

UDAYA425-VIII_PT-1-MAT-2

1. Find the missing letter.
FOX, GP ?, HQZ
(A) Y (B) Z (C) T (D) W
2. Find the next number of the sequence.
0, 8, 24, 48, 80, ?
(A) 110 (B) 96 (C) 120 (D) 140
3. Find the missing letters.
b _ b _ bb _ bbbb _ bb _
(A) bbbba (B) bbabb (C) abaab (D) aabab
4. Find the next number of the sequence.
1, 5, 14, 30, 55, 91, ?
(A) 130 (B) 140 (C) 150 (D) 160
5. Find the next letter of the sequence.
A, B, E, J, Q, ?
(A) A (B) Y (C) X (D) Z
6. Find the missing number of the sequence.
5, 11, 17, 23, __ 35
(A) 27 (B) 29 (C) 25 (D) 31
7. Find the next numbers of the sequence.
67, 71, 73, 79, 83, __, __
(A) 87, 89 (B) 89, 91 (C) 89, 97 (D) 93, 97
8. Find the next number of the sequence.
120, 99, 80, 63, 48, ?
(A) 35 (B) 38 (C) 39 (D) 40
9. Find the next number of the sequence
6, 11, 21, 36, 56, ?
(A) 51 (B) 91 (C) 42 (D) 81
10. Find the missing number of the sequence
26, 37, 50, 65, ? , 101
(A) 77 (B) 80 (C) 81 (D) 82

Space for rough work

11. Find the missing number of the sequence
13 (168) 13, 14 (181) 13, 15 (?) 13,
(A) 190 (B) 194 (C) 195 (D) 196
12. Find the next number of the sequence
29, 31, 37, 41, 43, ?
(A) 45 (B) 46 (C) 47 (D) 49
13. Find the next number of the sequence
2, 7, 27, 107, 427, ?
(A) 1262 (B) 1707 (C) 4027 (D) 4207
14. Find the next in the pattern.
ATTRIBUTION, TTRIBUTIO, RIBUTIO, IBUTI, ?
(A) IBU (B) UT (C) UTI (D) BUT
15. Find the next number of the sequence
6, 10, 16, 24, 34, 46, _____
(A) 70 (B) 50 (C) 60 (D) 90
16. Find the next number of the sequence
9, 27, 81, _____
(A) 324 (B) 243 (C) 512 (D) 676
17. Find the next numbers of the sequence
15, 17, 20, 22, 27, 29, _____, _____
(A) 31, 28 (B) 36, 38 (C) 36, 43 (D) 38, 45
18. Find the missing letters.
___ __ aba ___ __ ba ___ ab
(A) abbba (B) abbab (C) baabb (D) bbaba
19. Find the missing letters.
___ __ babba _ a ___
(A) abab (B) baaa (C) bbab (D) babb
20. Find the next in the sequence.
B-4, D-16, F-36, _____
(A) G-49 (B) H-64 (C) J-100 (D) H-81

Space for rough work

UDAYA425-VIII_PT-1-MAT-4

21. In a row of ten boys, when Rohit was shifted by two places towards the left, he became seventh from the left end. What was his earlier position from the right end of the row ?
 (A) first (B) Second (C) Fourth (D) Sixth
22. If L stands for +, M stands for −, N stands for \times and P stands for \div then $12N10L42P2M8 = ?$
 (A) 133 (B) 216 (C) 248 (D) 251
23. If 'θ' means '+', 'φ' means ' \times ' and '□' means ' \div ', find the value of $119 \square 17 \theta 7 \phi 4$
 (A) 33 (B) 35 (C) 63 (D) 36
24. If z means division, x means plus, y means minus, and p means multiplication, then what is the value of $200z5x10y5p10$
 (A) 0 (B) 1 (C) 10 (D) 100
25. If $5 \times 3 = 16$, $9 \times 8 = 73$ and $6 \times 7 = 43$, then $7 \times 8 = ?$
 (A) 72 (B) 58 (C) 85 (D) 57
26. If $2 = 6$, $4 = 12$ and $8 = 24$ then $10 = ?$
 (A) 30 (B) 20 (C) 15 (D) 27
27. If $4 - 4 = 12$, $6 - 6 = 30$, $2 - 2 = 2$, then $8 - 8 = ?$
 (A) 8 (B) 38 (C) 56 (D) 16
28. $4 \times 6 \times 2 = 351$, $3 \times 4 \times 8 = 237$, $9 \times 5 \times 6 = ?$
 (A) 270 (B) 845 (C) 546 (D) 659

Directions (Questions 29 – 30): What should be the correct signs to balance the following equations ?

29. $17 - 3 \times 6 = 45$
 (A) \times , = and − (B) −, \times and = (C) =, \times and + (D) \times , − and =
30. $3 + 2 \times 1 = 7$
 (A) \times , + and = (B) +, \times and = (C) =, \times and + (D) \times , = and +
31. If $3 \times 9 \times 7 = 379$ and $5 \times 4 \times 8 = 584$, the $1 \times 2 \times 3 = ?$
 (A) 123 (B) 231 (C) 213 (D) 132
32. In a row of students, if John, who is 16th from the left, and Johnson, who is 8th from the right, interchange their positions, John becomes 33rd from left. How many students are there in the row?
 (A) 38 (B) 39 (C) 40 (D) 41

Space for rough work

33. If Juhi is 12 ahead in rank of Prabha, who ranks 15th from last, then how many students are there in the class if Juhi ranks 4th in order of merit?
(A) 23 (B) 27 (C) 30 (D) 31
34. Mukul is fourteenth from the right end in a row of 40 boys. What is his position from the left end?
(A) 25th (B) 27th (C) 28th (D) 29th
35. In a row of forty students R is fifth from the right end and there are ten students between R and D. What is D's position from the left end of the row?
(A) 26th (B) 23rd (C) 25th (D) 24th
36. Among five students M is heavier than K and T. B is lighter than T and P. K is not the lightest. Who among them is the lightest?
(A) K (B) B (C) T (D) P
37. Sudhhu is as much older than Kokila as he is younger than Praveen. Nitin is as old as Kokila. Which of the following statements is wrong?
(A) Kokila is younger than Praveen (B) Nitin is younger than Praveen
(C) Sudhhu is older than Nitin (D) Praveen is not the oldest
38. Richard is fifteenth from the front in a column of boys. There were thrice as many behind him as there were in front. How many boys are there between Richard and the seventh boy from the end of the column?
(A) 33 (B) 34 (C) 35 (D) Data inadequate
39. Bharati is 8 ranks ahead of Divya who ranks twenty-sixth in a class of 42. What is Bharati's rank from the last?
(A) 9th (B) 4th (C) 25th (D) 34th
40. Five girls are sitting in a row. Rashi is not adjacent to Sulekha or Abha. Anuradha is not adjacent to Sulekha. Rashi is adjacent to Monika. Monika is at the middle in the row. Then, Anuradha is adjacent to whom out of the following?
(A) Rashi (B) Sulekha (C) Abha (D) Monika

Space for rough work

Directions (Questions 41 – 42): Seven boys P, Q, R, S, T, U and V are stand in a straight line as Follows:

- (i) R is standing between P and V.
- (ii) Q is standing to the immediate left of T.
- (iii) V is standing between R and T.
- (iv) U at the extreme right position.

41. Who is standing exactly in the middle?
 (A) R (B) P (C) T (D) S
42. Who is standing the extreme left?
 (A) U (B) R (C) Q (D) T

Directions (Questions 43 – 46): Study the following information to answer the given questions:

Eight people are sitting in two parallel rows containing four people each, in such a way that there is an equal distance between adjacent persons. In Row – 1 P, Q, R and S are seated (but not necessarily in the same order) and all of them facing South. In Row – 2 A, B, C and D are seated (but not necessarily in the same order) and all of them facing North. Therefore in the given seating arrangement each member seating in the row faces another member of the other row.

R sits second to the right of P. A is an immediate neighbour of the person who faces R. Q sits second to left of the person who faces A. Only one person sits between B and C. C does not face P. C does not sit any extreme ends of the line.

43. Four of the five are alike in a certain way based on the given seating arrangement and thus form a group. Which is the one that does not belong to that group?
 (A) A (B) P (C) R (D) B
44. Who amongst the following faces B?
 (A) P (B) Q (C) R (D) S
45. Which of the following true regarding S?
 (A) S sits exactly between R and P (B) S sits second to the left of Q
 (C) P is an immediate neighbour of S (D) None of above
46. Who amongst the following faces Q?
 (A) A (B) B (C) C (D) D

Space for rough work

Directions (Questions 47 – 50): Study the following information carefully and answer the questions given below:

Riya, Siya, Tia, Mia, Pia, Jia, Zia and Dia live on different floors in the same building having its eight floors numbered one to eight – the ground floor is numbered 1, the floor above it numbered 2 and so on, and – the top most floor is numbered 8. There are two floors between the floor on which Siya and Dia live. Mia doesn't live on an even-numbered floor and she does not live immediate below or above Jia's floor. Jia lives below Dia's floor. Mia does not live immediately below or above Siya's or Dia's floor. Riya live on an odd numbered floor. Tia does not live on the topmost floor. Zia lives on 6th floor. Pia does not live below Dia and Siya lives on floor no.5.

47. Who among the following lives on the topmost floor?
 (A) Mia (B) Siya (C) Dia (D) Pia
48. Jia lives on which of the following floors?
 (A) Second (B) First (C) Third (D) Fifth
49. Who among the following lives on floor no. 4?
 (A) Siya (B) Jia (C) Pia (D) None of these
50. How many floors are three between the floors on which Pia and Tia live?
 (A) One (B) Two (C) Three (D) None
51. Prema is Ajay's sister. Benita is Ajay's mother. Benjamin is Benita's father. Leela is Benjamin's mother. How is Prema related to Leela?
 (A) Daughter-in-law (B) Daughter
 (C) Grand Daughter (D) Great Grand Daughter
52. Rajiv is the brother of Sonia. Sunil is the son of Sonia's sister Hakarun. Rajiv's relationship with Sunil?
 (A) uncle (B) son (C) brother (D) Father
53. D the son-in-law of B and brother-in-law of A who is the brother of C. How is A related to B?
 (A) Brother (B) Son (C) Father (D) Data inadequate

Direction (Questions 54 – 58): Eight friends; A, B, C, D, E, F, G and H are sitting in a circle facing the centre, not necessarily in the same order. D sits third to the left of A. E sits to the immediate right of A. B is third to the left of D. G is second to the right of B. C is an immediate neighbour of B. C is third to the left of H

54. Who amongst the following is sitting exactly between F and D?
 (A) C (B) E (C) H (D) A

Space for rough work

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55. Three of the following four are alive in a certain way based on the information given above and so form a group. Which is the one that does not belong to that group?
(A) DC (B) AH (C) EF (D) CB
56. Who amongst the following is sitting second to the left of H?
(A) E (B) B (C) A (D) none of these
57. Who amongst the following are immediate neighbours of G?
(A) CA (B) AF (C) DC (D) DF
58. Who amongst the following is sitting third to the right of A?
(A) F (B) H (C) B (D) C

Directions (Questions 59 – 63): A group of seven singers, facing the audience, are standing in a line on the stage as follows:

- I. D is to the right of C
- II. F is standing beside G
- III. B is to the left of F
- IV. E is to the left of A
- V. C and B have one person between them
- VI. A and D have one person between them

59. Who is on the extreme right?
(A) D (B) R (C) G (D) E
60. If we start counting from the left, on which number is C?
(A) 1st (B) 2nd (C) 3rd (D) 5th
61. What is the position of D from G?
(A) Third to the right (B) Third to the left
(C) Fourth to the left (D) Second to the right
62. Which pair shows the extreme ends?
(A) EG (B) AF (C) CG (D) EF
63. Who is sitting second to the right of E?
(A) A (B) B (C) F (D) C

Space for rough work

Directions (Questions 64 – 66): A family consist of six members P, Q, R, X, Y and Z. Q is the son of R but R is not mother of Q. P and R are married couple and

- (1). Y is the brother of R.
- (2). X is the daughter of P.
- (3). Z is the brother of P.

64. Who is the brother-in-law of R?
 (A) P (B) Z (C) Y (D) X
65. Who is the father of Q?
 (A) R (B) P (C) Z (D) None
66. How many children does P have?
 (A) One (B) Two (C) There (D) Four
67. In a row of trees, one tree is fifth from either end of the row. How many trees are there in the row?
 (A) 8 (B) 9 (C) 10 (D) 11
68. In a queue, Amrita is 10th from the front while Mukul is 25th from behind and Mamta is just in the middle of the two. If there be 50 persons in the queue, what position does Mamta occupy from the front?
 (A) 20th (B) 19th (C) 18th (D) 17th
69. Manisha ranked sixteenth from the top and twenty ninth from the bottom among those who passed an examination. Six boys did not participate in the competition and five failed in it. How many boys were there in the class ?
 (A) 40 (B) 44 (C) 50 (D) 55
70. Some boys are sitting in a row. P is sitting fourteenth from the left and Q is seventh from the right. If there are four boys between P and Q, how many boys are there in the row ?
 (A) 25 (B) 23 (C) 21 (D) 19
71. Manoj and Sachin are ranked seventh and eleventh respectively from the top in a class of 31 students. What will be their respective ranks from the bottom in the class ?
 (A) 20th and 24th (B) 24th and 20th (C) 25th and 21st (D) 26th and 22nd

Space for rough work

Directions (Questions 72 – 76): Read the below information and answer the following questions.

- I. There are six members in a family
- II. The members are A, B, C, D, E & F.
- III. D is the daughter of F who is the mother of E.
- IV. E is the daughter of A.
- V. A is the son of C.
- VI. The family consists of one couple who has their parents and their children.

72. What relationship do D and E have to each other?
 (A) Mother and Son (B) Sister and Brother
 (C) Sisters (D) Grand Mother and Grand Daughter
73. Who are the male members in the family?
 (A) A, B, and D (B) C and F (C) A and C (D) Can't be determined
74. Which of the following pairs is the parents of D & E?
 (A) BF (B) CF (C) BC (D) none of these
75. How many female members are there in the family?
 (A) 4 (B) 3 (C) 2 (D) none of these
76. Which of the following pairs is the parents of the couple?
 (A) BF (B) CF (C) BC (D) none of these

Directions (Questions 77 – 78): Read the below information and answer the following questions.

There are six children playing football, namely P, Q, R, S, T and U. P and T are brother, U is the sister of T. R is the only son of P's uncle, Q and S are the daughters of the only brother of R's father.

77. How is R related to U?
 (A) Cousin (B) Brother (C) Son (D) Uncle
78. How many males are there?
 (A) One (B) Three (C) Four (D) Five
79. Pointing to a photograph of a boy Suresh said, "He is the son of the only son of my mother". How is Suresh related to that boy?
 (A) Brother (B) Uncle (C) Cousin (D) Father

Space for rough work

80. If A is the brother of B, B is the sister of C and C is the father of D, how D is related to A?
 (A) Brother (B) Sister (C) Nephew (D) Cannot be determined

Directions (Questions 81 – 82): Which set of signs should replace the (?) symbol sequentially in order to make the equation mathematically meaningful?

81. $18 ? 9 ? 27 ? 7 ? 21$
 (A) $\times, =, +, \div$ (B) $\times, +, =, -$ (C) $+, =, \times, -$ (D) $-, =, \times, \div$
82. $7 ? 12 ? 43 ? 41$
 (A) $+, -, =$ (B) $\times, -, =$ (C) $=, -, +$ (D) $=, +, -$

Directions (Questions 83 – 85): Study the following number sequence and answer the questions given below it:

5 1 4 7 3 9 8 5 7 2 6 3 1 5 8 6 3 8 5 2 2 4 3 4 9 6

83. How many odd numbers are there in the sequence each of which is immediately followed by an odd number?
 (A) 1 (B) 2
 (C) 3 (D) more than 4
84. How many even numbers are there in the sequence which are immediately preceded by an odd number but immediately followed by an even number?
 (A) 1 (B) 2 (C) 3 (D) 4
85. How many odd numbers are there in the sequence which are immediately preceded and also immediately followed by an even number?
 (A) 1 (B) 2 (C) 3 (D) 4
86. If + means divided by, – means added to, \times means subtracted from and \div means multiplied by, then
 $18 \times 12 + 4 - 8 \div 2 = ?$
 (A) 216 (B) 31 (C) 04 (D) $10\frac{2}{3}$

Directions (Questions 87 – 88): If the given interchanges are made in signs and numbers, then which one of the four equations would be correct?

87. Given interchanges signs + and – numbers 5 and 8.
 (A) $82 - 35 + 55 = 2$ (B) $82 - 35 + 55 = 102$
 (C) $85 - 38 + 85 = 132$ (D) $52 - 35 + 55 = 72$
88. Given interchanges signs + and \times numbers 3 and 7.
 (A) $23 + 17 \times 73 = 1241$ (B) $37 + 73 \times 12 = 112$
 (C) $23 \times 17 + 37 = 428$ (D) $23 + 17 \times 73 = 388$

Directions (Questions 89 – 90): Following questions are based on the five three – digit numbers given below.

813 479 564 385 792

89. If the position of the 1st and the 2nd digits within each number are interchanged, which of the following will be the lowest number?
 (A) 813 (B) 479 (C) 564 (D) 385
90. Which of the following is the 2nd digit of the 2nd lowest number?
 (A) 1 (B) 7 (C) 6 (D) 8

FIITJEE INTERNAL TEST

Batch: UDAYA425-VIII

PHASE – I

Mental Ability Test (MAT)

QP CODE: 100698

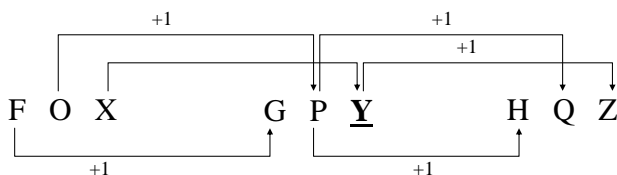
ANSWERS

- | | | | |
|-------|-------|-------|-------|
| 1. A | 2. C | 3. C | 4. B |
| 5. D | 6. B | 7. C | 8. A |
| 9. D | 10. D | 11. B | 12. C |
| 13. B | 14. C | 15. C | 16. B |
| 17. B | 18. B | 19. D | 20. B |
| 21. B | 22. A | 23. B | 24. A |
| 25. D | 26. A | 27. C | 28. B |
| 9. D | 30. A | 31. D | 32. C |
| 33. C | 34. B | 35. C | 36. B |
| 37. D | 38. C | 39. C | 40. A |
| 41. A | 42. C | 43. C | 44. A |
| 45. D | 46. D | 47. D | 48. B |
| 49. D | 50. C | 51. D | 52. A |
| 53. B | 54. C | 55. D | 56. D |
| 57. C | 58. D | 59. C | 60. C |
| 61. B | 62. A | 63. D | 64. B |
| 65. A | 66. B | 67. B | 68. C |
| 69. D | 70. A | 71. C | 72. C |
| 73. D | 74. D | 75. A | 76. C |
| 77. A | 78. B | 79. D | 80. D |
| 81. D | 82. B | 83. D | 84. C |
| 85. D | 86. B | 87. A | 88. D |
| 89. A | 90. B | | |

ANSWERS & SOLUTIONS

1. A

Sol.



2. C

Sol.

The sequence of the series consists of the product of 2 even numbers in natural order i.e.,

0 8 24 48 80 120
 ↓ ↓ ↓ ↓ ↓ ↓

(0×2) (2×4) (4×6) (6×8) (8×10) (10×12)

Second logic is $n^2 - 1$ where n is odd numbers = 1, 3, 5, ...

3. C

Sol.

The series is b a b b b b a b b b b a b b b b

4. B

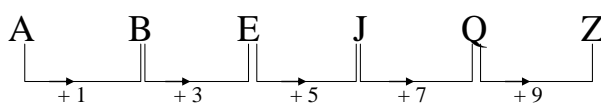
Sol.

The pattern is +4, +9, +16, +25, +36, ... i.e., $+2^2, +3^2, +4^2, +5^2, +6^2, \dots$

So, missing term = $91 + 7^2 = 91 + 49 = 140$

5. D

Sol.



6. B

Sol.

$5^{+6}, 11^{+6}, 17^{+6}, 23^{+6}, \underline{29^{+6}}, 35$

$23 + 6 = 29$

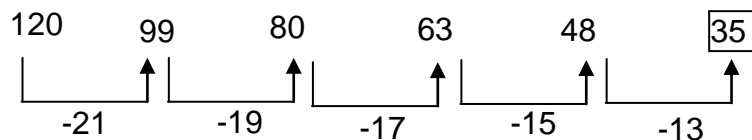
7. C

Sol.

The series consists of successive prime numbers. The prime numbers after 83 are 89 and 97.

8. A

Sol.



9. D

Sol.

Difference of 5, 10, 15, 20, 25,.....

10. D

Sol.

Difference of 11, 13, 15, 17, 19,.....

11. B

Sol.

$13 \times 13 - 1 = 168;$ $14 \times 13 - 1 = 181;$ $15 \times 13 - 1 = 194$

12. C

Sol.

Prime number from 29

13. B

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Sol. The pattern is +5, +20, +80, +320, ... i.e. $+(5 \times 1^2), +(5 \times 2^2), +(5 \times 4^2), +(5 \times 8^2), \dots$ So the missing term = $427 + (5 \times 16^2) = 427 + 1280 = 1707$

14. C

Sol. In the first step, one letter from the beginning and one from the end of a term are removed to give the next term. In the second step, two letters from the beginning of a term are removed. These two steps are repeated alternately.

15. C

Sol. +4, +6, +8, +10, +12

16. B

Sol. $3^2, 3^3, 3^4, \boxed{3^5 = 243}$

17. B

Sol. $\left. \begin{array}{l} 15, 20, 27 \\ 17, 22, 29, \dots \end{array} \right\} + 5, +7, +9$

18. B

Sol. **aba / bab / aba / bab**

19. D

Sol. Pattern babab is repeated

20. B

Sol. B, D, F $\rightarrow +2$ and its square.

21. B

Sol. Number of boys in the row = 10

Rohit's new position is 7th from the left or 4th from the right.

His earlier position was two places to the right of his new position i.e., his earlier position was second from the right.

22. A

Sol. $12 \times 10 + 42 \div 2 - 8 \Rightarrow 120 + 21 - 8 \Rightarrow 133$

23. B

Sol. $119 \div 17 + 7 \times 4 = 7 + 28 = 35$

24. A

Sol. $200 \div 5 + 10 - 5 \times 10 = 0$

25. D

Sol. $5 \times 3 = 15 + 1, 9 \times 8 = 72 + 1$

26. A

Sol. $a = a \times 3$

27. C

Sol. $a - a = a^2 - a; (8^2 - 8 = 56)$

28. B

Sol. $(a - 1) \times (b - 1) \times (c - 1)$
Here $a = 4, b = 6, c = 2$

29. D
Sol. $17 \times 3 - 6 = 45$
30. A
Sol. $3 \times 2 + 1 = 7$
31. D
Sol. $a \times b \times c = acb$
32. C
Sol. Number of students in a row = $32 + 1 + 7 = 40$
33. C
Sol. Number of students in class = 30
34. B
Sol: Mukul's position from the left end = $40 + 1 - 14 = 27$ th
35. C
Sol. Here, D's position from the right end = $5 + 10 + 1 = 16$ th
Now, D's position from the left end = total number of person + 1- position from the right end
 $40 + 1 - 16 = 25$ th
36. B
Sol. According to the given information,
we get $M > K$, $M > T > B$, $P > B$
Now, it is obvious that B is the lightest.
37. D
Sol. In terms of age, we have:
 $Kokila < Sudhhu$, $Sudhhu < Praveen$, $Nitin = Kokila$
So, the sequence becomes : $Nitin = Kokila < Sudhhu < Praveen$
Clearly, Praveen is the oldest
38. C
Sol. Number of boys in front of Richard = 14.
Number of boys behind Richard = $(14 \times 3) = 42$.
 \therefore Total number of boys in the column = $(14 + 1 + 42) = 57$.
In a column of 57 boys, the seventh boy from the end is clearly 51st from the start.
Number of boys between Richard(15th) and boy(51st)= 35
39. C
Sol. Divya ranks 26th and Bharati is 8 ranks ahead of Divya. So, Bharati ranks 18th. Number of students behind Bharati in rank = $(42 - 18) = 24$.
So, Bharati ranks 25th from the last.
40. A
Sol. Clearly, the order is: Anuradha, Rashi, Monika, Sulekha, Abha.
Anuradha is adjacent to Rashi.
41. A
Sol. The sequence is
Q,T,V,R,P,S,U
R is exactly in the middle.
42. C
Sol. The sequence is

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Q,T,V,R,P,S,U

Q is to the extreme left.

43. C
Sol. Row – 1 S R Q P
Row – 2 A C D B
R is not at any end.

44. A
Sol. Row – 1 S R Q P
Row – 2 A C D B

45. D
Sol. Row – 1 S R Q P
Row – 2 A C D B

46. D
Sol. Row – 1 S R Q P
Row – 2 A C D B

47. D
Sol. Floor Person
8 Pia
7 Mia
6 Zia
5 Siya
4 Tia
3 Riya
2 Dia
1 Jia

48. B
Sol. Floor Person
8 Pia
7 Mia
6 Zia
5 Siya
4 Tia
3 Riya
2 Dia
1 Jia

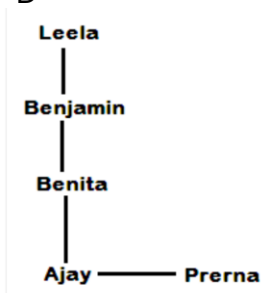
49. D
Sol. Floor Person
8 Pia
7 Mia
6 Zia
5 Siya
4 Tia
3 Riya
2 Dia
1 Jia

50. C
Sol. Floor Person
8 Pia
7 Mia

- 6 Zia
- 5 Siya
- 4 Tia
- 3 Riya
- 2 Dia
- 1 Jia

51. D

Sol.



52. A

Sol.

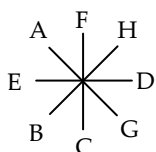


53. B

Sol. D is the son-in-law of B and brother-in-law of A. This means that B is the father/mother of D's wife, and A is the brother of D's wife. Thus, A is B's son.

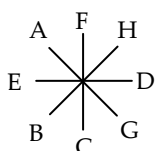
54. C

Sol.



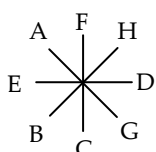
55. D

Sol.



56. D

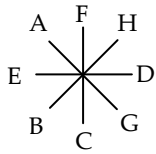
Sol.



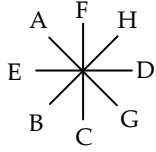
57. C

Sol.

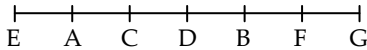




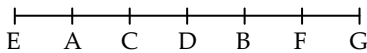
58. D
Sol.



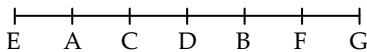
59. C
Sol.



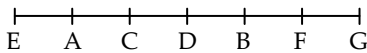
60. C
Sol.



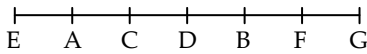
61. B
Sol.



62. A
Sol.



63. D
Sol.



64. B

Sol. Q is the son of R but R is not the mother. So, R is the Father of Q. P is married to R So, P is the wife of R and the mother of Q, X is the daughter of P and hence of R and so she is the Sister of Q, Y is the brother of R and Z is the brother of P.
Clearly, P is married to R and Z is P's brother so Z is R's brother in law.

65. A

Sol. Q is the son of R but R is not the mother. So, R is father of Q.

66. B

Sol. Q is the son of R but R is not the mother. So, R is the Father of Q. P is married to R So, P is the wife of R and the mother of Q, X is the daughter of P and hence of R and so she is the Sister of Q, Y is the brother of R and Z is the brother of P.
Clearly, Q is the son of P and X is the daughter of P. So, P has two children.

67. B

Sol. Clearly, number of trees in the row = $(4 + 1 + 4) = 9$

68. C

Sol. Number of persons between Amrita and Mukul = $50 - (10 + 25) = 15$.
 Since Mamta lies in middle of these 15 persons, so Mamta's position is 8th from Amrita i.e. 18th from the front.

69. D

Sol. Number of boys who passed = $(15 + 1 + 28) = 44$
 Total number of boys in the class = $44 + 6 + 5 = 55$

70. A

Sol. Number of boys in the row
 = number of boys upto P + number of boys between P and Q + number of boys including Q and those behind Q = $14 + 4 + 7 = 25$

71. C

Sol. Number of students behind Manoj in rank = $(31 - 7 + 1) = 25$.
 So, Manoj is 25th from the bottom.
 Number of students behind Sachin in rank = $(31 - 11 + 1) = 21$
 So, Sachin is 21st from the bottom

72. C

Sol.
$$\begin{array}{ccc} B & \longleftrightarrow & C \\ & & \downarrow \text{son} \\ F^- & \longrightarrow & A^+ \\ \text{Daughter} \downarrow & & \downarrow \text{Daughter} \\ D^- & \xrightarrow{\text{sister}} & E^- \end{array}$$

73. D

Sol.
$$\begin{array}{ccc} B & \longleftrightarrow & C \\ & & \downarrow \text{son} \\ F^- & \longrightarrow & A^+ \\ \text{Daughter} \downarrow & & \downarrow \text{Daughter} \\ D^- & \xrightarrow{\text{sister}} & E^- \end{array}$$

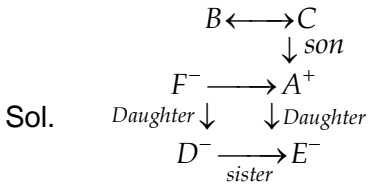
74. D

Sol.
$$\begin{array}{ccc} B & \longleftrightarrow & C \\ & & \downarrow \text{son} \\ F^- & \longrightarrow & A^+ \\ \text{Daughter} \downarrow & & \downarrow \text{Daughter} \\ D^- & \xrightarrow{\text{sister}} & E^- \end{array}$$

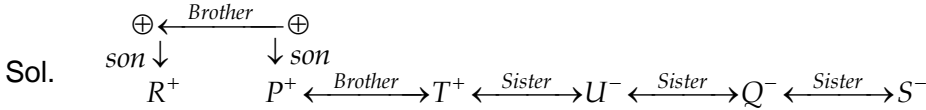
75. A

Sol.
$$\begin{array}{ccc} B & \longleftrightarrow & C \\ & & \downarrow \text{son} \\ F^- & \longrightarrow & A^+ \\ \text{Daughter} \downarrow & & \downarrow \text{Daughter} \\ D^- & \xrightarrow{\text{sister}} & E^- \end{array}$$

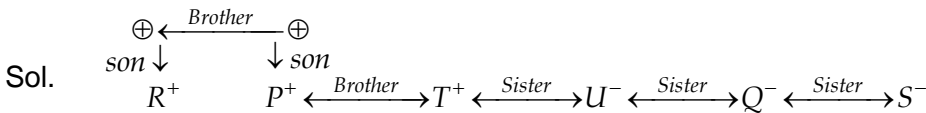
76. C



77. A



78. B



79. D

Sol. Suresh is the father of that boy

80. D

Sol. Gender of A is not define

81. D

Sol. $18 - 9 = 27 \times 7 \div 21$

82. B

Sol. $7 \times 12 - 43 = 41$

83. D

Sol. 5 1 4 7 3 9 8 5 7 2 6 3 1 5 8 6 3 8 5 2 2 4 3 4 9 6
 It is happening 6 times. Hence option 'D'.

84. C

Sol. 5 1 4 7 3 9 8 5 7 2 6 3 1 5 8 6 3 8 5 2 2 4 3 4 9 6
 As shown above only '3' time it is possible. Hence option 'C'.

85. D

Sol. 5 1 4 7 3 9 8 5 7 2 6 3 1 5 8 6 3 8 5 2 2 4 3 4 9 6
 Four times it is possible. Hence option 'D'.

86. B

87. A

88. D

89. A

90. B