800 | 25% |
| D | 5000 | 30% |
| E | 6000 | 35% |
| F | 6750 | 40% |

51. 1. What is the ratio of number of members of the sports clubs C and F, who did not participate in the event?

- A. 4 : 5
- B. 3 : 4
- C. 5 : 9
- D. 8 : 9
- E. 5 : 3

52. Number of members of the sports club A, who did not participate in the event is what percent more/less than that of sports club D?

- A. 40%
- B. 60%
- C. 28%
- D. 35%
- E. 55%

53. What is the average number of members not participated in the event from the sports clubs A, B, D, E and F?

- A. 3990
- B. 3610
- C. 4060
- D. 3570
- E. 4010

54. What is the difference of the number of members participated in the event from the sports clubs B and C and the number of members not participated in the event from the sports clubs D and E?



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- A. 7400
- B. 2400
- C. 3600
- D. 4400
- E. 3000

55.If the 30% of the members participated in the event from the sports club B played badminton and rest played Hockey, Cricket and Football in the ratio 2 : 4 : 3, then the number of members, who played Football is

- A. 380
- B. 420
- C. 460
- D. 480
- E. 500

56.A and B can complete a work in 6 days. A, working alone can complete the same work in 9 days. In how many days, B alone can complete the $\frac{3}{8}$ of the work?

- A. $\frac{25}{4}$
- B. 9
- C. $\frac{27}{4}$
- D. $\frac{13}{2}$
- E. 18

57.Two pipes A and B can fill a tank in 24 minutes and 36 minutes. another pipe C can empty the filled tank in 18 minutes. All three pipes A, B and C are alternately open for 1 minute each in the empty tank such that pipe A is open first then pipe B and then pipe C. In what time the tank will be filled?

- A. 69
- B. 67
- C. 201
- D. 203
- E. 198

58.Ratio of speed of a boat in still water and speed of stream is 4 : 1. If the difference of the time taken by the boat in travelling 45 km

upstream and downstream is 2 hours, then speed of the stream is

- A. 3 km/hr
- B. 2 km/hr
- C. 4 km/hr
- D. 5 km/hr
- E. 6 km/hr

59.A person travel 124 km at the average speed of 77.5 km/hr. If he travels 60 km at the speed of 75 km/hr, then at what speed he covers the rest of the distance?

- A. 75 km/hr
- B. 80 km/hr
- C. 90 km/hr
- D. 50 km/hr
- E. 60 km/hr

60.If six years ago, A's uncle's age was 6 times the age of A at that time and two years hence A's uncle's age would be thrice A's age at that time, what is the age of A?

- A. 12
- B. 12.5
- C. 11
- D. 11.33
- E. 10

Direction: In the following question two equations are given in variables X and Y. You have to solve these equations and determine the relation between X and Y.

61. I. $x^2 + 9x + 20 = 0$

II. $8y^2 - 15y + 7 = 0$

- A. $y > x$
- B. $y < x$
- C. $y \geq x$
- D. $y \leq x$

E. $x = y$ or कोई संबंध स्थापित नहीं किया जा सकता है

62. I. $x^2 - 11x + 30 = 0$

II. $y^2 + 12y + 36 = 0$

A. $y > x$

B. $y < x$

C. $y \geq x$

D. $y \leq x$

E. $x = y$ or कोई संबंध स्थापित नहीं किया जा सकता है

63. I. $x^2 + 13x + 40 = 0$

II. $y^2 + 7y + 10 = 0$

A. $y > x$

B. $y < x$

C. $y \geq x$

D. $y \leq x$

E. $x = y$ or कोई संबंध स्थापित नहीं किया जा सकता है

64. I. $x^2 - 20x + 91 = 0$

II. $Y^2 + 16y + 63 = 0$

A. $y > x$

B. $y < x$

C. $y \geq x$

D. $y \leq x$

E. $x = y$ or कोई संबंध स्थापित नहीं किया जा सकता है

65. I. $x^2 - x - 12 = 0$

II. $y^2 + 5y + 6 = 0$

A. $y > x$

B. $y < x$

C. $y \geq x$

D. $y \leq x$

E. $x = y$ or no relation can be established

Direction: Given below are two quantities named I and II. Based on the given information, you have to determine the relation between the two quantities. You should use the given data and your

knowledge of Mathematics to choose among the possible answers.

66. **Quantity I:** A certain sum is invested for 2 years at the rate of 12% simple interest. If the simple interest is Rs. 1200, then the principal is

Quantity II: Rs. 6000

A. Quantity I > Quantity II

B. Quantity I < Quantity II

C. Quantity I \geq Quantity II

D. Quantity I \leq Quantity II

E. Quantity I = Quantity II or no relation can be established

67. **Quantity I:** The selling price of an article is Rs 450. If 20% profit earned by selling the article, then the profit earned is

Quantity II: The selling price of an article is Rs. 84. If 20% profit earned by selling the article, then the cost price of the article is

A. Quantity I > Quantity II

B. Quantity I < Quantity II

C. Quantity I \geq Quantity II

D. Quantity I \leq Quantity II

E. Quantity I = Quantity II or no relation can be established

Direction: Calculate quantity I and quantity II on the basis of the given information then compare them and answer the following questions accordingly.

68. **Quantity I-** One tank is filled in 6 hours by three pipes A, B and C. The pipe C is twice as fast as B and B is twice as fast as A. How much time will pipe A alone take to fill the tank:

Quantity II- 28 hrs

A. Quantity I > Quantity II

B. Quantity I \geq Quantity II

C. Quantity II > Quantity I

D. Quantity I \leq Quantity II

E. No relation



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Direction: Given below are two quantities named I and II. Based on the given information, you have to determine the relation between the two quantities. You should use the given data and your knowledge of Mathematics to choose among the possible answers.

69. Quantity I: A man deposits Rs. 1600 in a bank at the rate of compound interest of 25% per annum compounded annually. What will be the interest earned by the man after 3 years?

Quantity II: Rs. 1533

- A. Quantity I > Quantity II
- B. Quantity I < Quantity II
- C. Quantity I \geq Quantity II
- D. Quantity I \leq Quantity II
- E. Quantity I = Quantity II or No relation

Direction: Given below are two quantities named I and II. Based on the given information, you have to determine the relation between the two quantities. You should use the given data and your knowledge of Mathematics to choose among the possible answers.

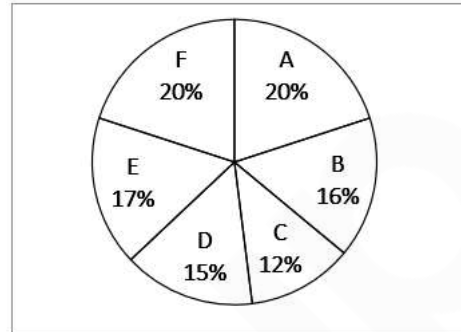
70. **Quantity I:** Present ages of A and B are in the ratio of 4: 5 respectively. Present ages of C and D are in the ratio of 5: 6 respectively. The present average age of A, B, C and D is 40 years and 6 months. Age of A after 2 years will be half the age of D 6 years hence. Find the present average age of B and C.

Quantity II: 39 years

- A. Quantity I > Quantity II
- B. Quantity I < Quantity II
- C. Quantity I \geq Quantity II
- D. Quantity I \leq Quantity II
- E. Quantity I = Quantity II or No relation

Direction: Read the chart carefully and answer the following questions.

Given pie-chart shows the percentage distribution of total items sold by six Indian companies in any year.



71. If total items manufactured by India is 11160 and defective items are 840 then find the items sold by C is how much more or less than E? (items which are defective cannot be sold)

- A. 426
- B. 516
- C. 624
- D. 712
- E. 564

72. Find the ratio between items sold by B to that of items sold by E

- A. 16 : 17
- B. 16 : 19
- C. 17 : 18
- D. 18 : 19
- E. 15 : 16

73. If China makes 97500 items which is 3900 more than items manufactured by India, then find average of items sold by B and D?

- A. 10982
- B. 12432
- C. 14508
- D. 11204
- E. 14454



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74.If total items manufactured by India is 42000, then find items sold by F is what percent more or less than items sold by D?

- A. 60%
- B. $66\frac{2}{3}\%$
- C. 40%
- D. $33\frac{1}{3}\%$
- E. 25%

75.If items manufactured by Pakistan is 50400 which is 20% more than items manufactured by India, then find difference of items sold by C and E?

- A. 2600
- B. 2400
- C. 1800
- D. 1600
- E. 2100

76.A and B together take 6 days to complete a work. If it is given that A takes 9 days less than B to complete the work alone, then in how many days B alone will complete the work?

- A. 18
- B. 15
- C. 12
- D. 9
- E. 8

77.Two classes A and B have 320 and 240 students respectively. If the percentage of students, who didn't pass in classes A and B are 40% and 30% respectively, what is the total number of failed students?

- A. 400
- B. 360
- C. 320
- D. 260
- E. 200

78.Ashutosh lends two equal sums, one at the rate of 13% per annum for five years and the other at the rate of 9% per annum for six years, both at simple interest. If the difference in interest accrued in the two cases is Rs 1320. Find the sum.

- A. Rs. 11200
- B. Rs. 5600
- C. Rs. 12600
- D. Rs. 12000
- E. None of these

79.In a 140 litres of mixture of milk and water, the ratio of milk to water is 5 : 2. If 28 litres mixture is taken out and same amount of water is added to the mixture. If this process is repeated for two times, then what will be quantity of milk in final mixture ?

- A. 81.48 litres
- B. 64.84 litres
- C. 51.2 litres
- D. 51.68 litres
- E. 65.68 litres

80.Sandeep sold an article at a profit of $13\frac{1}{3}\%$ at its selling price to Vinod. Vinod further sold it at 7.5% loss for Rs. 1110. Find the difference of original cost price of that article and selling price of article for Vinod?

- A. Rs. 92
- B. Rs. 84
- C. Rs. 60
- D. Rs. 50
- E. Rs. 70



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ANSWERS

1. Ans. E.

W Y S Z X T V Q U R
Therefore, X sits to the immediate right of Z.

2. Ans. C.

W Y S Z X T V Q U R
Six people are seated between Y and U.

3. Ans. B.

W Y S Z X T V Q U R
Hence, only option B is correct.

4. Ans. A.

W Y S Z X T V Q U R
Hence, V sits sixth to the right of W.

5. Ans. D.

W Y S Z X T V Q U R
T sits second to the right of Z.

6. Ans. D.

After changing all the vowels to the next letter and all the consonants to the previous letter, we have

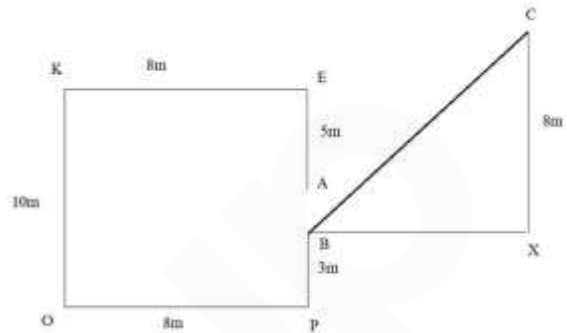
| | | | | | | |
|---|---|---|---|---|---|---|
| P | R | O | D | U | C | E |
| | | | | | | |
| O | Q | P | C | V | B | F |

Hence, C is the fourth letter from the right end.

7. Ans. B.

Two such pairs are there: EG and NS.

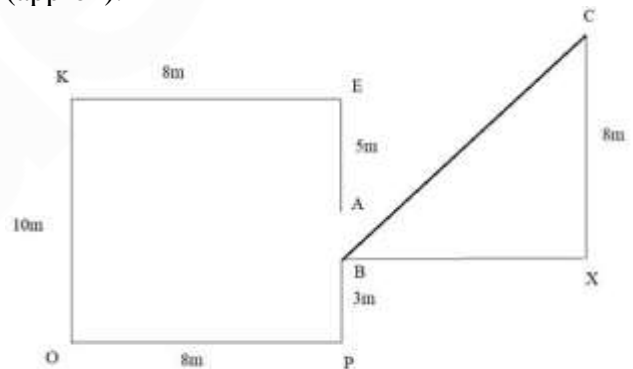
8. Ans. B.



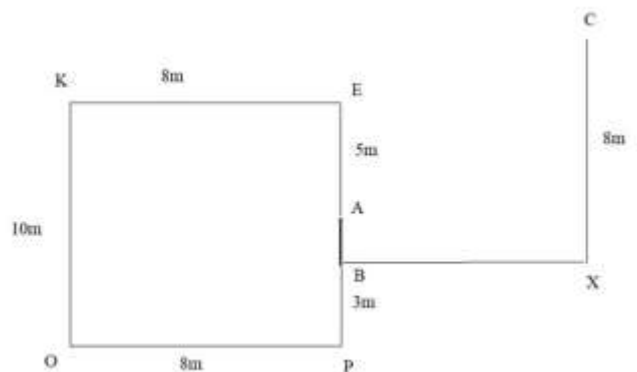
Point O is to the North-west of point E.

9. Ans. C.

The distance between B and C is 13m (approx).



10. Ans. B.



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$$AB = EP - (AE + BP) = EP - (5 + 3) = EP - 8m$$

Now, $KO \parallel EP$ implies that $KO = EP = 10m$

Hence, $AB = 10 - 8 = 2m$.

11. Ans. E.

| Position | Boxes | Colour |
|----------|-------|--------|
| 6 | A | Black |
| 5 | F | Blue |
| 4 | D | Red |
| 3 | C | White |
| 2 | E | Green |
| 1 | B | Grey |

Box E is Green in colour.

12. Ans. E.

| Position | Boxes | Colour |
|----------|-------|--------|
| 6 | A | Black |
| 5 | F | Blue |
| 4 | D | Red |
| 3 | C | White |
| 2 | E | Green |
| 1 | B | Grey |

All the given combinations are correct.

13. Ans. B.

| Position | Boxes | Colour |
|----------|-------|--------|
| 6 | A | Black |
| 5 | F | Blue |
| 4 | D | Red |
| 3 | C | White |
| 2 | E | Green |
| 1 | B | Grey |

14. Ans. D.

| Position | Boxes | Colour |
|----------|-------|--------|
| 6 | A | Black |
| 5 | F | Blue |
| 4 | D | Red |
| 3 | C | White |
| 2 | E | Green |
| 1 | B | Grey |



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15. Ans. E.

| Position | Boxes | Colour |
|----------|-------|--------|
| 6 | A | Black |
| 5 | F | Blue |
| 4 | D | Red |
| 3 | C | White |
| 2 | E | Green |
| 1 | B | Grey |

C, the White box is kept at the third position.

16. Ans. A.

Given,

'Square disturb on down' is coded as 'dl ta ap ea'

'Square wall on disturb' is coded as 'dl ap ta uv'

'down wings inner beauty' is coded as 'xy df ss ea'

'disturb beauty wall down' is coded as 'ta ss uv ea'

Comparing the statements, we have

Square on = dl ap (but not necessarily in the same order)

Disturb = ta

Down = ea

Wall = uv

Beauty = ss

Wings Inner = xy df (but not necessarily in the same order)

Therefore, the code for 'beauty' is 'ss'.

17. Ans. D.

Given,

'Square disturb on down' is coded as 'dl ta ap ea'

'Square wall on disturb' is coded as 'dl ap ta uv'

'down wings inner beauty' is coded as 'xy df ss ea'

'disturb beauty wall down' is coded as 'ta ss uv ea'

Comparing the statements, we have

Square on = dl ap (but not necessarily in the same order)

Disturb = ta

Down = ea

Wall = uv

Beauty = ss

Wings Inner = xy df (but not necessarily in the same order)

Hence, code for 'wings' will be either 'xy' or 'df'.

18. Ans. E.

Given,

'Square disturb on down' is coded as 'dl ta ap ea'

'Square wall on disturb' is coded as 'dl ap ta uv'

'down wings inner beauty' is coded as 'xy df ss ea'

'disturb beauty wall down' is coded as 'ta ss uv ea'

Comparing the statements, we have

Square on = dl ap (but not necessarily in the same order)

Disturb = ta

Down = ea

Wall = uv

Beauty = ss

Wings Inner = xy df (but not necessarily in the same order)



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Hence, the code for 'square wall' cannot be determined.

19. Ans. E.

Given,

'Square disturb on down' is coded as 'dl ta ap ea'

'Square wall on disturb' is coded as 'dl ap ta uv'

'down wings inner beauty' is coded as 'xy df ss ea'

'disturb beauty wall down' is coded as 'ta ss uv ea'

Comparing the statements, we have

Square on = dl ap (but not necessarily in the same order)

Disturb = ta

Down = ea

Wall = uv

Beauty = ss

Wings Inner = xy df (but not necessarily in the same order)

Hence, the code for 'disturb' is 'ta'.

20. Ans. A.

Given,

'Square disturb on down' is coded as 'dl ta ap ea'

'Square wall on disturb' is coded as 'dl ap ta uv'

'down wings inner beauty' is coded as 'xy df ss ea'

'disturb beauty wall down' is coded as 'ta ss uv ea'

Comparing the statements, we have

Square on = dl ap (but not necessarily in the same order)

Disturb = ta

Down = ea

Wall = uv

Beauty = ss

Wings Inner = xy df (but not necessarily in the same order)

Hence, code 'ea' is the code for 'down'.

21. Ans. C.

• S sits in the middle of one of the sides of the table.

• S is an immediate neighbour of both E and V.

• Only one person sits between E and H.

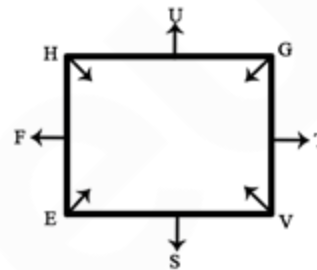
• U is not an immediate neighbour of E or V.

• T sits second to the right of U.

• F is not an immediate neighbour of G.

• G faces a direction opposite that of U. (ie, if U faces the centre then G faces outside and vice versa)

According to the above statement, we conclude:



22. Ans. B.

• S sits in the middle of one of the sides of the table.

• S is an immediate neighbour of both E and V.

• Only one person sits between E and H.

• U is not an immediate neighbour of E or V.

• T sits second to the right of U.

• F is not an immediate neighbour of G.

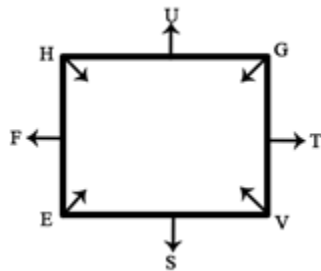
• G faces a direction opposite that of U. (ie, if U faces the centre then G faces outside and vice versa)

According to the above statement, we conclude:



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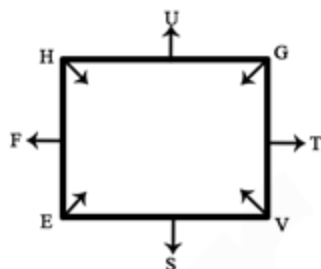
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23. Ans. D.

- S sits in the middle of one of the sides of the table.
- S is an immediate neighbour of both E and V.
- Only one person sits between E and H.
- U is not an immediate neighbour of E or V.
- T sits second to the right of U.
- F is not an immediate neighbour of G.
- G faces a direction opposite that of U. (ie, if U faces the centre then G faces outside and vice versa)

According to the above statement, we conclude:

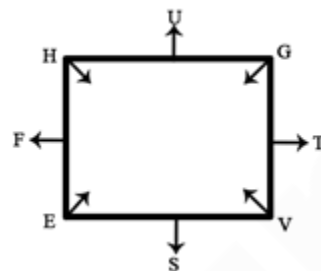


24. Ans. D.

- S sits in the middle of one of the sides of the table.
- S is an immediate neighbour of both E and V.
- Only one person sits between E and H.
- U is not an immediate neighbour of E or V.
- T sits second to the right of U.
- F is not an immediate neighbour of G.

- G faces a direction opposite that of U. (ie, if U faces the centre then G faces outside and vice versa)

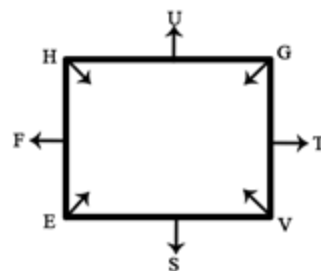
According to the above statement, we conclude:



25. Ans. D.

- S sits in the middle of one of the sides of the table.
- S is an immediate neighbour of both E and V.
- Only one person sits between E and H.
- U is not an immediate neighbour of E or V.
- T sits second to the right of U.
- F is not an immediate neighbour of G.
- G faces a direction opposite that of U. (ie, if U faces the centre then G faces outside and vice versa)

According to the above statement, we conclude:



26. Ans. B.

Given statements are: $A > B < C = D \leq E$ and $Q \geq R < O > E$

Combining the statements we have,

$Q \geq R < O > E \geq D = C > B < A$



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Conclusion I: $D > R$... this is not true as $R < O > E \geq D$

Conclusion II: $B < O$... this is true as $O > E \geq D = C > B$

Hence, only conclusion II follows.

27. Ans. D.

Given statements are: $X < K \geq A = D < Y \leq M$ and $C \geq N = D \geq I$

Now,

Conclusion I: $K > I$ (it is not true as $K \geq A = D \geq I$)

Conclusion II: $X < C$ (it is not true as $X < K \geq A = D = N \leq C$)

Hence, neither of the conclusions follow.

28. Ans. B.

Given statements are: $P > Q < A < B \geq E$ and $M > N = B \leq X$

Now,

Conclusion I: $P > N$ (it cannot be true as $P > Q < A < N$)

Conclusion II: $M > Q$ (it is true as $Q < A < B = N < M$)

Hence, only conclusion II follows.

29. Ans. D.

Given statement is: $A > N < J = L < D > U > W < G \leq Y \geq Z$

Conclusion I: $A < G$ (it is false)

Conclusion II: $L > Z$ (it is false)

Hence, neither of the given conclusions follow.

30. Ans. C.

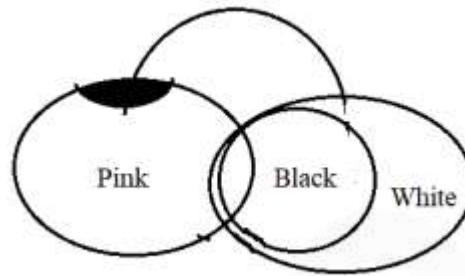
Given statement is: $E > G < F > A \geq Y \geq Q = V = D < W \leq H$

Conclusion I: $A > D$ (it is possible as $A \geq Y \geq Q = V = D$ implies $A \geq D$)

Conclusion II: $A = D$ (it is possible as $A \geq Y \geq Q = V = D$ implies $A \geq D$)

Both cannot be possible together as these are complementary to each other. Hence, any of them follows.

31. Ans. C.



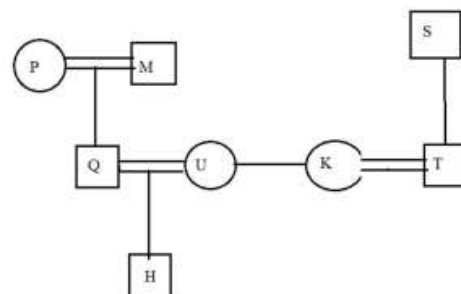
Therefore, both the conclusions are true.

32. Ans. E.



33. Ans. A.

| Symbol in diagram | Meaning |
|-------------------|----------------------------|
| | Female |
| | Male |
| | Married Couple |
| | Siblings |
| | Difference of a generation |



This is the final arrangement.
Hence, H is the grandson of M.

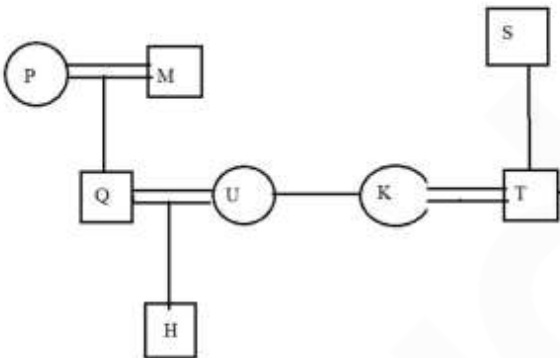


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34. Ans. C.

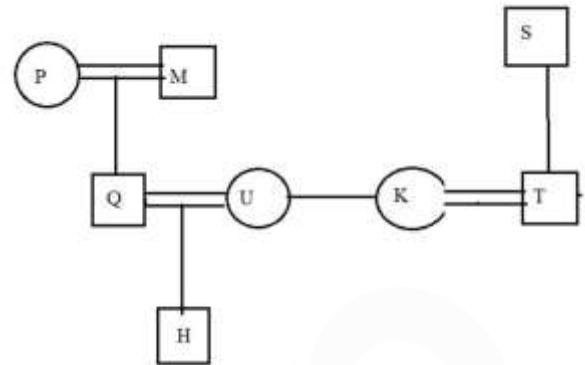
| Symbol in diagram | Meaning |
|-------------------|----------------------------|
| ○ | Female |
| □ | Male |
| = | Married Couple |
| — | Siblings |
| | Difference of a generation |



This is the final arrangement.
Clearly, only one person is there in the third generation.

35. Ans. D.

| Symbol in diagram | Meaning |
|-------------------|----------------------------|
| ○ | Female |
| □ | Male |
| = | Married Couple |
| — | Siblings |
| | Difference of a generation |



This is the final arrangement.
Hence, the required ratio is 3 : 5.

36. Ans. C.

| | Month | Date | Person |
|----|--------|------|--------|
| 30 | April | 9 | A |
| 30 | April | 16 | H |
| 30 | June | 9 | D |
| 30 | June | 16 | F |
| 31 | July | 9 | G |
| 31 | July | 16 | C |
| 31 | August | 9 | E |
| 31 | August | 16 | B |

37. Ans. E.

| | Month | Date | Person |
|----|--------|------|--------|
| 30 | April | 9 | A |
| 30 | April | 16 | H |
| 30 | June | 9 | D |
| 30 | June | 16 | F |
| 31 | July | 9 | G |
| 31 | July | 16 | C |
| 31 | August | 9 | E |
| 31 | August | 16 | B |



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38. Ans. B.

| | Month | Date | Person |
|----|--------|------|--------|
| 30 | April | 9 | A |
| 30 | April | 16 | H |
| 30 | June | 9 | D |
| 30 | June | 16 | F |
| 31 | July | 9 | G |
| 31 | July | 16 | C |
| 31 | August | 9 | E |
| 31 | August | 16 | B |

39. Ans. D.

| | Month | Date | Person |
|----|--------|------|--------|
| 30 | April | 9 | A |
| 30 | April | 16 | H |
| 30 | June | 9 | D |
| 30 | June | 16 | F |
| 31 | July | 9 | G |
| 31 | July | 16 | C |
| 31 | August | 9 | E |
| 31 | August | 16 | B |

40. Ans. C.

| | Month | Date | Person |
|----|--------|------|--------|
| 30 | April | 9 | A |
| 30 | April | 16 | H |
| 30 | June | 9 | D |
| 30 | June | 16 | F |
| 31 | July | 9 | G |
| 31 | July | 16 | C |
| 31 | August | 9 | E |
| 31 | August | 16 | B |

41. Ans. B.

The pattern of the series is:

$$14 \times .5 + 1 = 8$$

$$8 \times 1 + 1 = 9$$

$$9 \times 1.5 + 1 = 14.5$$

$$14.5 \times 2 + 1 = 30$$

$$30 \times 2.5 + 1 = 76$$

Hence, the answer is B.

42. Ans. E.

The pattern of the series is:

$$77 + 8 \times 1 = 85$$

$$85 - 8 \times 2 = 69$$

$$69 + 8 \times 4 = 101$$

$$101 - 8 \times 8 = 37$$

$$37 + 8 \times 16 = 165$$

Hence, the answer is E.

43. Ans. C.

The pattern of the series is:

$$20 + 3^2 = 29$$

$$29 + 5^2 = 54$$

$$54 + 7^2 = 103$$

$$103 + 9^2 = 184$$

$$184 + 11^2 = 305$$

Hence, the answer is C.

44. Ans. D.

The pattern of the series is:

$$7 \times 1 + 1 = 8$$

$$8 \times 2 + 2 = 18$$

$$18 \times 3 + 3 = 57$$

$$57 \times 4 + 4 = 232$$

$$232 \times 5 + 5 = 1165$$

Hence, the answer is D.

45. Ans. A.

The pattern of the series is:

$$121 + 2 = 123$$

$$123 - (2 + 3) = 118$$

$$118 + (2 + 3 + 5) = 128$$

$$128 - (2 + 3 + 5 + 7) = 111$$

$$111 + (2 + 3 + 5 + 7 + 9) = 137$$

Hence, the answer is A.



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46. Ans. D.

$$? = \sqrt{784} \times 7 + 352 \times 25\% = 28 \times 7 + 88 = 196 + 88 = 284$$

Hence, the answer is D.

47. Ans. B.

$$? = 15.33^2 - 12.94^2 + 22.06^2 - 35.65 = 15^2 - 13^2 + 22^2 - 35 = 225 - 169 + 484 - 35 = 505.$$

Hence, the answer is B.

48. Ans. C.

$$? = 24 \times 14 - 8 \times 6 = 336 - 48 = 288$$

Hence, the answer is C.

49. Ans. E.

$$257.12 + 187.99 \times ? = (49.98)^2 + 30.99$$

$$\Rightarrow 257 + 188 \times ? = 2500 + 31$$

$$\Rightarrow 188 \times ? = 2274$$

$$\Rightarrow x = 12$$

Hence, the answer is C.

50. Ans. D.

$$\frac{3}{4} \times 8 + 124\% \text{ of } 650 = x$$

$$6 + 806 = x$$

$$812 = x$$

Hence, the answer is D.

51. Ans. D.

The number of members of sports club C, who did not participate in the event = $(100 - 25)\%$ of 4800 = 3600

The number of members of sports club F, who did not participate in the event = $(100 - 40)\%$ of 6750 = 4050

Hence, the required ratio = 3600 : 4050 = 8 : 9

52. Ans. B.

The number of members of sports club A, who did not participate in the event = $(100 - 65)\%$ of 4000 = 35% of the 4000 = 1400

The number of members of sports club D, who did not participate in the event = $(100 - 30)\%$ of 5000 = 70% of the 5000 = 3500

$$\text{Hence, the required percent} = \frac{3500 - 1400}{3500} \times 100 = 60\%.$$

53. Ans. E.

The number of members of sports club A, who did not participate in the event = $(100 - 65)\%$ of 4000 = 35% of the 4000 = 1400

The number of members of sports club B, who did not participate in the event = $(100 - 20)\%$ of 9000 = 7200

The number of members of sports club D, who did not participate in the event = $(100 - 30)\%$ of 5000 = 3500

The number of members of sports club E, who did not participate in the event = $(100 - 35)\%$ of 6000 = 3900

The number of members of sports club F, who did not participate in the event = $(100 - 40)\%$ of 6750 = 4050

$$\text{Hence, the required average} = \frac{1400 + 7200 + 3500 + 3900 + 4050}{5} = 4010.$$

54. Ans. D.

The number of members of sports club B, who participated in the event = 20% of 9000 = 1800

The number of members of sports club C, who participated in the event = 25% of 4800 = 1200

The number of members of sports club D, who did not participate in the event = $(100 - 30)\%$ of 5000 = 3500

The number of members of sports club E, who did not participate in the event = $(100 - 35)\%$ of 6000 = 3900

Hence, the required difference = $(3500 + 3900) - (1800 + 1200) = 4400.$

55. Ans. B.

The number of members of sports club B, who participated in the event = 20% of 9000 = 1800

The number of members of sports club B, who played Badminton = 30% of 1800 = 540
Hence, the number of members of sports club B, who played Football = $\frac{3}{(2+4+3)} \times (1800 - 540) = 420$.

56. Ans. C.

Let the total work = 18 units (LCM of 6 and 9)

Efficiency of A and B together = $\frac{18}{6} = 3$

Efficiency of A alone = $\frac{18}{9} = 2$

Efficiency of B alone = Efficiency of A and B together - Efficiency of A alone = $3 - 2 = 1$

Hence, the required number of days = $\frac{\frac{3}{8} \times 18}{1} = \frac{27}{4}$.

57. Ans. D.

Let the total capacity = 72 units (LCM of 24, 36 and 18)

Efficiency of A = $\frac{72}{24} = 3$

Efficiency of B = $\frac{72}{36} = 2$

Efficiency of C = $-\frac{72}{18} = -4$

Number of units filled in 3 minutes = $3 + 2 - 4 = 1$

So, $72 - 5 = 67$ unit will be filled in $67 \times 3 = 201$ minutes

Remaining 5 units will be filled in the next 2 minutes

Hence, the total time = $201 + 2 = 203$ minutes.

58. Ans. A.

Let speed of stream = x km/hr

Speed of boat = $4x$ km/hr

$$\frac{45}{4x - x} - \frac{45}{4x + x} = 2$$

$$\frac{45}{3x} - \frac{45}{5x} = 2$$

$$\Rightarrow \frac{1}{x}(15 - 9) = 2$$

$$x = \frac{6}{2} = 3$$

Hence, the speed of stream = $x = 3$ km/hr.

59. Ans. B.

$$\frac{124}{77.5} = \frac{60}{75} + \frac{(124 - 60)}{V}$$

$$\Rightarrow 1.6 = 0.8 + \frac{64}{U}$$

$$\Rightarrow 0.8 = \frac{64}{U}$$

$$\Rightarrow U = 80$$

60. Ans. D.

Let the age of A be x years

Six years ago

A's age = $x - 6$

A's uncle's age = $6x - 36$

Two years hence

A's age = $x + 2$

A's uncle's age = $3x + 6$

A's uncle's age six years ago + 8 = A's uncle's age two years hence

$$6x - 36 + 8 = 3x + 6$$

$$6x - 28 = 3x + 6$$

$$x = 11.33 \text{ years}$$

Hence, the answer is D.



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61. Ans. A.

$$x^2 + 9x + 20 = 0$$

$$x^2 + 4x + 5x + 20 = 0$$

$$x(x + 4) + 5(x + 4) = 0$$

$$(x + 5)(x + 4) = 0$$

$$x = -4, -5$$

$$8y^2 - 15y + 7 = 0$$

$$8y^2 - 8y - 7y + 7 = 0$$

$$8y(y - 1) - 7(y - 1) = 0$$

$$(8y - 7)(y - 1) = 0$$

$$y = \frac{7}{8}, 1$$

So, $y > x$.

62. Ans. B.

$$x^2 - 11x + 30 = 0$$

$$x^2 - 5x - 6x + 30 = 0$$

$$x(x - 5) - 6(x - 5) = 0$$

$$(x - 5)(x - 6) = 0$$

$$x = 6, 5$$

$$y^2 + 12y + 36 = 0$$

$$y^2 + 6y + 6y + 36 = 0$$

$$y(y + 6) + 6(y + 6) = 0$$

$$(y + 6)(y + 6) = 0$$

$$y = -6, -6$$

So, $x > y$.

63. Ans. C.

$$x^2 + 13x + 40 = 0$$

$$x^2 + 8x + 5x + 40 = 0$$

$$x(x + 8) + 5(x + 8) = 0$$

$$(x + 5)(x + 8) = 0$$

$$X = -5, -8$$

$$y^2 + 7y + 10 = 0$$

$$y^2 + 2y + 5y + 10 = 0$$

$$y(y + 2) + 3(y + 2) = 0$$

$$y = -2, -5$$

so, $y \geq x$

64. Ans. B.

$$x^2 - 20x + 91 = 0$$

$$x^2 - 13x - 7x + 91 = 0$$

$$x(x - 13) - 7(x - 13) = 0$$

$$(x - 7)(x - 13) = 0$$

$$X = 13, 7$$

65. Ans. E.

$$x^2 - 4x + 3x - 12 = 0$$

$$x(x - 4) + 3(x - 4) = 0$$

$$(x + 3)(x - 4) = 0$$

$$X = -3, 4$$

$$y^2 + 5y + 6 = 0$$

$$y^2 + 2y + 3y + 6 = 0$$

$$y(y + 2) + 3(y + 2) = 0$$

$$(y + 2)(y + 3) = 0$$

$$y = -2, -3$$

66. Ans. B.

$$SI = \frac{PRT}{100}$$

$$1200 = \frac{P \times 12 \times 2}{100}$$

$$\Rightarrow P = 5000$$

Quantity I = Rs. 5000

Quantity II = Rs. 6000

Hence, Quantity I < Quantity II

67. Ans. A.

$$\text{Quantity I} = \frac{450}{1.2} \times 0.2 = \text{Rs. } 75$$

$$\text{Quantity II} = \frac{84}{1.2} = \text{Rs. } 70$$

Hence, Quantity I > Quantity II

68. Ans. A.

Quantity I:

Suppose pipe A alone takes x hours to fill the tank.

Then, pipes B and C will take $x/2$ and $x/4$ hours respectively to fill the tank.

ATQ-

$$1/X + 2/X + 4/X = 1/6$$

$$7/X = 1/6$$

$$X = 42 \text{ hours.}$$

Quantity II- 28 hrs



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69. Ans. B.

Quantity I:

$$\text{Interest earned after 3 years} = 1600 \times \left\{ \left(1 + \frac{25}{100} \right)^3 - 1 \right\} = 1600 \times \frac{61}{64} = \text{Rs. 1525}$$

Quantity II:

Rs. 1533

So, Quantity I < Quantity II
So option (B) is the correct answer.

70. Ans. A.

Quantity I:

Let the present ages of A and B are $4x$ and $5x$ years respectively and the present ages of C and D are $5y$ and $6y$ years respectively.

So, sum of the ages of A, B, C and D = $4x + 5x + 5y + 6y = 40.5 \times 4$

So, $9x + 11y = 162$

Also given that,

$$2 \times (4x+2) = 6y + 6$$

So, $4x - 3y = 1$

From both the equation, we get,

$x = 7$ and $y = 9$

So, the present ages of A, B, C and D are 28, 35, 45 and 54 respectively.

$$\text{Present average age of B and C} = \frac{35+45}{2} = 40 \text{ years}$$

Quantity II: 39

Therefore, Quantity I > Quantity II

So option (a) is the correct answer.

71. Ans. B.

Total items which can be sold = $11160 - 840 = 10320$

$$\text{Required difference} = \frac{(17-12)}{100} \times 10320 = 516$$

72. Ans. A.

Required Ratio = 16 : 17

73. Ans. C.

$$\text{Items manufactured by India} = 97500 - 3900 = 93600$$

$$\begin{aligned} \text{Required average} &= 93600 \\ &\times \frac{(16 + 15)}{100} \times \frac{1}{2} = 14508 \end{aligned}$$

74. Ans. D.

Required percentage =

$$\frac{20-15}{15} \times 100 = 33\frac{1}{3}\%$$

75. Ans. E.

$$\begin{aligned} \text{items manufactured by India} &= 50400 \\ &\times \frac{100}{120} = 42000 \end{aligned}$$

$$\begin{aligned} \text{Required Difference} &= 42000 \\ &\times \frac{17-12}{100} = 2100 \end{aligned}$$

76. Ans. A.

Let the minimum of days taken by B alone to complete the work be x days.

Number of days taken day A alone to complete the work = $x - 9$ days

$$\frac{1}{x} + \frac{1}{x-9} = \frac{1}{6}$$

$$\frac{x(x-9)}{2x-9} = 6$$

$$x^2 - 9x = 12x - 54$$

$$x^2 - 21x + 54 = 0$$

$$x^2 - 18x - 3x + 54 = 0$$

$$x(x-18) - 3(x-18) = 0$$

$$(x-3)(x-18) = 0$$

$$x = 3, 18$$

X cannot be 3 as the number of days can't be negative for any person

$$x = 18 \text{ days}$$

Number of days taken by B alone = $x = 18$ days

Hence, answer is A.

77. Ans. E.

$$\begin{aligned} \text{Number of students who failed in class A} &= 30 \times 0.4 = 128 \end{aligned}$$



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Number of students who failed in class B =
 $240 \times 0.3 = 72$

Total numbers of failed students = $128 + 72$
 $= 200$

Hence, answer is E.

78. Ans. D.

Let sum be Rs P

Using the data provided in the question, we get

$$1320 = \frac{P \times 13 \times 5}{100} - \frac{P \times 9 \times 6}{100}$$

On solving the equation, we get

P = Rs. 12000

79. Ans. C.

Initial quantity of milk = $\frac{5}{7} \times 140 = 100$ litres

And that of water = $140 - 100 = 40$ litres

Final quantity of mixture = $100 \times$
 $(1 - \frac{20}{100})^3 = 51.2$ litres

80. Ans. E.

$$\text{Profit\%} = 13\frac{1}{3}\% = \frac{2}{15}$$

Let the selling price of that article be
Rs. $15x$

Profit = Rs. $2x$

Cost price = Rs. $13x$ using the data
provided in the question, we get

$$15x \times 92.5\% = 1110$$

$$x = 80$$

Cost price = $13x = \text{Rs. } 1040$

Required difference

$$= 1110 - 1040 = \text{Rs. } 70$$



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