Linear Arrangements
Part 1 - Basic
Model 1: Simple Arrangement
   Directions (1-5): Study the following information to answer the given questions:
   i.   Five topics, A, B, C, D, E are to be discussed one topic on each day, from Monday to Saturday.
   ii.   Topic A will be discussed before E and topic B will be discussed before D.
   iii. Topics B and D will not be discussed on the first day.
   iv.   There will be one rest day denoted by F.
   v.   There will be a gap of two days between the days on which topics D and B will be discussed.
   vi.   Topic C will be discussed immediately before the rest day. The rest day will not be the second or the fourth day.

1. Which of the following is the correct sequence of the discussion on the topics including the rest day 'F'?
   1) AEBFCD   2) ABECFD   3) AEBCFD
   4) Cannot be determined   5) None of these
2. Which of the following is a correct statement?
   1) Topic A will be discussed on Tuesday.
   2) Discussion on topic C will be immediately preceded by discussion on topic B.
   3) discussion on topic B will take place before that on A.
   4) Thursday is the rest day.
   5) None of these
3. On which of the following days will the topic C be discussed?
   1) Tuesday   2) Wednesday   3) Friday
   4) Cannot be determined   5) None of these
4. How many days gap will be there between the days on which topic E and B will be discussed?
   1) Nil   2) One   3) Two   4) Three   5) None of these
5. With reference to A, the discussion on topic E will take place .
   1) immediately on the next day   2) after a day's gap   3) after three days
   4) Cannot be determined   5) None of these

Directions (6-10): Study the following information to answer the given questions: Ten executives A,B,C,D,E,F,G,H,I and J stay in flats in two rows opposite each other. One row has 5 flats facing North and the other row has 5 flats facing South. F's flat is second to the right of J's flat, which is exactly opposite of C's flat facing North. D's flat is on the immediate left of J's flat and A's flat on the immediate left of C's flat. B's flat is on the right of C's flat. I and E have flats at the two ends of the same row. Flats of E and H are opposite each other.
6. Which of the following is the correct position of G's flat?
   1) Facing North   2) Opposite C's flat   3) To the left of F's flat
   4) To the left of J's flat   5) None of these
7. Who stays opposite B?
   1) F   2) G   3) D   4) F or G   5) None of these
8. Which of the following statements is definitely true?
   1) J's flat is facing North   2) G and A have flats opposite each other.
   3) B's flat is to the right of E's flat   4) G's flat is to the left of J's flat   5) None of these
9. Which of the following groups of persons have flats in the same row?
   1) ACG   2) GIE   3) GJF   4) FAJ   5) None of these

10. Which of the following pairs of executives stay in the flats at the ends of a row?

1) FD   2) HD   3) HG   4) GD   5) None of these

Model 2: Complex Arrangement
 Directions (11-17): Study the following information to answer the given questions:
P, Q, R, S, T, V and W are sitting in a straight line facing north. Each one of them lives on a different floor in the same building which is numbered from one to seven.

Q sits fourth to the left of the person living on the 6th floor. Either Q or the person living on the 6th floor sits at the extreme ends of the line.

Only one person sits between Q and W. W lives on the 3rd floor. The person living on the 1st floor sits third to right of S. S is not an immediate neighbour of W. Only one person lies between T and person who live on the 2nd floor. P and R are immediate neighbours of each other. P does not live on the 6th floor. One who lives on the 5th floor sits third to right of the one who lives on the7th floor.

11. Who amongst the following lies on the 4th floor?
    1) P   2) Q   3) R   4) S   5) V
12. On which of the following floors does T live?
    1) 1st 2) 2nd 3) 5th 4) 6th 5) 7th
13. How many floors are there between the floors on which V and P live?
    1) One   2) Two   3) Three   4) Four   5) None

Directions (14-15): Four of the following five are alike in a certain way based on the given arrangement and thus form a group. Which is the one that does not belong to that group?

14. 1) W   2) T   3) S   4) P   5) Q

15. 1) T- 2nd floor   2) R-7th floor 3) V-3rd floor 4) S- 5th floor   5) Q-6th floor

16. If all the persons are made to live in alphabetical order from the bottom-most floor to the topmost floor (i.e. P lives on the 1st floor, Q lives on the 2nd floor and finally W lives on the 7th floor), who would still live on the same floor as the original arrangement?
    1) R   2) V   3) W   4) T   5) S
17. Which of the following is true with respect to the given arrangement?

    1) The one who lives on the 5th floor is an immediate neighbour of S.

    2) V lives on the 1st floor.

    3) T sits second to the left of the person who lives on the 2nd floor.

    4) R and V are immediate neighbours of each other.

    5) The one who lives on the 4th floor sits at one of the extreme ends of the line.

Directions (18-25): Study the following information to answer the given questions:
The annual gathering of a school was organized on a day in the morning hours. Six difference items, viz. drama, singing, mimicry, speech, story-telling and dance, are to be performed by six children A, B, C, D, E and F not necessarily in the same order. The program begins with song not sung by B and ends with dance. C performs mimicry immediately after speech. E performs drama just before dance. D or F is not available for the last performance. Speech is not given by
A. An interval of 30 minutes is given immediately after mimicry with three more items remaining to be performed. D performs immediately after interval.

18. Which item is performed by F?
    1) Drama   2) Song   3) Speech   4) Story-telling 5) None of these
19. Who performed dance?
    1) A   2) B   3) F
    4) Data inadequate   5) None of these

20. Who was the first performer?
    1) A   2) B   3) C
    4) Data inadequate   5) None of these
21. Which item is performed by D?
    1) Dance   2) Story-telling 3) Singing   4) Drama   5) None of these
22. Who was the fifth performer?
    1) E   2) A   3) C   4) B   5) None of these
23. Who gave the speech?
    1) F   2) B   3) B or F   4) D   5) None of these
24. Which of the following is a correct combination?
    1) C–Drama   2) E-Mimicry   3) A-Speech
    4) D-Story telling   5) None of these
25. Which item was performed by A?
    1) Song   2) Dance   3) Speech
    4) Dance or song   5) None of these

Answers

1 - 3	2 - 2	3 - 5	4 - 1	5 - 1	6 - 3	7 - 3	8 - 2	9 - 3	10 - 5
11 - 4	12 - 1	13 - 2	14 - 3	15 - 5	16 - 5	17 - 5	18 - 5	19 - 4	20 - 4
21 - 2	22 - 1	23 - 3	24 - 4	25 - 4					

Part 2 - Advanced

Directions (1): Study the following information carefully and complete the arrangement

1. Six lectures are scheduled in a week starting from Monday and ending on Sunday of the same week. Computer Science is not on Tuesday or Saturday. Psychology is immediately after Organisational Behaviour. Statistics is not on Friday and there is one day gap between Statistics and Research Methods. One day prior to the schedule of Economics there is no lecture (as that day is the off day and Monday is not the 'off' day).

Directions (2-6): Study the given information and answer the following questions.

There are 12 friends A, B, C, D, E, F, G, H, I, J, K, L in a party sitting in two rows facing each other such that the person in 1st row faces south and person in 2nd row faces north and vice versa. Each person likes one of the color among green, red, yellow, blue, brown, black, orange, violet, white, pink. Further information is as follows:

I. Violet color is liked by 3 persons and all the remaining colors are liked by one person each.

II. J does not like violet.

III. F likes black and is 3rd to the right of E.

IV. B does not like pink or yellow and sits opposite to the person who likes black.

V. A likes white and is 3rd from left end in the 2nd row, opposite to G.

VI. E sits between H and A.

VII. H is on the left side of A and likes red.

VIII. The person who likes pink does not sit at corners.
IX. L likes green and sits in the 1st row opposite to the person who likes violet.
X. C and E like violet and sit opposite to each other.
XI. K likes brown and sits opposite to the person who likes red.
XII. I likes orange and sits at one of the corners of 1st row.

2.   Who is sitting on the immediate right of F?
1)   D   2) I   3) J   4) B   5) None of these
3.   Who amongst the following is not sitting in the 2nd row?
1) A   2) E   3) J   4) B   5) F
4.   Who is sitting opposite to the person who likes black?
1)   L   2) J   3) I   4) G   5) None of these
5.   Which of the following statements is false?
1)   G likes pink   2) K is sitting in the 1st row
3) D likes violet   4) L is on the immediate right of B
5) J is sitting opposite to the person who likes black
6.   Who among the following is not sitting at the corner?
1) J   2) D   3) I   4) H   5) K

Directions (7): Study the following information carefully and complete the arrangement
7.   Eight children a, b, c, d, e, f, g, h are going to enact as eight different planets, Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune in a school play. They are standing in straight column and are facing the north direction. The position are numbered 1- 8 from front end. The teacher has made the following rules for the play.
The one who acts Saturn stands just behind G.
One who acts as Mars is standing 6 places behind the who acts as Earth.
The one who plays the role of Neptune is standing at an even number position and is an immediate neighbour of A and F.
A and B are at a gap of 4 positions.
B acts as Saturn or Uranus.
One who acts as Mercury stands 3 places behind G.
One who acts as Mercury stand behind one who acts as
Uranus. D acts as Venus.
H stands just behind E.
One who acts as Jupiter is not the neighbour of one who acts as
Venus. E does not act as the Saturn.

Directions (8): Study the following information carefully and complete the arrangement
8.   Ten students namely viz Jaidev, Jaya, Jeeva, Janaki, Jyothi, Jaspal, Jamuna, Jagadish, Jayanthi and Jasmine of ten different colleges but not necessarily in the same order have exam on five different days starting from Monday to Friday of the same week. Each student have exam at two different time slots, i.e 09.00 AM or 11.00 A.M The number of people who have exam between Jamuna and Janaki is same as the number of people who have exam between Jeeva and Jagadish. Only two people have exam between Jaspal and Jasmine. Neither Jyothi nor Jamuna does not have exam on Friday.Jayanthi has exam on Tuesday at 09.00 A.M. Jagadish does not have exam at 11.00 AM. Janaki does not have exam on any one of the days after Jyothi. Jayanthi does not have exam on any of the days before Jamuna.Jaspal does not have exam on any of the days after Jagadish. Jaya has exam immediately before Jayanthi.The one who has exam at 09.00 A.M. immediately before Jasmine. Janaki has exam immediately after the day of one who has exam on Monday. Jaspal does not have exam at 11.00 A.M. Only three people have exam between Jamuna and Jyothi.

Directions (9-10): These questions are based on the following data.
Pranav is working in Maharashtra state electricity as an assistant engineer. He is going to the inspection of the towers in those areas. Signals among eight towers- P, Q, R, S, T, U, V

and W

are transmitted in the following manner. P, Q, R, S, T, U, V and W are arranged in a straight line facing North but not necessarily in the same order. Q is placed third to the left of T. V is placed fifth to the right of Q but neither placed at any of the extreme ends. Two way transmission is possible between P and Q, Q and S, S and U, R and P, T and R, T and V. U does not arrange at an extreme end.One way transmission is possible from R to Q, S to T, V to U. R and S towers are immediately neighbors of each other but neither of them is an immediate neighbor of tower V. Only one tower is placed between R and P, who is not an immediate neighbor of T

9.   For which of the following pairs of towers, signals can be transmitted between them, in both ways i.e, from the first tower to the second tower and from second tower to the first such that in each case the signals passes through all other towers exactly one?

1)   V, P2) P, Q   3) V, U   4) U, P   5) None of these

10.   How many different routes can the signal be transmitted from S to R and R to S passing through others tower exactly once?

1) 6   2) 7   3) 5   4) 4   5) None of these

11.   Eight persons – A, B, C, D, E, F, F, G and H are sitting in a straight line facing North (not necessarily in the same order). They have different ages – 12, 18, 27, 32, 34, 49, 55 and 63 (not necessarily in the same order).

B is sitting second to left of one having age 49 years. Two persons are sitting between B and D. One who is 32 years old is sitting second to right of D. One person is sitting between the persons having ages 32 and 18 years. A is sitting second to left of E. A is sitting somewhere to the left of D. The one who is 63 years old is sitting to immediate left of B. Difference between the ages of B and G is 7 years. Both are not sitting together. One who is 27 years old is sitting somewhere left of A. C is 6 years younger to D. The one who is 55 years old and H are immediate neighbors. Same number of persons are sitting between H and one having age 34 years and between F and one having age 55 years

12.   There are seven people A, B, C, D, E, F, and G. They all were born on different years viz. 1947, 1952, 1960, 1968, 1982, 1990 and 1997 but not necessarily in same order. But the date and month of birth of all these persons are same. Calculation is done with respect to the present year 2017 and assuming months and date to be same. G's age is in multiple of 5 . The difference of age between A and D is double the difference of age between B and C. C was born in even number of year. D is younger than A. G does not the oldest person. The age of F is exactly double the age of one of them

Answers

1. -   2. J   3. B   4. None of these   5. J is sitting opposite to the person who likes black

      6. D   7.   -   8.   -   9. None of these   10. 5 11. – 12. -