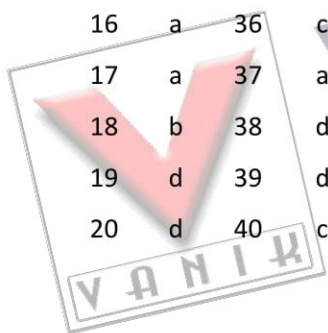


ANSWERS KEYS

1	d	21	b	41	c	61	d
2	c	22	b	42	d	62	c
3	b	23	c	43	d	63	c
4	a	24	c	44	a	64	c
5	a	25	a	45	b	65	d
6	b	26	c	46	a	66	b
7	c	27	b	47	a	67	c
8	c	28	b	48	c	68	c
9	a	29	b	49	b	69	b
10	a	30	b	50	d	70	d
11	c	31	b	51	c	71	c
12	c	32	b	52	a	72	d
13	b	33	a	53	d	73	c
14	a	34	c	54	a	74	b
15	c	35	d	55	a	75	a
16	a	36	c	56	c	76	a
17	a	37	a	57	d	77	b
18	b	38	d	58	c	78	b
19	d	39	d	59	b	79	a
20	d	40	c	60	d	80	b



EXPLANATIONS

1. (d)

As, $20 : 30$
 $(4 \times 5) : (4 + 1) \times (5 + 1)$

Similarly, $110 : x$
 $(10 \times 11) : (10 + 1) \times (11 + 1)$

So, $x = 11 \times 12 = 132$

2. (c) The number and its corresponding square are given.

$5 = 5^2 = 25$

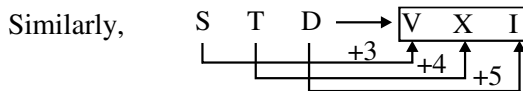
$4 = 4^2 = 16$

$9 = 9^2 = 81$

i.e. 251681

3. (b) As R and V are the opposite letters of I and E, respectively, similarly, opposite letters of K and C are P and X, respectively.

4. (a)



5. (a) A pentagon has one side more than rectangle. Similarly, a rectangle has one side more than triangle.

6. (b) Except (b), in all other pairs, the second number is 9 number more than the first.

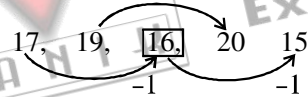
6. (c) Except (c), in all other pairs, first is the name of a desert which is situated in the country denoted by the second.

8. (c) Except (c), in all others, second is the part of first.

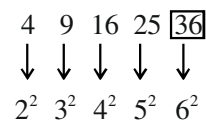
9. (a) Except (a), in all other options, vowel is at the first place.

10. (a) 'Nocturnal' is a different word because other words are related to music.

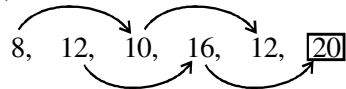
11. (c)



12. (c)



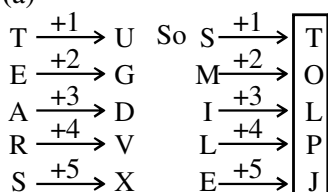
13. (b)



14. (a) aabba

15. (c) bacac

16. (a)



17. (a)

G A R I M A
↓ ↓ ↓ ↓ ↓ ↓
7 2 5 4 3 2
And T I N A
↓ ↓ ↓ ↓
6 4 8 2
M A R T I N A Therefore,
↓ ↓ ↓ ↓ ↓ ↓ ↓
3 2 5 6 4 8 2

18. (b)

18 9 20 1 19 10 21 2
R I T A S J U B
↑ ↑ ↑ ↑
+1
+1
+1
+1

Similarly,

3 21 2 1 4 22 3 2
C U B A D V C B
↑ ↑ ↑ ↑
+1
+1
+1
+1

19. (d)

1 2 3 4 5 6 7 8 9
N U M E R I C A L

Its code is

9 3 2 6 5 4 8 7 1
L M U I R E A C N

Therefore,

1 2 3 4 5 6 7 8 9
P U B L I S H E D

Its code would be

9 3 2 6 5 4 8 7 1
D B U S I L E H P

20.(d) As per position in alphabets

$$ACT = 1 + 3 + 20 \rightarrow 24 \times 2 = 48$$

$$\text{Similarly, } BAT = 2 + 1 + 20$$

$$\rightarrow 23 \times 2 = 46$$

21.(b) Pressure \rightarrow Rain \rightarrow Flood \rightarrow Protect \rightarrow Relief

22. (b) Newly married couple \rightarrow Family \rightarrow Caste \rightarrow Clan \rightarrow Species

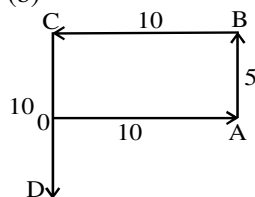
23. (c) Tirupati \rightarrow Andhra Pradesh \rightarrow India \rightarrow World \rightarrow Universe

24. (c) Clearly, NEAT cannot be formed by the letter of the given word due to absence of letter 'T'.

25. (a) 'NATIONAL' is the only word which cannot be formed due to repetition of letter 'N'.

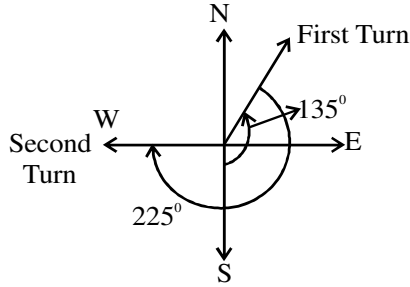
26. (c) Only 'MENTOR' is the word which cannot be formed due to absence of letter 'O'.

27. (b)



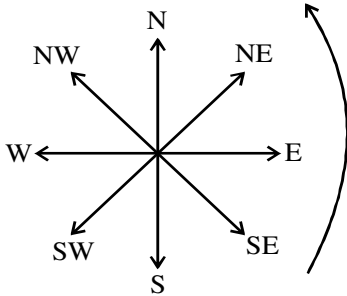
Now direction is south.

28. (b)



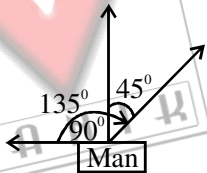
Now the person is facing west.

29. (b)



According to the question, South-East has been shown as North. It implies that the direction pointer has been rotated through 135° in anticlockwise direction. Therefore, West will represent South-East.

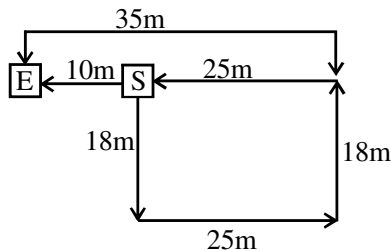
30. (b) The net rotation of man is 45° clockwise.



Clearly, he is facing North-East direction.

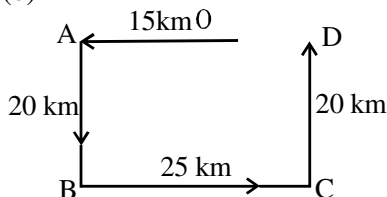
31. (b)

Manisha's movement is as follows:



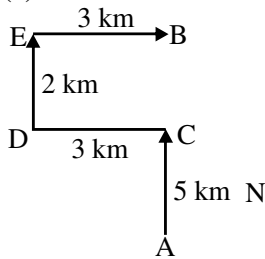
Clearly, Manisha is 10m west from the starting point.

32. (b)



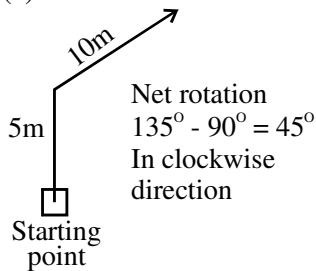
Clearly $OD = 25 - 15 = 10$ km.

33. (a)



Required distance = $5 + 2 = 7$ km.

34. (c)



Net rotation $135^\circ - 90^\circ = 45^\circ$ in clockwise direction

35. (d)

Relative speed of Rahul and Rohan = $(8 + 10) \times \frac{5}{18} = 5$ m per sec.

Rohan and Rahul will cover 270 m in 54 sec.

In 54 seconds Rohan will cover $54 \times \frac{20}{9} = 120$ m

It means first time they will cross at 30 m on AD from A.

In 72 seconds Rohan will cover $72 \times \frac{20}{9} = 160$ m.

It means they will cross each other second time at 10 m from C on BC.

36. (c) They are sentenced for a definite period only.

37. (a) We are a free nation.

38. (d)

Some teachers are students. [I]

All students are girls. [A]

I + A I-type of conclusion

“Some teachers are girls”

Conclusion II is converse of it.

Conclusion III is converse of the second premise

Therefore, Conclusions II and III follow.

39. (d)

Some teachers are students. [I]

All students are girls. [A]

E + AO₁-type of Conclusion

“Some students are not girls.”

Conclusion II is same as the second premise.

Conclusion III is converse of the first premise.

40. (c) Both the Premises are Particular Affirmative (I-type). No Conclusion follows from the two particular Premises.

Converse of Conclusion I and Conclusion III forms complementary Pair. Therefore, either I or III follows.

41. (c)

According to the question.

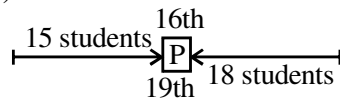
- Hema > Jaya ... (i)
- Meena > Prem ... (ii)
- Lalit = Jaya ... (iii)
- Jayant > Hema ... (iv)

From (i), (iii) and (iv)

Jayant > Hema > Jaya = Lalit.

Clearly, Lalit is poorer than Hema.

42. (d)

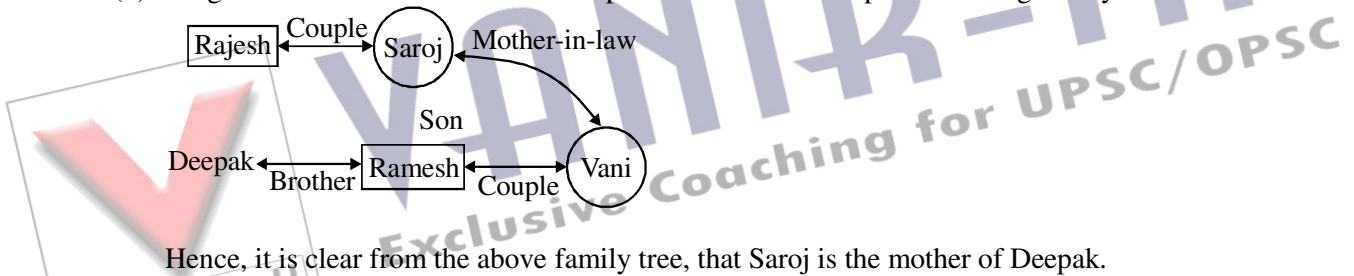


Punam's rank from the last

$$= (34 - 16) + 1$$

$$= 18 + 1 = 19^{\text{th}}$$

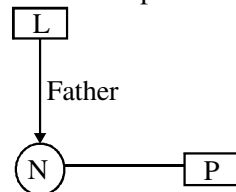
43. (d) The given information can be better represented with the help of following family tree



Hence, it is clear from the above family tree, that Saroj is the mother of Deepak.

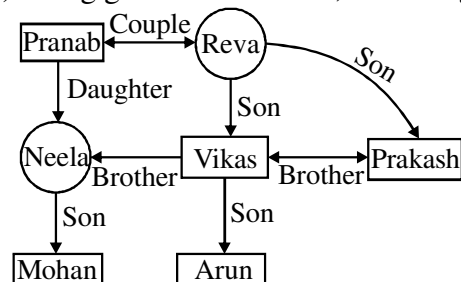
44. (a) Here, it is given that L is the father of N but N is not the son of L.

It can be represented as



Hence, it is clear that N is the daughter of L.

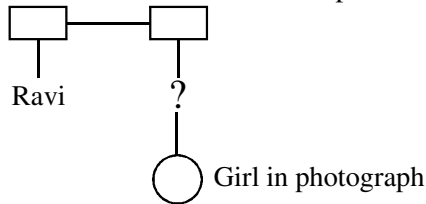
45. (b) Using given information, following family tree can be drawn as below:



From the above chart, it is clear that Vikas is the brother of Neela. Therefore, wife of Vikas will be sister-in-law of Neela.

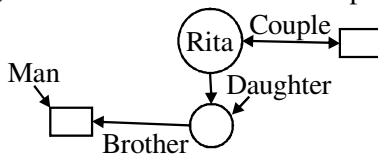
46. (a)

Given information can be represented as below:



From the above family tree, it is clear that, the girl is niece of Ravi.

47. (a) Given information can be depicted as

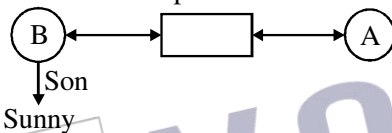


Hence, the man on stage is the son of Rita.

48. (c) A is the step mother of Sunny.

∴ B is the mother of Sunny.

This can be represented as

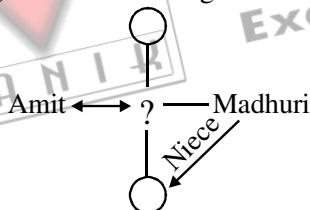


Hence, Sunny is the son of B.

49. (b) Females in the family are wife, three wives of three sons and two daughters.

So, there are 6 females in the family.

50. (d) On the basis of given information relations can be shown as



From the above family tree, it is clear that all the given options about the relationship between Amit and Madhuri are incorrect.

51. (c) Persons who like sandwich only = 7

Persons who like sandwich and pizza = 4

Persons who like sandwich and also chat = 3

Persons who like burger only = 4

Persons who like burger and pizza = 8

Persons who like burger and also chat = 10

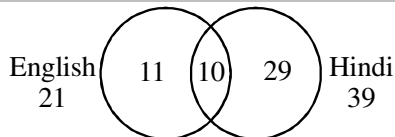
So, persons who like burger or sandwich but not both are

= 7 + 4 + 3 + 4 + 8 + 10 = 36

52. (a) Persons who like both sandwich and pizza = 4 + 5 = 9

53. (d) Persons who like aloo chat only = 9

54. (a) On the basis of given information, the Venn diagram as below:



Number of students who can speak English = 21 but 10 can speak both (English and Hindi).

So, number of students who can speak Hindi

$$= 50 - 21 + 10 = 39$$

Number of students who can speak only Hindi

$$= 39 - 10 = 29$$

Number of students who can speak only English

$$= 21 - 10 = 11$$

55. (a) Since, circle A represents all males and B represents bearded male and C represents all male guitarists. It means some guitarists are bearded male.

56. (c) According to the given diagram,

C lies opposite A.

B lies opposite D.

E lies opposite F.

57. (d) According to the given diagram,

E lies opposite D.

B lies opposite C.

A lies opposite F.

58. (c) According to Dice rule 6 dots,

59. (b) Keeping 4 at top 1, 2, 4, 6 have come on sides in all three positions hence the bottom digits will be 5, 5, 5.

60. (d) According to dice rule 6

61. (d) Let the age of the son be x yr.

Then, father's age = $9x$

and mother's age = $8x$

According to the question, $9x + 8x = 51 \Rightarrow 17x = 51$

$$x = \frac{51}{17} = 3 \text{ yr}$$

Hence, the age of the son is 3 yr.

62. (c) Let the present age of son be x yr.

Then, age of father = $2x$ yr

Now, age of son 20 yr ago

$$= (x - 20) \text{ yr}$$

and age of father 20 yr ago

$$= (2x - 20) \text{ yr}$$

$$\text{Now, } (2x - 20) = 12(x - 20)$$

$$\Rightarrow 2x - 20 = 12x - 240$$

$$\Rightarrow 10x = 220 \Rightarrow x = 22$$

Hence, the present age of son = 22 yr.

63. (c) Let the present age of Arvind be x yr.

Then, age of Arvind's father = $4x$ yr

Now, age of Arvind 5 yr ago

$$= (x - 5) \text{ yr}$$

and age of Arvind's father 5 yr ago = $(4x - 5) \text{ yr}$

$$\text{Now, } (4x - 5) = 7(x - 5)$$

$$\Rightarrow 4x - 5 = 7x - 35$$

$$\Rightarrow 3x = 30 \quad x = 10$$

Hence, the present age of father of Arvind = $4 \times 10 = 40$ yr

64. (c) Let person's mother present age = $\frac{2}{5}x$ yr

Then, person's present age yr
According to the question,

$$\text{After 8 yr, } \frac{1}{2}(x + 8) = \left(\frac{2x}{5} + 8\right)$$

$$\Rightarrow \frac{x + 8}{2} = \frac{2x + 40}{5}$$

$$\Rightarrow 5x + 40 = 4x + 80$$

$$\Rightarrow x = 40$$

Present age of person's mother
= 40 yr

65. (d) Suppose, Rajendra's age = x yr
and Devendra's age = (x + 4) yr

Then, according to the question,

$$(x + 4) + 16 = 3(x + 4)$$

$$\Rightarrow x + 20 = 3x + 12$$

$$\Rightarrow 2x = 8 \Rightarrow x = 4$$

∴ Rajendra's age after 16 yr

$$= x + 16 = 4 + 16 = 20 \text{ yr}$$

or, Rajendra's age after 16 yr = 5x

$$= 5 \times 4 = 20 \text{ yr}$$

66. (b) Their arrangements are as follows:

First Figure

$$11 \times 9 = 99$$

$$99 + 5 = 104$$

Second Figure

$$8 \times 5 = 40$$

$$40 + 4 = 44$$

Similarly,

Third Figure

$$25 \times 3 = 75$$

$$75 + 5 = 80$$

67. (c) Their arrangements are as follows:

$$4 + 8 = 12$$

$$12 \times 9 = 108$$

Similarly, 5 + 4 = 9

$$9 \times 12 = 108$$

68. (c) $2^2 + 4^2 = 20$

$$\text{Also } 3^2 + 9^2 = 90$$

$$\text{Similarly } 1^2 + 5^2 = 26$$

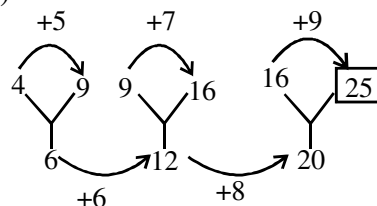
69. (b) $4 + 1 = 5$; $5 + 1 = 6$; $6 + 1 = 7$; $7 + 2 = 9$; $9 + 2 = 11$; $11 + 2 = 13$

70. (d) First figure $21 + 37 = 58$

$$\text{Second figure } 14 + 25 = 39$$

$$\text{Third figure } = 16 + 81 = 97$$

71. (c)



72. (d)

$$63 + 27 + 3 = 93$$

$$37 + 38 + 4 = 79$$

$$\text{Similarly, } 42 + 16 + ? = 67$$

$$\Rightarrow ? = 67 - 42 - 16 = 9$$

73. (c) In each subsequent figure the design rotates through 45° anticlockwise, the shaded corner moves one step in clockwise direction and the arrow moves out of the square alternatively.

74. (b) From first figure to second figure the triangle becomes shaded. Therefore, from third figure to the fourth figure the square would become shaded.

75. (a) In each subsequent figure the cross sign and the circle move one step in clockwise direction.

76. (a) Alternately, one-half part of one block from the top and one block from bottom respectively are deleted.

77. (b) Lines are moving anti-clockwise through 45° .

Symbols O and x are changing alternately.

78. (b) In each subsequent figure the plane of designs rotate through 90° anticlockwise.

79. (a) R explains A perfectly

80. (b) R does not explain A perfectly



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