

(A) he did not want to hunt the fox.

(B) he was advised to do so.

(C) he liked it better than the other inn.

(1) Only B

(2) Both B and C

(3) Only A

(4) Only C

(5) Both A and C

8. Which of the following is most nearly the same in meaning to the word '**ALARMED**' as used in the story?

(1) disturbed

(2) depressed

(3) discouraged

(4) encouraged

(5) afraid

9. Which of the following is most nearly the opposite in meaning to the word '**FIRM**' as used in the story?

(1) strong

(2) nice

(3) loose

(4) indefinite

(5) doubtful

10. Which of the following characteristics of the youngest prince comes across distinctly through the story?

(1) He was mischievous.

(2) He was popular.

(3) He was notorious.

(4) He was obedient.

(5) He was greedy.

11. As mentioned in the story, the king chose the youngest prince to catch the bird because

(1) he was one of his favourite sons.

(2) by that time he had more faith in his capabilities.

(3) his wife had requested him to assign this task to their youngest child.

(4) only the youngest prince knew the way to the forest.

(5) None of the given options.

12. Which of the following statements is true in the context of the story?

(1) The bird with the gold feathers was the gardener's pet.

(2) The elder brothers were always jealous of the youngest prince.

(3) The fox misguided the young prince.

(4) The garden behind the palace was renowned for bearing golden fruits.

(5) None of the given statements is true.

13. Which of the following is most nearly the opposite in meaning to the word '**CONSENT**' as used in the story?

(1) property (2) denial

(3) protect (4) dejection

(5) throne

14. Which of the following correctly explains the meaning of the phrase 'talk of the town' as used in the story?

(1) A rare decorative item

(2) Easy to handle

(3) A popular topic of discussion

(4) Insignificant

(5) Expensive

15. Which of the following can be an appropriate title for the story?

(1) The Wise Fox

(2) The Lazy Prince

(3) The Secret Behind The Rotten Apple

(4) The Bird With The Golden Feather

(5) The Golden Apple and Its Health Benefits

Directions (16-20): In the following questions, a sentence with four words in bold type is given. One of these words given in bold may be either wrongly spelt or inappropriate in the context of the sentence. Find out the word which is wrongly spelt or inappropriate, if any. That word is your answer. If all the words given in bold are correctly spelt and also appropriate in the context of the sentence, select 'All correct' as your answer.

16. Now one can **bye** mutual funds and other financial **products** such as **insurance** policies online.

(1) bye (2) mutual

(3) products (4) insurance

(5) All correct

17. The economy is on the part to **recovery**, and slowly but **surely** the banking sector will **perform** well.

(1) part (2) recovery

(3) surely (4) perform

(5) All correct

18. Asset Reconstruction Companies **help** troubled **busyness** by providing funds and expertise to **manage** better.

(1) help (2) troubled

(3) busyness (4) manage

(5) All correct

19. The Asian Development Bank has **supported** the government's latest efforts to **deliver** quality health services to all **sections** of society.

(1) supported

(2) latest

(3) deliver

(4) sections

(5) All correct

20. A case based discussion gives students the chance to **diagnose** a **problem** and **debate** on **solutions** to the given **situation**.

(1) problem (2) debate

(3) solutions (4) situation

(5) All correct

Directions (21-25): Rearrange the given six sentences/group of sentences (A), (B), (C), (D), (E) and (F) in a proper sequence so as to form a meaningful paragraph and then answer the given questions.

(A) One would find all kinds of strange things in his room.

(B) Once, he built a pulley system so that he could all the drawers in his dresser.

(C) After that, Marty had to take his experiments to the shed.

(D) Marty loved science and was always doing experiments at his house.

(E) His mother got all tangled up in the ropes and was struck there for half the afternoon.

21. Which of the following should be the **THIRD** sentence after the rearrangement?

(1) E

(2) D

(3) C

(4) B

(5) A

MODEL SOLVED PAPER-16

22. Which of the following should be the **FOURTH** sentence after the rearrangement?

- (1) A (2) E
(3) C (4) B
(5) D

23. Which of the following should be the **FIRST** sentence after the rearrangement?

- (1) E (2) D
(3) C (4) B
(5) A

24. Which of the following should be the **SECOND** sentence after the rearrangement?

- (1) A (2) B
(3) C (4) D
(5) E

25. Which of the following should be the **LAST (FIFTH)** sentence after the rearrangement?

- (1) A (2) D
(3) C (4) E
(5) B

Directions (26-30) : In the following passage, there are blanks, each of which has been numbered. Against each, five words are suggested, one of which fits the blank appropriately. Find out the appropriate word in each case.

On day a young approached a teacher. "Sir, I see so many people around me talking a lot and everyone (26) to be impressed by them. But my mother scolds me if I am (27). She says only fools are talkative." The teacher smiled.

"Consider the noisy miner bird. It calls and screeches all day," (28) the teacher. 'But people hardly pay any attention to it. (29) the other hand think of the rooster. It crows early every morning and we start our day. (30) how much importance people attach to its call.' Yes sir, I understand', said the boy. "Talking a lot is of no use. It is important to be sensible and say the right thing at the right time."

26. (1) seems
(2) going
(3) convinced
(4) looking
(5) present

27. (1) gossip
(2) worried
(3) exaggerated
(4) spoken (5) talkative
28. (1) tells (2) suggest
(3) troubles (4) explained
(5) predicted

29. (1) With (2) On
(3) By (4) From
(5) In
30. (1) Seeing (2) That
(3) Look
(4) Similarly
(5) Unnecessary

NUMERICAL ABILITY

Directions (31-35) : Study the table carefully and answer the given questions.

Number of visitors in 5 libraries during 5 given days					
Days	Monday	Tuesday	Wednesday	Thursday	Friday
Visitors					
A	114	98	114	157	121
B	91	180	154	92	155
C	151	115	141	80	123
D	125	113	108	153	108
E	121	104	183	155	140

31. Number of visitors in library B increased by 20% from Friday to Saturday and that of visitors in library E decreased by 40% from Friday to Saturday. What was the total number of visitors in libraries B and E together on Saturday?
(1) 320 (2) 300
(3) 270 (4) 310
(5) 290

32. What is the respective ratio between total number of visitors in libraries B and D together on Monday and that in libraries A and E together on Thursday?
(1) 7 : 12 (2) 9 : 11
(3) 11 : 13 (4) 11 : 15
(5) 9 : 13

33. What is the average number of visitors in library C on Monday, Thursday and Friday?
(1) 118 (2) 124
(3) 122 (4) 132
(5) 116

34. What is the difference between total number of visitors in libraries A and D together on Tuesday and that in libraries C and E together on Wednesday?

- (1) 113 (2) 115
(3) 125 (4) 103
(5) 111

35. Number of visitors in library B decreased by what percent from Tuesday to Thursday?
(1) 42.5 (2) 40.5
(3) 48.9 (4) 36
(5) 44

36. Roni gave $\frac{3}{4}$ th of 20% of her monthly salary to Simi. Out of the amount Simi received from Roni she gave 40% towards tuition fees and the remaining Rs. 2,700 Simi kept with herself. What was Roni's monthly salary?
(1) Rs. 30,000
(2) Rs. 35,250
(3) Rs. 35,000
(4) Rs. 27,000
(5) Rs. 24,000

37. When 2 is added to both the numerator and denominator of a possible fraction, the frac-

tion thus obtained is $\frac{3}{5}$. If the denominator is 6 more than the numerator, what is the original value of the denominator?

MODEL 2
(1) 8
(3) 22
(5) 18
38. The s
80 m
anoth
ue of
of y,
tween
of y?
(1) 4
(3) 2
(5) 5
Direc
come in p
(7) in the
39. ? + 4
(1) :
(3) :
(5) :
40. 30 >
(1) :
(3) :
(5) :
41. 864
(1)
(3)
(5)
42. 609
(1)
(3)
(5)
43. $3\frac{3}{4}$
(4)
(5)
44. { 5
(1)
(3)
(5)
45. $\sqrt{5}$
(1)
(3)
(5)

MODEL SOLVED PAPER-16

MODEL SOLVED PAPER-16

- (1) 8 (2) 13
(3) 23 (4) 3
(5) 18
38. The square of a number x is 80 more than the square of another number, y . If the value of x is 1.5 times the value of y , what is the difference between the value of x and that of y ?
- (1) 4 (2) 6
(3) 2 (4) 9
(5) 5

Directions (39-49) : What will come in place of the question mark (?) in the given questions?

39. $7 + 405.5 + 183.75 = 630 + \frac{3}{4}$
- (1) 250.75 (2) 225.75
(3) 450.5 (4) 320.25
(5) 350.25
40. $30 \times 54 \div 1.2 - ? = 980$
- (1) 345 (2) 330
(3) 370 (4) 430
(5) 275
41. $864 \div (0.45 \times 27) = 240$
- (1) 3 (2) 0
(3) 4 (4) 1
(5) 2
42. $60\% \text{ of } \sqrt{7} + 111 = 75\% \text{ of } 220$
- (1) 900 (2) 1600
(3) 3600 (4) 225
(5) 8100
43. $3\frac{3}{4} \times 16^2 \div 10^2 \pm \sqrt{225} =$
- $\left(\frac{4}{5}\right)^{15-?}$
- (1) 11 (2) 13
(3) 10 (4) 14
(5) 12
44. $\left(5\frac{5}{8} - 2\frac{3}{4} - \frac{1}{4}\right) \text{ of } ? = 483$
- (1) 232 (2) 168
(3) 184 (4) 152
(5) 216
45. $\sqrt{4624} + \left(\frac{2}{5}\right)^2 = ? \times 25$
- (1) 19 (2) 17
(3) 15 (4) 21
(5) 13

46. $45\% \text{ of } 560 - 50\% \text{ of } 254 = ?$
- (1) 4 (2) 8
(3) 7 (4) 5
(5) 6

47. $2\frac{1}{4} \times 2\frac{2}{5} \times ? = 18$
- (1) $3\frac{1}{3}$ (2) $4\frac{1}{6}$
(3) $1\frac{1}{6}$ (4) $3\frac{1}{2}$
(5) $5\frac{1}{3}$

48. $\sqrt{634 + 24 + 0.08} - ? = 29$
- (1) 87 (2) 91
(3) 83 (4) 97
(5) 93

49. The length of a rectangle is 1.5 times its breadth and the side of a square is equal to the length of the rectangle. If the area of the square is 147 square metre more than the area of the rectangle, what is the area of the rectangle?
- (1) 280 square metre
(2) 292 square metre
(3) 326 square metre
(4) 312 square metre
(5) 294 square metre

50. After 17 years, Kavya's age will be 71 years. Kavya's present age is 6 times of Diya's present age. If five years hence, the respective ratio between Diya's age that time and Farah's age that time will be 2 : 5, by how many years is Farah older to Diya?
- (1) 21 (2) 20
(3) 23 (4) 27
(5) None of these

51. There are two varieties of rice-A and B, which are mixed in the respective ratio of 5 : 3. Rice A is worth Rs. 16 per kg and rice B is worth Rs. 28 per kg. What was the worth (in per kg) of the new mixture of rice (of varieties-A and B)?
- (1) Rs. 18.75 (2) Rs. 22.50
(3) Rs. 17.75 (4) Rs. 25.25
(5) Rs. 20.5

52. There are three boys-A, B and C in a family. The average weight of those three boys is 54 kgs. If the average weight of A and B is 40.5 kgs and that of B and C is 63 kgs, what is B's weight? (in kgs)
- (1) 40 (2) 45
(3) 46 (4) 46.5
(5) 43.5

53. A can finish a piece of work in 30 days. He worked alone for 6 days and B joined him. Together they could finish the remaining work in 9 days. In how many days B alone can finish the same piece of work?
- (1) 12 (2) 18
(3) 15 (4) 14
(5) 10

Directions (54-58) : What will come in place of the question mark (?) in the given questions?

54. 24 26 31 41 ? 84
- (1) 61 (2) 69
(3) 58 (4) 54
(5) 70
55. 10 13 22 49 ? 373
- (1) 130 (2) 119
(3) 145 (4) 178
(5) 126
56. 17 8 7 9 16 ?
- (1) 45.5 (2) 34.5
(3) 37.5 (4) 32
(5) 42
57. 20 44 66 84 96 ?
- (1) 118 (2) 132
(3) 102 (4) 124
(5) 100
58. 6 5 8 21 80 ?
- (1) 295 (2) 312
(3) 395 (4) 178
(5) 284
59. A and B started a business with an investment which is in the ratio of 5 : 2 respectively. After 6 months from the start of the business, C joined with an investment which was twice A's investment and after 10 months from the start of the business B withdrew all of the amount that he invested. If the total annual profit was Rs. 6510, what was the difference between A's share in the annual profit and B's share in annual profit?

MODEL SOLVED PAPER-16

- (1) Rs. 1425 (2) Rs. 1580
(3) Rs. 1860 (4) Rs. 1560
(5) None of these

60. A boat can travel 16.2 km downstream in 36 minutes. If the respective ratio of the speed of the water current and the speed of the boat in still water is 1 : 8, how much time (in minutes) the boat will take to travel 6.3 km upstream?

- (1) 18 (2) 16
(3) 20 (4) 22
(5) 23

61. Two cars (A and B) started from the same point at the same time in opposite directions (one towards north and other towards south). Car A travelled a distance of 122 km in 5 hours. If the speed of the car B is 8.5 m/s, what is the distance between them after 3 hours?

- (1) 158 km (2) 144 km
(3) 185 km (4) 160 km
(5) 165 km

62. The selling price of 9 chairs and 5 tables together is Rs. 3790 and that of 3 chairs and 2 tables together is Rs. 1390. What is the selling price of 3 tables?

- (1) Rs. 1200
(2) Rs. 1260
(3) Rs. 1320
(4) Rs. 1140
(5) Rs. 1240

63. The length of a rectangular plot is 13 metre more than its breadth. If the rectangular plot was fenced at a total cost of Rs. 918 at the rate of Rs. 9 per metre, what is the length of the plot? (in metres)

- (1) 19 (2) 32
(3) 22 (4) 24
(5) 30

64. A trader sold an article at 12% loss. Had he sold the same article for Rs. 76.50 more, he would have earned a profit of 5%. What would be the selling price of the article if it is sold at 16% profit?

- (1) Rs. 522 (2) Rs. 540
(3) Rs. 530 (4) Rs. 512
(5) Rs. 520

65. Purav invested certain sum in scheme A, which offers simple interest at the rate of $x\%$ p.a. for 3 years. He also invested the same sum in scheme B, which offers compound interest (compounded annually) at 10% p.a. for 2 years. If the respective ratio of interest earned from schemes A and B is 18 : 7, what is the value of x ?

- (1) 15 (2) 24
(3) 18 (4) 12
(5) 16

REASONING

Directions (66-70) : The following questions are based on the five three digit numbers given below :

192 756 275 643 584

66. The position of the first and the second digits of each of the numbers are interchanged. What will be the sum of all the three digits of the lowest number thus formed?

- (1) 18 (2) 17
(3) 14 (4) 13
(5) 12

67. If all the digits in each of the numbers are arranged in ascending order within the number, what will be the difference between the highest and the second highest numbers thus formed?

- (1) 201 (2) 112
(3) 109 (4) 436
(5) 221

68. What will be the resultant if the second digit of the highest number is divided by the third digit of the lowest number?

- (1) 3 (2) 2.5
(3) 3.5 (4) 2
(5) 1

69. If '2' is added to the third digit of every odd number and '4' is subtracted from the second digit of every even number, in how many numbers thus formed will the second digit be greater than the third digit?

- (1) Four (2) One
(3) Two (4) Three
(5) None

70. All the numbers are arranged in ascending order from left to right. What will be the difference between the second digit and the third digits of the number which is third from the left?

- (1) 4 (2) 7
(3) 1 (4) 3
(5) 5

Directions (71-75) : Study the following information carefully and answer the questions given below :

Seven persons — A, B, C, D, K, L and M — are seated in a straight line facing north, with equal distance between each other but not necessarily in the same order.

○ D sits fourth to the right of M. Neither D nor M sits at any of the extreme ends of the line.

○ A is one of the immediate neighbours of D.

○ B sits second to the left of K. K is not an immediate neighbour of D.

○ Only one person sits between K and C.

71. What is the position of K with respect to D?

- (1) Second to the right
(2) Fifth to the right
(3) Fourth to the left
(4) Third to the left
(5) Third to the right

72. Which of the following represents persons seated at the two extreme ends of the line?

- (1) B, C (2) K, L
(3) B, L (4) C, K
(5) A, B

73. How many persons are seated between A and C?

- (1) None (2) Three
(3) One (4) Four
(5) Two

74. Who amongst the following sits second to the left of D?

- (1) K (2) L
(3) No one, as less than two persons sit to the left of D.
(4) B (5) C

75. Who amongst the following sits exactly in the middle of the line?

- (1) L (2) D
(3) C (4) A
(5) K

76. In a certain code language, 'play the music' is coded as '934'. Similarly 'live music concert' is coded as '542' and 'play guitar live' is coded as '238'. What will be the code of 'guitar' in the given code language?

- (1) either '3' or '9'
(2) 8
(3) either '2' or '3'
(4) 2 (5) 3

Directions (77-78) : Study the following information carefully and answer the questions given below :

F is the grandson of U. M is the mother of F. M is married to P. P is the son of G. G is married to K.

77. How is K related to M?

- (1) Cannot be determined
(2) Daughter-in-law
(3) Father (4) Mother
(5) Daughter

78. If D is the father of M, then how is F related to D?

- (1) Father (2) Grandson
(3) Son (4) Brother
(5) Grandfather

79. How many such pairs of letters are there in the word SHARED each of which has as many letters between them in the word (in both forward and backward directions) as they have between them in English alphabetical series?

- (1) Three (2) None
(3) One
(4) More than three
(5) Two

80. All the letters of the word GLACIERS are arranged in alphabetical order from left to right. Then all the consonants are replaced with the next alphabet (as per the English alphabetical order), then which of the following will be the fourth letter from the left end?

- (1) I (2) C
(3) R (4) M
(5) H

81. In a straight line of twelve persons (all facing north), only five persons sit to the left of L. Only three persons between C and L. G sits second to the

right of C. Only five persons sit between G and M. How many persons sit between M and L?

- (1) Two (2) None
(3) Five (4) Three
(5) Cannot be determined

Directions (82-83) : Study the following information carefully and answer the questions given below :

Five persons — D, E, F, G and H — have different heights. E is taller than G but shorter than both D and H. F is taller than D but shorter than H. The one who is the third shortest is 162 cm tall. The one who is the tallest is 179 cm tall.

82. If E is 18 cm shorter than D, then what is the difference between the heights of H and E?

- (1) 11 cm (2) 19 cm
(3) 28 cm (4) 35 cm
(5) 8 cm

83. Who amongst the following is 162 cm tall?

- (1) E (2) D
(3) H (4) G
(5) F

84. In a certain code language, SPRAY is coded as RQGBX and LIONS is coded as KJNOR. In the same code language, how will TANKS be coded as?

- (1) RCLMQ (2) RBMKQ
(3) SBMKT (4) RCLKS
(5) SBMLR

85. If all the digits in the number 13674825 are arranged in descending order from left to right, the position(s) of how many number(s) will remain unchanged?

- (1) Three (2) None
(3) One
(4) More than three
(5) Two

Directions (86 - 90) : Study the following information carefully and answer the questions given below :

Eight persons — O, P, Q, R, S, T, U and V — are sitting around a circular table facing the centre but not necessarily in the same order.

○ O sits third to the right of Q. Only three persons sit between O and V.

○ R sits third to the right of S.

○ S is not an immediate neighbour of O.

○ U sits to the immediate left of P. U is not an immediate neighbour of O.

86. How many persons are seated between S and U, when counted from the right of S?

- (1) Two (2) Four
(3) Three (4) One
(5) None

87. Who amongst the following represents the immediate neighbours of R?

- (1) U, O (2) Q, V
(3) Q, T (4) O, S
(5) U, T

88. Who amongst the following sits third to the left of V?

- (1) U (2) P
(3) S (4) R
(5) T

89. Four of the following five are alike in a certain way based on their positions in the given arrangement and so form a group. Which is the one that does not belong to the group?

- (1) SUO (2) USR
(3) PTQ (4) VOS
(5) QRT

90. Which amongst the following statements is true regarding T, as per the given arrangement?

- (1) T sits second to the left of Q.
(2) Only three persons sit between T and V.
(3) Only two persons sit between T and S.
(4) T is one of the immediate neighbours of U.
(5) None of the given statements is true

Directions (91-95) : In each of the following questions, a group of numbers/symbols followed by five combinations of letter codes is given. You have to find out which of the combinations correctly represents the group of numbers/symbols based on the given coding system and the conditions and mark that combination as your answer.

Look at the sentences :

The beauty of nature is beyond description.

Sita is a beautiful lady.

6. (4) **Following (Adjective)** = next in time; subsequent; coming after something else.

Look at the sentence :

Developments on this issue will be dealt with in a following report.

8. (1) **Alarmed (Adjective)** = anxious or afraid that something unpleasant might happen; disturbed.

Look at the sentence :

She was alarmed at the prospect of travelling alone.

9. (3) **Firm (Adjective)** = fairly hard; very tight; strongly fixed; strong and steady.

Look at the sentences :

With a firm grip on my hand, he pulled me away.

Check that the plug has not come loose.

13. (2) **Consent (Noun)** = permission to do something; agreement.

Denial (Noun) = refusal; a statement that says something is not true.

Look at the sentences :

He is charged with taking a car without the owner's consent.

The terrorists issued a denial of responsibility for the attack.

14. (3) She became the talk of the town (= very famous).

16. (1) Correct spelling is : buy.

17. (1) Appropriate word should be path.

18. (3) Correct spelling is : business.

20. (2) Correct spelling is : debate.

29. (2) **On the other hand** is used to introduce different points of view, ideas etc.

31. (3) Number of visitors on Saturday :

$$\text{Library B} \Rightarrow \frac{155 \times 120}{100} = 186$$

$$\text{Library E} \Rightarrow \frac{140 \times 60}{100} = 84$$

$$\therefore \text{Required answer} = 186 + 84 = 270$$

32. (5) Required ratio
 $= (91 + 125) : (157 + 155)$
 $= 216 : 312 = 9 : 13$

33. (1) Required average
 $= \frac{151 + 80 + 123}{3} = \frac{354}{3}$
 $= 118$

34. (1) Required difference
 $= (141 + 183) - (98 + 113)$
 $= 324 - 211 = 113$

35. (3) Percentage decrease
 $= \frac{180 - 92}{180} \times 100 = \frac{880}{18} = 48.9$

36. (1) Let, Roni's monthly salary be Rs. x .

$$\therefore \text{Amount given to Simi}$$

$$= \text{Rs.} \left(\frac{3}{4} \times \frac{20}{100} \times x \right) = \text{Rs.} \frac{3x}{20}$$

$$\text{Amount kept with Simi} = 60\%$$

$$\therefore \frac{3x}{20} \times \frac{60}{100} = 2700$$

$$\Rightarrow \frac{9x}{100} = 2700$$

$$\Rightarrow x = \frac{2700 \times 100}{9}$$

$$= \text{Rs.} 30000$$

37. (2) Let the original fraction be

$$= \frac{x}{x+6}$$

$$\text{According to the question,}$$

$$\frac{x+2}{x+8} = \frac{3}{5}$$

$$\Rightarrow 5x + 10 = 3x + 24$$

$$\Rightarrow 5x - 3x = 24 - 10$$

$$\Rightarrow 2x = 14 \Rightarrow x = \frac{14}{2} = 7$$

$$\therefore \text{Required denominator}$$

$$= x + 6 = 7 + 6 = 13$$

38. (1) According to the question,

$$x^2 - y^2 = 80$$

$$\Rightarrow (1.5y)^2 - y^2 = 80$$

$$[\because x = 1.5y]$$

$$\Rightarrow 2.25y^2 - y^2 = 80$$

$$\Rightarrow 1.25y^2 = 80$$

$$\Rightarrow y^2 = \frac{80}{1.25} = 64$$

$$\Rightarrow y = 8$$

$$\therefore x = 1.5y = 1.5 \times 8 = 12$$

$$\therefore x - y = 12 - 8 = 4$$

39. (1) $? + 405.5 + 183.75$

$$= 630 \times \frac{4}{3}$$

$$\Rightarrow ? + 589.25 = 840$$

$$\Rightarrow ? = 840 - 589.25 = 250.75$$

40. (3) $\frac{30 \times 54}{12} - ? = 980$

$$\Rightarrow 1350 - ? = 980$$

$$\Rightarrow ? = 1350 - 980 = 370$$

41. (1) $864 \div (0.45 \times 2?) = 240$

$$\Rightarrow \frac{864}{0.45 \times 2?} = 240$$

$$\Rightarrow 864 = 240 \times 0.45 \times 2?$$

$$\Rightarrow 2? = \frac{864}{240 \times 0.45} = 8$$

$$\Rightarrow 2? = 2^3 \Rightarrow ? = 3$$

42. (5) $\frac{60 \times \sqrt{?}}{100} + 111 = \frac{75 \times 220}{100}$

$$\Rightarrow \frac{3 \times \sqrt{?}}{5} + 111 = 165$$

$$\Rightarrow \frac{3 \times \sqrt{?}}{5} = 165 - 111 = 54$$

$$\Rightarrow \sqrt{?} = \frac{54 \times 5}{3} = 90$$

$$\Rightarrow ? = 90 \times 90 = 8100$$

43. (2) $\frac{15}{4} \times 16^2 \div 10^2 \div \sqrt{225}$

$$= \left(\frac{4}{5} \right)^{15-?}$$

$$\Rightarrow \frac{15}{4} \times 16^2 \times \frac{1}{10^2} \times \frac{1}{15}$$

$$= \left(\frac{4}{5} \right)^{15-?}$$

$$\Rightarrow \frac{8^2}{10^2} = \left(\frac{4}{5} \right)^{15-?}$$

$$\Rightarrow \left(\frac{4}{5} \right)^2 = \left(\frac{4}{5} \right)^{15-?}$$

$$\Rightarrow 15 - ? = 2$$

$$\Rightarrow ? = 15 - 2 = 13$$

44. (3) ? of $\left(\frac{45}{8} - \frac{11}{4} - \frac{1}{4} \right) = 483$

$$\Rightarrow ? \text{ of } \left(\frac{45 - 22 - 2}{8} \right) = 483$$

MODEL SOLVED PAPER-16

$$\Rightarrow \frac{21 \times 7}{8} = 483$$

$$\Rightarrow ? = \frac{483 \times 8}{21} = 184$$

$$45. (2) \sqrt{4624} + \left(\frac{2}{5}\right)^2 = ? \times 25$$

$$\Rightarrow 68 \times \frac{25}{4} = ? \times 25$$

$$\Rightarrow ? = \frac{68}{4} = 17$$

$$46. (4) ?^3 = \frac{45 \times 560}{100} - \frac{50 \times 254}{100}$$

$$= 252 - 127 = 125$$

$$\therefore ? = \sqrt[3]{125} = 5$$

$$47. (1) \frac{9}{4} \times \frac{12}{5} \times ? = 18$$

$$\Rightarrow \frac{27}{5} \times ? = 18$$

$$\Rightarrow ? = \frac{18 \times 5}{27} = \frac{10}{3} = 3\frac{1}{3}$$

$$48. (5) \sqrt{634 + 24 + 0.08} - ? = 29$$

$$\Rightarrow \sqrt{634 + \frac{24}{0.08}} - ? = 29$$

$$\Rightarrow \sqrt{634 + 300} - ? = 29$$

$$\Rightarrow \sqrt{934} - ? = 29$$

$$\Rightarrow 934 - ? = 29^2 = 841$$

$$\Rightarrow ? = 934 - 841 = 93$$

$$49. (5) \text{ Let the width of rectangle be } x \text{ metre.}$$

$$\therefore \text{ Its length}$$

$$= 1.5x \text{ metre} = \text{side of square}$$

$$\text{According to the question,}$$

$$(1.5x)^2 - 1.5x \times x = 147$$

$$\Rightarrow 2.25x^2 - 1.5x^2 = 147$$

$$\Rightarrow 0.75x^2 = 147$$

$$\Rightarrow x^2 = \frac{147}{0.75} = \frac{147 \times 100}{75}$$

$$= 196$$

$$\therefore x = \sqrt{196} = 14 \text{ metre}$$

$$\therefore \text{ Area of rectangle} = 1.5x^2$$

$$= 1.5 \times 14 \times 14$$

$$= 294 \text{ sq. metre}$$

$$50. (1) \text{ Kavya's present age}$$

$$= 71 - 17 = 54 \text{ years}$$

$$\therefore \text{ Diya's present age} = \frac{54}{6}$$

$$= 9 \text{ years}$$

After 5 years from today,
Diya : Farah = 2 : 5
i.e., Diya's age = 14 years

$$\therefore \text{ Farah's age} = \frac{5}{2} \times 14$$

$$= 35 \text{ years}$$

$$\therefore \text{ Required difference}$$

$$= 35 - 14 = 21 \text{ years}$$

$$51. (5) \text{ Let the quantity of mixture be } 8 \text{ kg.}$$

$$\text{Variety A} \Rightarrow 5 \text{ kg.}$$

$$\text{Variety B} \Rightarrow 3 \text{ kg.}$$

$$\therefore \text{ Cost of whole mixture}$$

$$= \text{Rs. } (5 \times 16 + 3 \times 28)$$

$$= \text{Rs. } (80 + 84)$$

$$= \text{Rs. } 164$$

$$\therefore \text{ Required cost} = \frac{164}{8}$$

$$= 20.5 \text{ per kg.}$$

$$52. (2) \text{ According to the question,}$$

$$A + B + C \Rightarrow 3 \times 54 = 162 \text{ kg.}$$

$$A + B \Rightarrow 2 \times 40.5 = 81 \text{ kg.}$$

$$B + C \Rightarrow 2 \times 63 = 126 \text{ kg.}$$

$$\therefore \text{ B's weight} = (A + B)'s$$

$$\text{weight} + (B + C)'s \text{ weight} -$$

$$(A + B + C)'s \text{ weight}$$

$$= (81 + 126 - 162) \text{ kg.}$$

$$= (207 - 162) \text{ kg.}$$

$$= 45 \text{ kg.}$$

$$53. (2) \text{ A's 1 day's work} = \frac{1}{30}$$

$$\text{A's 6 days' work} = \frac{6}{30} = \frac{1}{5}$$

$$\text{Remaining work} = 1 - \frac{1}{5} = \frac{4}{5}$$

$$\text{A and B together do } \frac{4}{5} \text{ th}$$

$$\text{work in 9 days.}$$

$$\therefore \text{ A and B will do the whole}$$

$$\text{work in} = \frac{9 \times 5}{4} = \frac{45}{4} \text{ days.}$$

$$\therefore (A+B)'s \text{ 1 day's work} = \frac{4}{45}$$

$$\therefore \text{ B's 1 day's work}$$

$$= \frac{4}{45} - \frac{1}{30}$$

$$= \frac{8-3}{90} = \frac{5}{90} = \frac{1}{18}$$

$$\therefore \text{ Time taken by B} = 18 \text{ days.}$$

MODEL SOLVED PAPER-16

$$54. (3) \text{ The pattern is :}$$

$$24 + (1 + 1^2) = 24 + 2 = 26$$

$$26 + (1 + 2^2) = 26 + 5 = 31$$

$$31 + (1 + 3^2) = 31 + 10 = 41$$

$$41 + (1 + 4^2) = 41 + 17 = 58$$

$$58 + (1 + 5^2) = 58 + 26 = 84$$

$$55. (1) \text{ The pattern is :}$$

$$10 + 3^1 = 10 + 3 = 13$$

$$13 + 3^2 = 13 + 9 = 22$$

$$22 + 3^3 = 22 + 27 = 49$$

$$49 + 3^4 = 49 + 81 = 130$$

$$130 + 3^5 = 130 + 243 = 373$$

$$56. (3) \text{ The pattern is :}$$

$$17 \times 0.5 - 0.5 = 8.5 - 0.5 = 8$$

$$8 \times 1 - 1 = 8 - 1 = 7$$

$$7 \times 1.5 - 1.5 = 10.5 - 1.5 = 9$$

$$9 \times 2 - 2 = 18 - 2 = 16$$

$$16 \times 2.5 - 2.5 = 40 - 2.5 = 37.5$$

$$57. (5) \text{ The pattern is :}$$

$$20 + 24 = 44$$

$$44 + 22 (= 24 - 2) = 66$$

$$66 + 18 (= 22 - 4) = 84$$

$$84 + 12 (= 18 - 6) = 96$$

$$96 + 4 (= 12 - 8) = 100$$

$$58. (3) \text{ The pattern is :}$$

$$6 \times 1 - 1 = 6 - 1 = 5$$

$$5 \times 2 - 2 = 10 - 2 = 8$$

$$8 \times 3 - 3 = 24 - 3 = 21$$

$$21 \times 4 - 4 = 84 - 4 = 80$$

$$80 \times 5 - 5 = 400 - 5 = 395$$

$$59. (3) \text{ A's investment} = \text{Rs. } 5x$$

$$\text{B's investment} = \text{Rs. } 2x$$

$$\text{C's investment} = \text{Rs. } 10x$$

$$\text{Ratio of the equivalent capi-}$$

$$\text{tals of A, B and C for 1 month}$$

$$= 5x \times 12 : 2x \times 10 : 10x \times 6$$

$$= 3 : 1 : 3$$

$$\text{Sum of the terms of ratio}$$

$$= 3 + 1 + 3 = 7$$

$$\therefore \text{ Difference between the shares of A and B}$$

$$= \left(\frac{3-1}{7}\right) \times 6510$$

$$= \text{Rs. } \left(\frac{2}{7} \times 6510\right) = \text{Rs. } 1860$$

$$60. (1) \text{ Rate downstream of boat}$$

$$= \frac{\text{Distance}}{\text{Time}}$$

$$= \left(\frac{16.2}{\frac{36}{60}}\right) \text{ kmph}$$

$$= \left(\frac{16.2 \times 60}{36} \right) \text{ kmph}$$

$$= 27 \text{ kmph}$$

Speed of current : Speed of boat in still water = 1 : 8

$$\therefore \text{Rate downstream} = 8x + x = 9x \text{ kmph.}$$

$$\therefore 9x = 27 \Rightarrow x = \frac{27}{9} = 3$$

\therefore Rate upstream

$$= 8x - x = 7x \text{ kmph.}$$

$$= 21 \text{ kmph.}$$

\therefore Time taken in covering 6.3

$$\text{km} = \frac{6.3}{21} \text{ hour}$$

$$= \left(\frac{6.3}{21} \times 60 \right) \text{ minutes}$$

$$= 18 \text{ minutes}$$

61. (5) Speed of car A = $\frac{122}{5}$

$$= 24.4 \text{ kmph}$$

Speed of car B = 8.5 m/sec.

$$= \left(\frac{8.5 \times 18}{5} \right) \text{ kmph.}$$

$$= 30.6 \text{ kmph.}$$

Both cars are running in opposite directions.

\therefore Relative speed

$$= (24.4 + 30.6) \text{ kmph.}$$

$$= 55 \text{ kmph.}$$

\therefore Distance covered in 3 hours

$$= 3 \times 55 = 165 \text{ km.}$$

62. (4) S.P. of 1 chair = Rs. x (let)

$$\text{S.P. of 1 table} = \text{Rs. } y \text{ (let)}$$

According to the question,

$$9x + 5y = 3790 \quad \text{--- (i)}$$

$$3x + 2y = 1390 \quad \text{--- (ii)}$$

By equation (ii) $\times 3$ - (i),

$$9x + 6y = 4170$$

$$9x + 5y = 3790$$

$$y = \text{Rs. } 380$$

\therefore S.P. of 3 tables

$$= \text{Rs. } (3 \times 380)$$

$$= \text{Rs. } 1140$$

63. (2) Rate of fencing

$$= \text{Rs. } 9 \text{ per metre.}$$

$$\text{Total cost} = \text{Rs. } 918$$

$$\therefore \text{Perimetre of plot} = \frac{918}{9}$$

$$= 102 \text{ metre}$$

Let the length of plot be x metre.

\therefore Its breadth = $(x - 13)$ metre

$$\therefore 2(x + x - 13) = 102$$

$$\Rightarrow 2x - 13 = \frac{102}{2} = 51$$

$$\Rightarrow 2x = 51 + 13 = 64$$

$$\Rightarrow x = \frac{64}{2} = 32 \text{ metre}$$

64. (1) Let C.P. of article be Rs. x
At 12% loss.

$$\text{S.P. of article} = \frac{x \times 88}{100}$$

$$= \text{Rs. } \frac{22x}{25}$$

According to the question,

$$\frac{22x}{25} + 76.5 = \frac{x \times 105}{100}$$

$$\Rightarrow \frac{105x}{100} - \frac{22x}{25} = 76.5$$

$$\Rightarrow \frac{105x - 88x}{100} = 76.5$$

$$\Rightarrow \frac{17x}{100} = 76.5$$

$$\Rightarrow x = \frac{76.5 \times 100}{17} = \text{Rs. } 450$$

For a profit of 16%,

$$\text{S.P. of article} = \frac{450 \times 116}{100}$$

$$= \text{Rs. } 522$$

65. (3) Let the amount invested be Rs. y .

S.I. received from scheme A

$$= \frac{\text{Principal} \times \text{Time} \times \text{Rate}}{100}$$

$$= \frac{y \times 3x}{100} = \text{Rs. } \frac{3xy}{100}$$

C.I. received from scheme B

$$= P \left[\left(1 + \frac{R}{100} \right)^T - 1 \right]$$

$$= y \left[\left(1 + \frac{10}{100} \right)^2 - 1 \right]$$

$$= y \left[(1.1)^2 - 1 \right] = y (1.21 - 1)$$

$$= \text{Rs. } 0.21y$$

According to the question,

$$\frac{3xy}{100} = \frac{18}{7} \Rightarrow \frac{3x}{21} = \frac{18}{7}$$

$$\Rightarrow 3x = \frac{18 \times 21}{7} = 18 \times 3$$

$$\Rightarrow x = 18$$

66. (4) $192 \Rightarrow 912$

$$756 \Rightarrow 576$$

$$275 \Rightarrow 725$$

$$643 \Rightarrow 463$$

$$584 \Rightarrow 854$$

The lowest number = 463

$$\text{Required sum} = 4 + 6 + 3 = 13$$

67. (3) $192 \Rightarrow 129$

$$756 \Rightarrow 567$$

$$275 \Rightarrow 257$$

$$643 \Rightarrow 346$$

$$584 \Rightarrow 458$$

Highest number $\Rightarrow 567$

Second highest number $\Rightarrow 458$

Required difference

$$= 567 - 458 = 109$$

68. (5) Highest number $\Rightarrow 756$

Its second digit $\Rightarrow 5$

Lowest number $\Rightarrow 275$

Its third digit $\Rightarrow 5$

$$\text{Required resultant} = \frac{5}{5} = 1$$

69. (2) $192 \Rightarrow 152$

$$756 \Rightarrow 716$$

$$275 \Rightarrow 277$$

$$643 \Rightarrow 645$$

$$584 \Rightarrow 544$$

In 152, the second digit is the greater than the third digit.

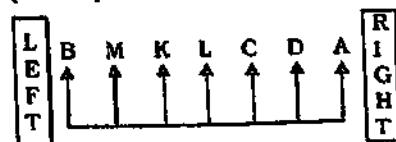
70. (1) Ascending order of numbers :

$$192 < 275 < 584 < 643 < 756$$

$$\text{Required difference} = 8 - 4$$

$$= 4$$

(71-75) :



71. (4) K is sitting third to the left of D.

72. (5) B and A are seated at the two extreme ends of the line.

MODEL SOLVED PAPER-16

73. (3) Only D is sitting between A and C.
 74. (2) L sits second to the left of D.
 75. (1) L sits exactly in the middle of the line.
 76. (2)

play the music → 9 3 4
 live music concert → 5 4 2
 play guitar live → 2 3 8

The code for 'guitar' is '8'.

(77-78):

P is the husband of M.
 P is the father of F.
 P is the son of G and K.

77. (1) K is either father or mother of P.

M is the wife of P.

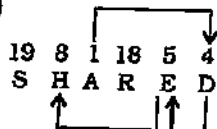
Therefore, K is either father-in-law or mother-in-law of M.

78. (2) M is the mother of F.

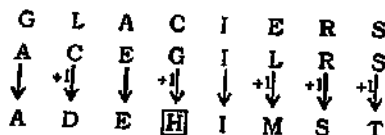
F is the grandson of U.

If D is the father of M, then F is the grandson of D.

79. (1)

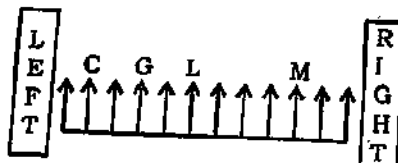


80. (5)



Fourth from the left end

81. (4)



Three persons sit between M and L.

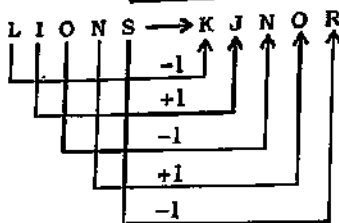
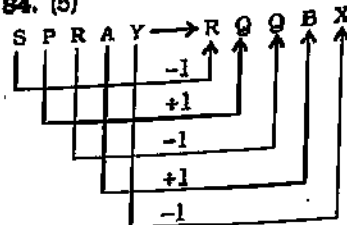
(82-83):

D, H > E > G
 H > F > D
 H > F > D > E > G
 ↓
 179 cm 162 cm

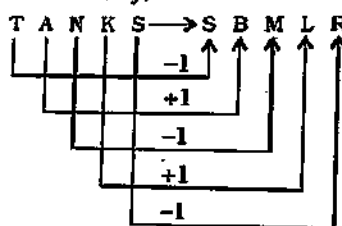
82. (4) Height of E = (162 - 18) cm. = 144 cm.
 Difference between heights of H and E = (179 - 144) cm. = 35 cm.

83. (2) D is 162 cm tall.

84. (5)



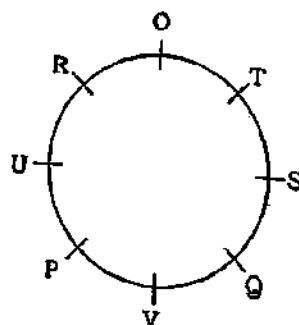
Similarly,



85. (1)

1	3	6	7	4	8	2	5
8	7	6	5	4	3	2	1

(86-90):



86. (3) Three persons are seated between S and U.

87. (1) U and O are immediate neighbours of R.

88. (4) R sits third to the left of V.

89. (2) Except in USR, in all others there are three persons between the first two persons

and there is only one person between the second and the third persons.

90. (5) T sits second to the right of Q.

Either two or four persons sit between T and V.

T sits to the immediate right of S.

T is an immediate neighbour of both O and S.

91. (1) 6 % 3 * 5 9
 ↓ ↓ ↓ ↓ ↓
 T B = X P U

Condition (ii) is applicable.

92. (5) 8 £ + 4 2 5
 ↓ ↓ ↓ ↓ ↓
 H M A F Y P

93. (3) 7 % # 2 £ 9
 ↓ ↓ ↓ ↓ ↓
 M B K Y L U

Condition (iv) is applicable.

94. (4) + 3 5 * 8 ^
 ↓ ↓ ↓ ↓ ↓
 A C Z X H Z

Condition (iii) is applicable.

95. (2) ^ 6 5 4 # 3
 ↓ ↓ ↓ ↓ ↓
 Z F P T K C

Condition (i) is applicable.

96. (1) C = L > E ≥ R ≥ K

Conclusions

I. R < C : True

II. L > K : True

97. (3) O > N = L < Y; L ≤ P

O > N = L ≤ P

Conclusions

I. O > Y : Not True

II. P < O : Not True

98. (2) L = I ≥ M ≥ E

Conclusions

I. L > E : Not True

II. E = L : Not True

L is either greater than or equal to E. Therefore, either Conclusion I or Conclusion II is true.

99. (5) E > Q ≤ U = T ≤ M

Conclusions

I. E > T : Not True

II. M ≥ Q : True

100. (4) F ≤ A < T ≥ H > E

Conclusions

I. F < T : True

II. A > E : Not True