Assignment 7

Set 1

i. There is a group of six persons living in a four storied building. The persons are A, B, C, D, E and F. Each story has two flats and two of them are empty.

ii. The heaviest of the group lives on the top floor while the lightest lives on the ground floor.

iii. C is heavier than B, who in turn is heavier than F

iv. E is lighter than D

v. One of the flats on the first floor and the second floor is vacant

vi. A is neither the heaviest nor the lightest

vii. There are only two people heavier than C, A is not one of them

viii. B shares the floor with the heaviest of the group while C shares it with the lightest

1. Who among the following is the heaviest?

(1) D

(2) C

(3) A

(4) B

(5) Cannot be determined

2. Who does C share the floor with?

(1) F

(2) E

(3) A

(4) Stays alone on the floor

(5) Cannot be determined

3. On which floor does A live?

(1) Ground

(2) First

(3) Second

(4) Top

(5) Cannot be determined

4. E and A live:

(1) On the same floor

(2) On two continuous floors

(3) With one floor between them

(4) With two floors between them

(5) Cannot be determined

5. Starting from the heaviest, what is the rank of A in order of weight?

(1) 4^{th}

(2) 5^{th}

(3) 6^{th}

(4) 4^{th} or 5^{th}

(5) Cannot be determined

Set 2

Each of seven friends Kishore, Rahul, Ajay, Sujata, Preeti, Madhukar and Harishchandra are studying in one of seven different schools, viz. Hansraj Model School, Modern School, Airforce Bal Bharti, Kendriya Vidyalaya, Ramjas Public School, Prabhu Dayal Public School and Springdale Public School. Only one friend studies in each of the school. But no student studies in that school, whose name starts with the first letter of his/her name.

Rahul and Preeti study in Modern School and Airforce Bal Bharti respectively.

Ajay studies neither in Springdale Public School nor in Prabhu Dayal School

Sujata and Harishchandra do not study in Prabhu Dayal Public School or Ramjas Public School or Springdale Public school

6. Kishore studies in which of the following schools?

(1) Prabhu Dayal

(2) Springdale

(3) Kendriya Vidyalay

(4) Ramjas Public

(5) Cannot be determined

7. Who studies in Ramjas Public School?

(1) Sujata

(2) Ajay

(3) Kishore

(4) Either (1) or (2)

(5) Either (2) or (3)

8. Madhukar studies in which of the following schools?

(1) Springdale

(2) Prabhu

(3) Kendriya Vidyalay

(4) Either (1) or (2)

(5) Either (1) or (3)

9. Who studies in Kendriya Vidyalay?

(1) Harishchandra

(2) Madhukar

(3) Rahul

(4) Sujata

(5) Cannot be determined

10. Who studies in Prabhu Dayal Public School?

(1) Kishore

(2) Madhukar

(3) Sujata

(4) Either (2) or (3)

(5) Either (1) or (2)

Set 3

Six chapters in a printed text book are inadvertently bound together in the wrong order by the book binder. As a result of the error, the following situation exists:

Any two chapters, which originally would be adjacent, are no longer so.

Exactly one of the chapters is occupying its correct position in the text.

Chapter 1 occurs after Chapter 6 and exactly one chapter separates them.

Chapter 4 is not last.

Chapter 5 occurs before chapter 2.

11. Which of the following must be false?

(1) Chapter 3 comes before chapter 2

(2) Chapter 3 comes before chapter 4

(3) Chapter 5 comes before chapter 1

(4) Chapter 6 is second in the order

(5) Chapter 3 occurs last.

12. Which chapter cannot occur among the last 3 chapters?

(1) 1

(2) 5

(3) 2

(4) 6

(5) 4

13. Which chapters might be in their original position?

(1) 3 or 4

(2) 4 or 5

(3) 2 or 5

(4) 3 or 5

(5) 2 or 4

14. Which of the following could possibly be true?

I. Chapter 6 comes after chapter 2

II. Chapter 4 comes after chapter 5

III. Chapter 6 comes after chapter 4

(1) only I

(2) only II

(3) only III

(4) only II and III

(5) All three

Set 4

Six persons work in an editorial department of a leading publishing house. No two of them can take leave simultaneously, but they have managed to take their leaves one by one from October to March for a month each on their respective festivals.

Shyam Rajak will take his leave neither on SARHUL nor on DIPAWALI. Ajay Tigga will go on leave neither in October nor in January. Narullah Khan will take his leave either on DURGA PUJA or ID-UL-FITAR. DIPAWALI and DURGA PUJA will be celebrated either in October or November, though not necessarily respectively. Manoj Kacchap will take his leave in January, but he will not take leave on HOLI. DK Ghosh and Vimal Jain will take holiday to celebrate DURGA PUJA and DIPAWALI though not necessarily respectively. Narullah Khan will go on leave immediately after Manoj Kacchap but not before Ajay Tigga. CHRISTMAS will be celebrated in December immediately after DIPAWALI.

15. Who will take his leave in March?

(1) Vimal Jain

(2) Ajay Tigga

(3) Shyam Rajak

(4) DK Ghosh

(5) Cannot be determined

16. Ajay Tigga will take his leave on

(1) HOLI

(2) SARHUL

(3) CHRISTMAS

(4) DURGA PUJA

(5) Cannot be determined

17. ID-UL-FITAR will be celebrated in the month of

(1) January

(2) February

(3) March

(4) November

(5) Cannot be determined

18. D I P A W A L I will be celebrated by

(1) V i m a l Jain

(2) DK Ghosh

(3) Ajay Tigga

(4) V i m a l Jain

(5) Cannot be determined

19. Who will celebrate SARHUL?

(1) Manoj Kacchap

(2) Shyam Rajak

(3) Ajay Tigga

(4) Narullah Khan

(5) Cannot be determined

20. DK Ghosh will take his leave in

(1) November

(2) December

(3) October

(4) January

(5) Cannot be determined

21. Which of the following is a true statement?

(1) Shyam Rajak – SARHUL - March

(2) Ajay Tigga – CHRISTMAS - January

(3) Manoj Kacchap – HOLI - March

(4) DK Ghosh - DURGA PUJA - October

(5) None of these

Set 5

A communication systems has exactly four message exchanges which are called nodes: W, X, Y, Z. Messages travel from one node directly to another node only as follows

From W to X but not vice versa

From W to Y but not vice versa

From W to Z and vice versa

From X to Y and vice versa

From X to Z but not vice versa

From Z to Y but not vice versa

A single direct path going in one direction from one node to another is called a leg

22. If a message is to travel from Y to X over as few legs as possible, it must travel in which of the following ways?

(1) Directly from Y to X

(2) via W but no other node

(3) via Z but no other node

(4) via W and Z in that order

(5) via Z and W in that order

23. Which of the following is a complete and accurate list of nodes to which a message can be sent along exactly one leg from Z?

(1) W

(2) Y

(3) W, Y

(4) X, Y

(5) W, X, Y

24. Which of the following sequences of legs is a path over which a message could travel from X back to X?

(1) X to W, Y to W, W to Z, Z to X

(2) X to Y, Y to Z, Z to W, W to X

(3) X to Y, Y to Z, Z to W, W to X

(4) X to Z, Z to W, W to Y, Y to X

(5) X to Z, Z to Y, Y to W, W to X

25. If all the legs in the system are equal in length, and if messages always travel along the shortest possible path, then the longest path any message travels in the system is the path from

(1) X to W

(2) Y to W

(3) Y to Z

(4) Z to W

(5) Z to X

26. If a certain restricted message cannot travel any further than one leg and if in addition one leg is to be made to the system so that such restricted messages can be sent from each node to at least two others and also be received by each node from at least two others, then the addition must be from

(1) X to W

(2) Y to W

(3) Y to Z

(4) Z to W

(5) Z to X