

CH 2 ANALYTICAL REASONING

ANSWERS AND EXPLANATIONS

1-5: Here, the persons who travel are: A, B, C, D, E, F, and G. Stations are: Base station, #I, #II, #III, #IV, and #V. Let us proceed with the following information: (1), (4), (5), (6), (9), (8), and (10).

These information give us the following table:

| Station | Get in | Get down |
|--------------|--------|----------|
| Base station | --- | × × × |
| # I | | × × × |
| # II | × × × | |
| # III | Only G | B, D |
| # IV | A | Only E |
| # V | × × × | A, G, C |

Now, from clue (2), F gets down at # II. And he got in either at base station or at # I.

Now, since F got down at #II and he had got in with C, it implies that both C and F got in either at base station or at # I.

Again, since B and D get down at # III this implies that they too got in either at base station or at # I.

It is given that E got in with two other persons i.e., in a group of three persons. Obviously, **E got in at base station.**

Hence, once again the above information can be summarised as :

| Station | Get in | Get down |
|--------------|------------------------|----------|
| Base station | E and (C, F) or (B, D) | × × × |
| # I | (C,F) or (B, D) | × × × |
| # II | × × × | Only F |
| # III | Only G | B, D |

| | | |
|------|-------|---------|
| # IV | A | Only E |
| # V | × × × | A, G, C |

1. (c) 2. (d) 3. (d) 4. (d) 5. (b)

6-10: Here the persons are *P, Q, R, S, T, V* and *W* and the vehicles are I, II and III. If there are at least two passengers in each vehicle and one of them is a male then, in the group there are at least three males.

Among them **R is a female** and she is a doctor. **p and v are also females.** From clue (ii) we get *W* is a teacher. And **q is a male** and ' he is an engineer. He travels with only *W*. This implies **W is a female.** And both of them travel in vehicle I.

From clue (iii), **S is a male** and he is a doctor. From clue (v), *P* is not an engineer (and she can't be a doctor because there are only two doctors *R* and *S*). Hence, *P* is a teacher and she travels in vehicle II.

Now, see the bold parts. It says that there are four females *R, P, V* and *W*. Hence the remaining persons must be males because in each vehicle there is at least one male. Hence, **T is a male.** This implies that *S* and *T* will occupy seats in two different vehicles (II and III) because in vehicle I. *Q* travels with only *W*.

Again since, *R* can travel neither with *S* (see clue iv) nor with *P* and *V* (see clue i). Thus, we get their sitting arrangement as follows:

| Vehicle | Person |
|---------|----------------|
| I. | <i>Q, W</i> |
| II. | <i>P, S, V</i> |
| III. | <i>T, R</i> |

Thus the obtained information can be summarised as below:



| Person | Profession | Vehicle | Sex |
|--------|------------|---------|--------|
| Q | Engineer | I | Male |
| W | Teacher | I | Female |
| P | Teacher | II | Female |
| S | Doctor | II | Male |
| V | Engineer | II | Female |
| T | Teacher | III | Male |
| R | Doctor | III | Female |

6. (a) 7. (c) 8. (b) 9. (d)
10. (b)

(11-15):

| Student's Name | Favourite subject | | | | | | | Rank in descending order of performance |
|----------------|-------------------|---|---|---|---|---|---|---|
| | S | C | B | F | E | M | H | |
| P | x | x | x | x | x | x | ✓ | 3 |
| Q | x | x | x | x | ✓ | x | x | 6 |
| R | x | x | x | x | x | ✓ | x | 2 |
| S | x | x | ✓ | x | x | x | x | 4 |
| T | ✓ | x | x | x | x | x | x | 7 |
| V | x | x | x | ✓ | x | x | x | 1 |
| W | x | ✓ | x | x | x | x | x | 5 |

S-Science, C-Chemistry, B-Biology, F-French, E-English, M-Mathematics, H-Hindi.

11. (b) 12. (a) 13. (e) 14. (d) 15. (c)
16. (d) As W is to be placed immediately to the left of X, we cannot place X in window 1.
17. (b) Clearly, W must be placed in window no. 2 as dictated by the restrictions.
18. (d) If U is placed in window no. 5, then Y will be placed in window 6.

19-21 Clearly, C joined as an officer. Since, B joined on neither Wednesday nor Friday. Therefore, B joined on Saturday and A joined on Friday. This information can be summarized as follows :

| Person | Post | Day |
|--------|-----------------|-----------|
| F | Manager | Monday |
| B | Supervisor | Saturday |
| D | Technician | Thursday |
| C | Officer | Wednesday |
| E | Clerk | Tuesday |
| A | Sales Executive | Friday |

19. (b) 20.(d)
21.(d)

22-25. Total Number of flats = 13; Unoccupied flats = 5

Occupied flats = 8

Number of flats on second floor = 4

Second floor comprises four flats. One occupant is lawyer and since he has only one neighbour, this implies that out of four flats on second floor, two are unoccupied.

Again, since no flat is unoccupied on the third floor, it implies that there are three unoccupied flats on floor IV.

Since there are at least three flats on any floor and no two same profession stay on any floor and the doctor is not the neighbour of any lawyer, then floor III comprises only three flats. Thus, floor IV comprises six flats (3 occupied + 3 unoccupied).

Since there are three managers and no two same profession stay on any floor, therefore, there will be a manager in each floor. Also there are only two occupants in second floor and one of them is lawyer, therefore, second occupant should be manager.

Again, since there are two teachers, there will be a teacher each on floors III and IV. Again, doctor can't be neighbour of a lawyer. Hence, the doctor and lawyer will not reside on same floor. Therefore, on floor III – either Doctor or Lawyer then, on floor IV – either Lawyer or Doctor.

| Floor | Total Flats | Occupied flats | Unoccupied flats | Occupants |
|-------|-------------|----------------|------------------|------------------------------------|
| II | 4 | 2 | 2 | Lawyer, Manager |
| III | 3 | 3 | 0 | Teacher, Manager, Lawyer or Doctor |
| IV | 6 | 3 | 3 | Teacher, Manager, Doctor or Lawyer |

22. (d) Clearly, there are three flats.
23. (a) From above table that combination is Lawyer & Manager.
24. (c) Both the manager and the teacher are the neighbour of other lawyer.
25. (b) There are three flats occupied.



