# MBA Fastrack 2025

Data Interpretation & Logical Reasoning

Maps & Networks

Directions (1-5) Read the following passage and answer the given questions.

Seven towns—X, Y, Z, L, M, N, and O—are connected by one-way or two-way routes, as indicated in the diagram below. The arrow indicates the direction in which traffic is allowed to flow. No other routes are available except those shown in the diagram.
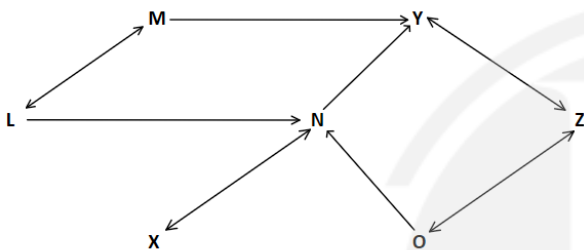
Q1 How many different ways can a person travel from town L to town Z without passing through any town more than once?

(A) 3   (B) 1

(C) 2   (D) 4

Q2 How many different ways can a person travel from town Y to town N without passing through any town more than once?

(A) 1   (B) 2

(C) 3   (D) 4

Q3 The "traveling parity" of a town is defined as the maximum number of other towns a person can pass through starting from that town, without visiting any town more than once. Which of the following towns has the highest traveling parity?

(A) M   (B) L

(C) N   (D) Both X and M

Q4 What is the minimum number of towns a person must pass through while traveling from town L to town O, excluding towns L and O?

(A) 3   (B) 1

(C) 2   (D) 4

Q5 Which of the following towns will not be passed through while traveling from town X to town O, ensuring no town is visited more than once?

(A) Y   (B) N

(C) Z   (D) M

Directions (6-10) Read the following passage and answer the given questions.

Eight towns—O, P, Q, R, S, T, U, and V—are connected by a series of roads, some of which are two-way and others one-way, as detailed below:

1. **Two-way roads:**

   - Between P and O.
   - Between P and R.
   - Between S and R.
   - Between S and V.
   - Between U and V.
   - Between T and V.

2. **One-way roads:**

   - From P to Q.
   - From Q to V.
   - From R to T.
   - From U to S.
   - From U to P.
   - From T to Q.

No other roads exist besides those mentioned above. Additionally, when traveling from one town to another, no town can be visited more than once in a single route.

Q6 How many different ways can one travel from town P to town V?

(A) 1   (B) 2

(C) 4   (D) 3

Q7 Which of the following pairs of towns can be passed through while traveling from town Q to town S?

(A) V, U   (B) V, T

(C) U, T   (D) None of these

Q8 Between which of the following pairs of towns can the maximum number of intermediate towns be found while traveling from the first town to the second town?

(A) P-V

(B) P-S

(C) P-Q

(D) Both P-S and O-Q

Q9 What is the maximum number of towns one can pass through while traveling from town T to town P?

(A) 2   (B) 3

(C) 5   (D) 4

Q10 Which of the following towns will not be passed through while traveling from town U to town P?

(A) T

(B) S

(C) V

(D) None of the above

Directions (11-15) Read the following passage and answer the given questions.

The table below describes the tasks involved in completing a project and the time required for each task. A task is said to be completed only after all the others are finished. Some tasks can be performed simultaneously, provided their prerequisites are met.

Task	Time Taken (in mins)	Prerequisite Tasks to be Completed
P	11	None
Q	13	None
R	14	P
S	17	Q, T, U
T	9	P, Q
U	8	R
V	19	R
W	13	Q
X	15	S
Y	16	P, Q
Z	7	R

Q11 Which of the following tasks must be completed before starting task S?

(A) W   (B) V

(C) R   (D) Z

Q12 What is the earliest time task S can begin if the work starts at 9:00 a.m.?

(A) 9:37 a.m.   (B) 9:33 a.m.

(C) 10:05 a.m.   (D) None of these

Q13 How many tasks must be completed before task V can begin?
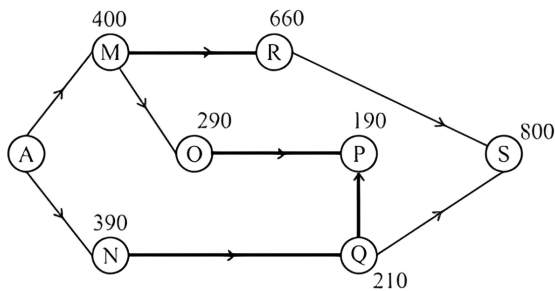
(A) 2   (B) 3

(C) 4   (D) 1

Q14 What is the maximum number of tasks that can be completed within 40 minutes of starting the work?

(A) 7   (B) 6

(C) 9   (D) 8

Q15 What is the least amount of time (in minutes) needed to complete the entire project?

Directions (16-20) Read the following passage and answer the given questions.

The following figure shows the flow of water from Reservoir A to 7 water tanks. The capacity in litres is given. Please note that water can be transported only in the direction in which the arrow points. After filling the tank, the excess amount of water is then transferred to the next tank. The capacity of each pipeline is 1500 L.

Q16 If from A to M and A to N 1500 l is transferred and M to O only 400 l of water is transferred then how much quantity of water is required from Q to fill tank P?
(A) 60
(B) 80
(C) 70
(D) 90

Q17 1500 L of water is transferred from A to N. Then what is the slack in pipeline connecting N to Q, if slack is the amount of water required to bring the flow to full capacity.
(A) 390
(B) 210
(C) 600
(D) 800

Q18 What is the minimum flow of water in the pipeline connecting A and M?
(A) 1500 litres
(B) 1460 litres
(C) 1440 litres
(D) 1400 litres

Q19 What is the minimum flow of water in pipeline connecting Q and S?
(A) 650
(B) 700
(C) 750
(D) 800

Q20 What is the minimum flow of water in the pipeline OP (in Litre)?
(A) 0
(B) 190
(C) 480

(D) 400

Directions (21-25) Read the following passage and answer the given questions.
P, Q, R, S, T, U and V are seven African cities which are connected by one way and two way roads system. If one wants to travel from one city to another then the one can move only in the direction of arrow. The following diagram shows the flow chart of one way and two way road system.
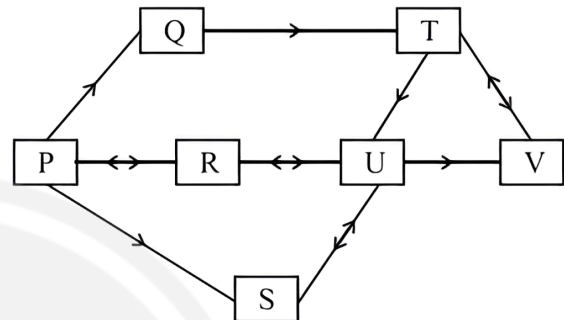
Q21 In how many ways one can travel from city P to U without backtracking the same path and without visiting the city more than once
(A) 1
(B) 2
(C) 3
(D) 4

Q22 In how many ways one can travel from city R to T without backtracking the same path and without visiting the city more than once.
(A) 2
(B) 3
(C) 4
(D) 5

Q23 Government plans to construct two way road connecting Q to U then find the possible ways by which one can travel from city R to V without backtracking and visiting the same city more than once.
(A) 5
(B) 6
(C) 7
(D) 8

Q24 If all the roads between these 7 cities becomes two way road then what could be the possible number of route by which

one can travel all the cities in one go without backtracking and visiting the same city more than once.

(A) 7   (B) 8

(C) 9   (D) 11

Q25 In how many ways one can travel from V to S without backtracking and without visiting the city more than once?

(A) 2   (B) 3

(C) 4   (D) 5

Directions (26-30) Read the following passage and answer the given questions.

The following diagram illustrates the road connections between seven cities: Mumbai, Bengaluru, Pune, Srinagar, Chennai, Delhi, and Hyderabad. Each city is Referred as Town1, Town2, Town3, Town4, Town5, Town 6, and Town7 although not necessarily in the same order. In addition, two powerhouses i.e., PH1, and PH2 are mentioned for necessary conditions.
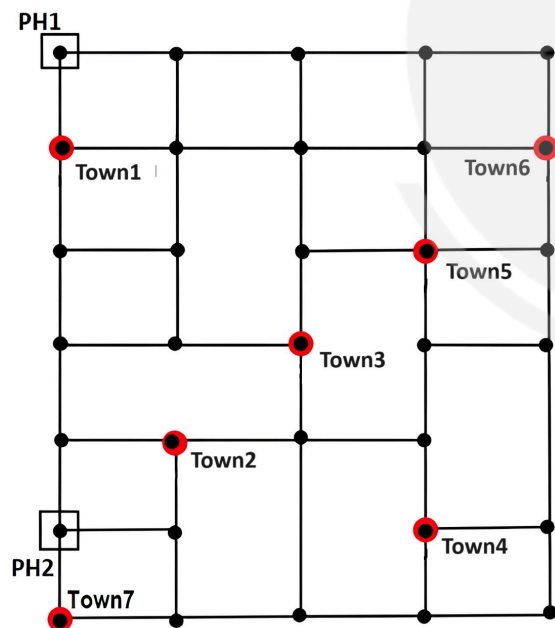
When traveling from one town to another, there are no intermediate stops in other towns or powerhouses. Additionally, when starting from a town, the person will only take roads going East or West among the available options to any extent. The provided condition specifies the number and sequence of turns (left or right)

taken by a person for traveling between certain pairs of towns. It is worth noting that the person always travels a certain distance before and after each turn.

Conditions are: –

1. To travel from Bengaluru to Chennai, the person took two right turns followed by a left turn, in that order.

2. When going from Delhi to Hyderabad, the person made two right turns, followed by a left turn, and then another right turn.

3. To reach Srinagar from Chennai, the person took three left turns followed by two right turns, in that order.

Please Note : only in the starting of journey, movement of east and west are not considered as moves.

Q26 Which town is referred to as DELHI?

(A) Town 7

(B) Town 5

(C) Town 2

(D) Can't be determined

Q27 If a person starts from Hyderabad, takes one left turn, and reaches another city, which of the following cannot be the city that he reached?

(A) Delhi

(B) Srinagar

(C) Bengaluru

(D) More than one of the above

Q28 If a person wanted to go from Delhi to Hyderabad, what is the minimum number of turns that he must take?

(A) 5   (B) 3

(C) 2   (D) 4

Q29 If a person started from Srinagar and took exactly one turn, how many of the other six towns can he reach without reaching any powerhouse?

(A) More than 3   (B) 5

(C) 3   (D) 1

(A) TOWN 2   (B) TOWN 6

(C) TOWN 4   (D) TOWN 3

Q30 Which town is referred to as Hyderabad?

Answer Key

Q1	(C)		Q16	(B)
Q2	(A)		Q17	(A)
Q3	(B)		Q18	(C)
Q4	(A)		Q19	(A)
Q5	(D)		Q20	(A)
Q6	(C)		Q21	(C)
Q7	(A)		Q22	(B)
Q8	(D)		Q23	(C)
Q9	(C)		Q24	(D)
Q10	(A)		Q25	(A)
Q11	(C)		Q26	(C)
Q12	(B)		Q27	(A)
Q13	(A)		Q28	(B)
Q14	(D)		Q29	(D)
Q15	65		Q30	(B)

Hints & Solutions

Note: scan the QR code to watch video solution

Q1. Text Solution:

Routes from L to Z without passing through any town more than once

1. L - M - Y - Z
2. L - N - Y - Z

There will be 2 different ways a can person travel from town L to town Z without passing through any town more than once.

Video Solution:

Q2. Text Solution:

Routes from Y to N without passing through any town more than once.

1. Y - Z - O - N

There will be only 1 way a person can travel from town Y to town N without passing through any town more than once.

Video Solution:

Q3. Text Solution:

"Travelling parity" is as follows:

M: M - Y - Z - O - N - X or M - L - N - Y - Z - O is 5

L: L - M - Y - Z - O - N - X is 6

N: N - Y - Z - O is 3

X: X - N - Y - Z - O is 4

Town L has the highest traveling parity, as starting from L allows a person to pass through the maximum number of other towns without revisiting any town.

Video Solution:

Q4. Text Solution:

The minimum number of towns a person must pass through while traveling from town L to town O, excluding towns L and O:

1. L - M - Y - Z - O
2. L - N - Y - Z - O

The minimum number of towns a person must pass through while traveling from town L to town O, excluding towns L and O, is 3.

Video Solution:

Q5. Text Solution:

The route from town X to town O: X - N - Y - Z - O

Towns L and M will not be passed through while traveling from town X to town O, ensuring no town is visited more than once.
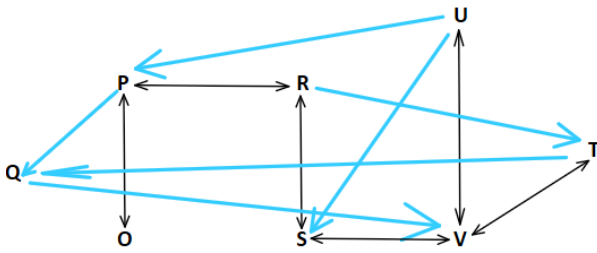
Video Solution:

Q6. Text Solution:

The routes are as follows:

The distinct ways can travel from town P to town V:
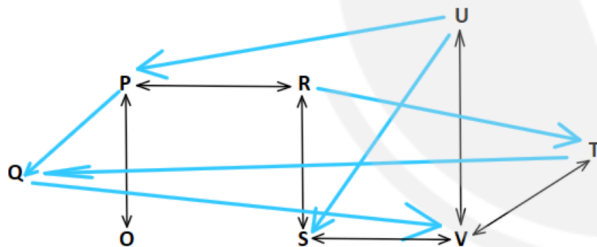
1. P-Q-V
2. P-R-T-V
3. P-R-S-V
4. P-R-T-Q-V

There are 4 distinct ways to travel from town P to town V.

Video Solution:

Q7.   Text Solution:

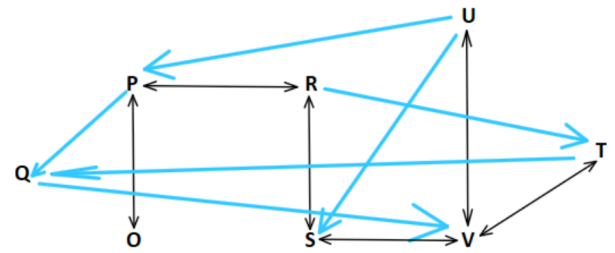Traveling from town Q to town S, the possible routes are:

1. Q-V-S
2. Q-V-U-S

While traveling from town Q to town S, the pair of towns that can be passed through is V and U.

Video Solution:

Q8.   Text Solution:

The possible routes from P-V:

1. P-Q-V
2. P-R-T-V
3. P-R-S-V
4. P-R-T-Q-V

The maximum number of intermediate towns = 3
Similarly,
For P-S = P-R-T-Q-V-U-S is 5.
For P-Q = P-R-S-V-T-Q is 4
For O-Q = O-P-R-S-V-T-Q is 5
The maximum number of intermediate towns can be found while traveling from town P-S and O-Q.

Video Solution:

Q9.   Text Solution:
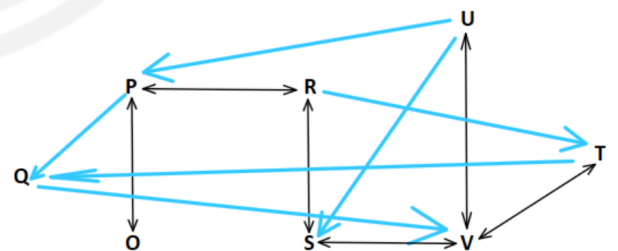
The possible routes from T-P:

1. T-Q-V-U-P
2. T-Q-V-S-R-P
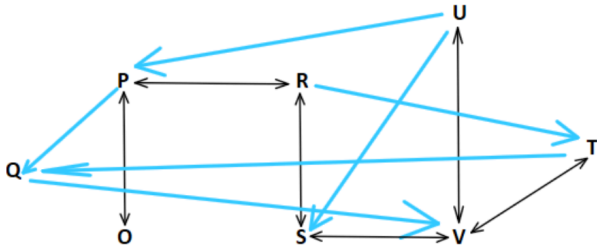3. T-V-S-R-P
4. T-Q-V-U-S-R-P

The maximum number of towns one can pass through while traveling from town T to town P is 5.

Video Solution:

Q10. Text Solution:

The possible routes from U-P with intermediate towns are:
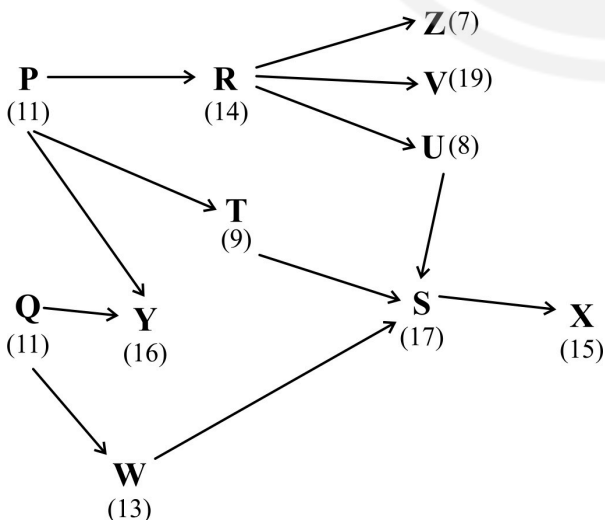
1. U-S-R-P
2. U-V-S-R-P

Town T will not be passed through while traveling from town U to town P.

Video Solution:

Q11. Text Solution:

S must be started after Q, T, and U

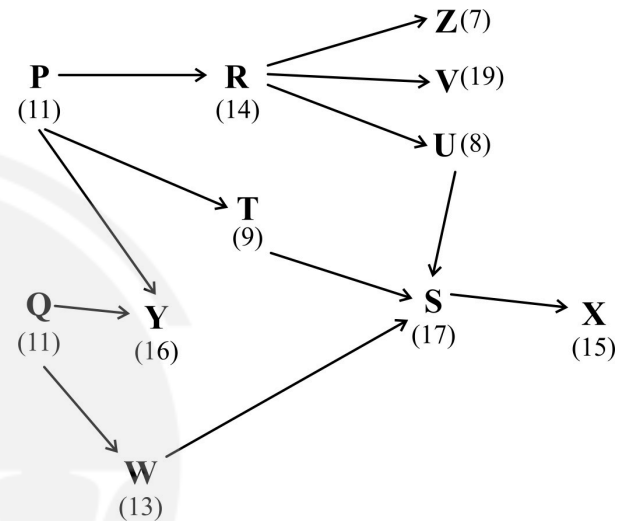T must be started after P, Q

P and Q are independent tasks.

U must be started after R.

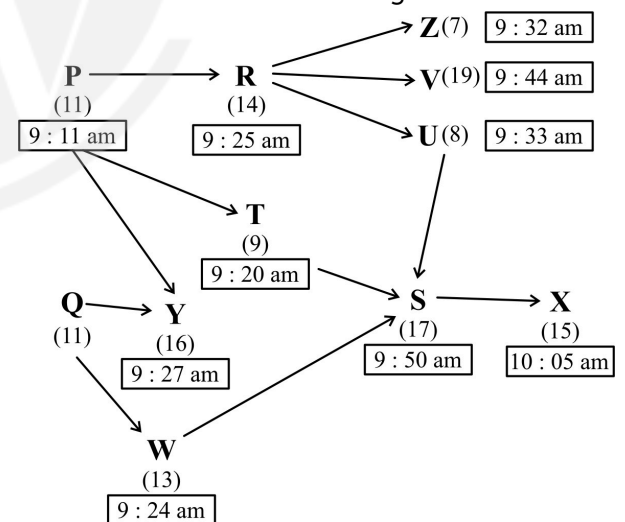Therefore, P, Q, R, T, and U must be completed before starting task S.

Video Solution:

Q12. Text Solution:

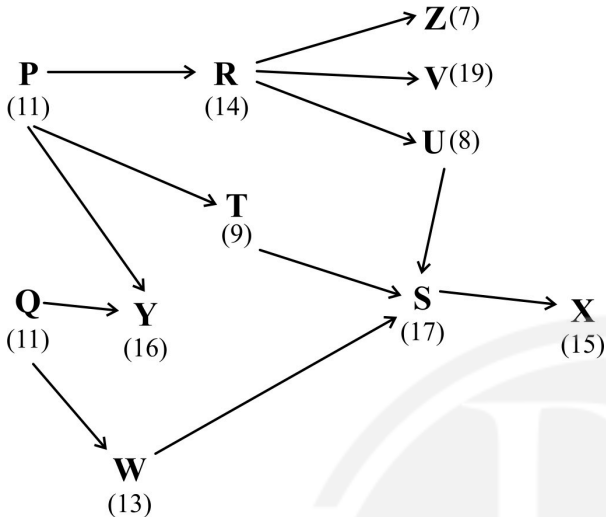P and Q both will be started together at 9:00 am.

Task S depands on W, T, and U

Task S can begin at the earliest by 9:33 a.m. (U is finished at that time), following the completion of a prior task or condition.
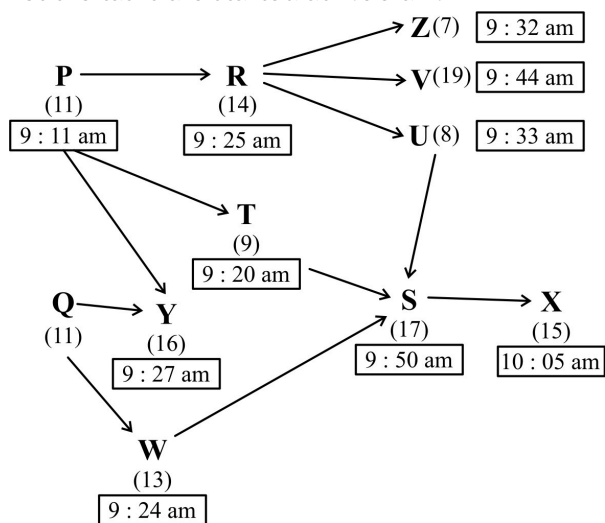
Video Solution:

Q13. Text Solution:

Two tasks, P and R, need to be completed before starting task V.

Video Solution:

Q14. Text Solution:

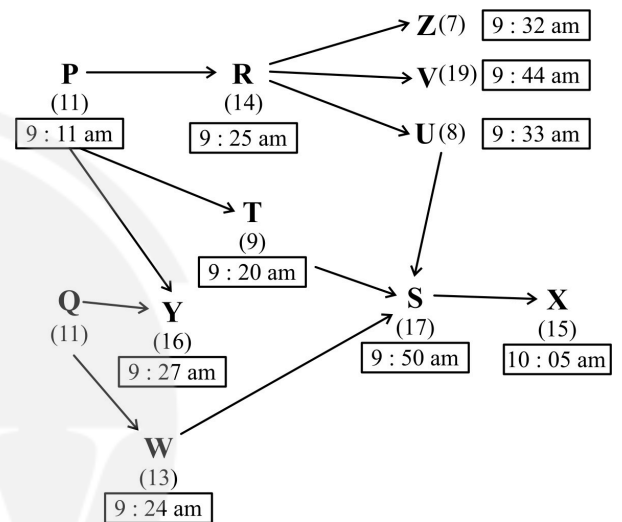Let the tasks are started at 9:00 am.

At most, 8 tasks—P, Q, R, T, Y, W, Z, and U—can be completed within 40 minutes of starting the work.

Video Solution:

Q15. Text Solution:

Let the work start at 9:00 am.

The minimum time required to complete the entire project is 65 minutes.

Video Solution:

Q16. Text Solution:

1500 l is transferred from A to M and A to N. After filling tank M, 400 litres of water is transferred towards pipeline O and 700 litres of water is transferred to (R). 290 litres of water is used up at O. Then remaining (400 – 290) = 110 litres.

110 litres of water from O transferred towards P.

Amount of water required from tank Q = 190 – 110 = 80 litres

The answer is option B.

Video Solution:

Q17. Text Solution:

1500 litre transferred from A to N. 390 litres of water used at N. Water flow N to Q = 1500 – 390 = 1110 litre

Slack = 1500 – 1110 = 390 litres

The answer is option A.

Video Solution:

Q18. Text Solution:

To find the minimum flow in pipeline A and M we have to fulfilled the requirement through pipeline A to N.

1500 litre of water flows from pipeline A to N.

390 litre exhausted at N

210 litre exhausted at Q

100 litre exhausted at P

800 litre exhausted at S

minimum flow from pipeline A to M

$\Rightarrow$ 400 + 660 + 290 + 90

$\Rightarrow$ 1440 litre

The answer is option C.

Video Solution:

Q19. Text Solution:

To find the minimum flow in pipeline QS we have to make sure that the maximum requirement at S fulfilled by pipeline RS.

1500 l water flows from A to M.

400 l exhausted at M, 290 l exhausted at O, 660 litres exhausted at R.

Remaining amount of water flow from

R to S = 1500 – 400 – 290 – 660

R to S = 1500 – 1350

= 150 litres

X litres required from A to N.

390 l exhausted at N, 210 l exhausted at Q, 190 l exhausted at P, 650 exhausted at S.

Total amount of water flow from A to N

= 390 + 210 + 190 + 650

= 1440

Minimum flow in pipeline Q to S = 650 litres

The answer is option A.

Video Solution:

Q20. Text Solution:

1500 l flowed from A to M.

400 l exhausted at M

290 l exhausted at O

660 l exhausted at R

and remaining 150 l transferred to S.

The minimum flow in pipeline OP is 0.

Video Solution:

The possible ways are :

1 → R – U – V

2 → R – U – Q – T – V

3 → R – P – S – U – V

4 → R – P – S – U – Q – T – V

5 → R – P – Q – T – V

6 → R – P – Q – T – U – V

7 → R – P – Q – U – V

The answer is option C.

Video Solution:

Q21. Text Solution:

Possible ways are

1 → P – R – U

2 → P – S – U

3 → P – Q – T – U

The answer is option C.

Video Solution:

Q22. Text Solution:

The possible ways are :

1 → R – P – Q – T

2 → R – U – V – T

3 → R – P – S – U – V – T

The answer is option B.

Video Solution:

Q23. Text Solution:

Q24. Text Solution:
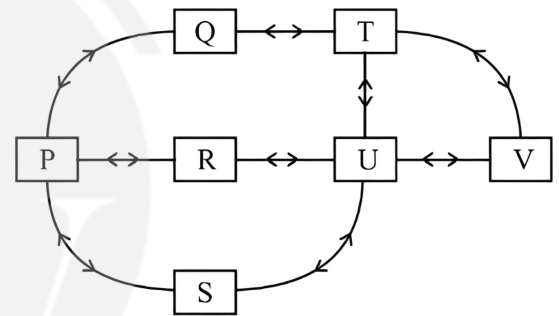
Possible ways are :

1 → Q – T – V – U – R – P – S

2 → Q – T – V – U – S – P – R

3 → V – T – Q – P – R – U – S

4 → R – P – Q – T – V – U – S

5 → R – P – S – U – V – T – Q

6 → R – U – V – T – Q – P – S

7 → S – U – V – T – Q – P – R

8 → S – P – R – U – V – T – Q

9 → S – P – Q – T – V – U – R

10 → S – U – R – P – Q – T – V

11 → R – U – S – P – Q – T – V

The answer is option D.

Video Solution:

Q25. Text Solution:
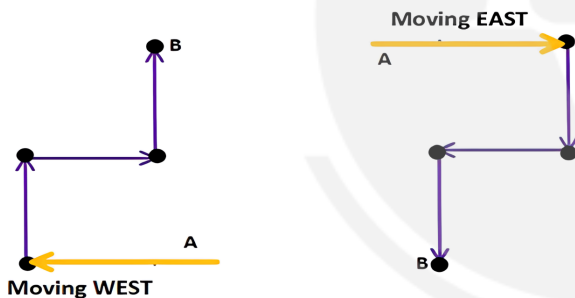
The possible ways are ;

(a) V – T – U – S

(b) V – T – U – R – P – S

The answer is option A.

Video Solution:

Q26. Text Solution:

From (i), for a person traveling EAST/West, the following route must be followed:

Let TOWN 1 be Bengaluru. No other city can be reached using the route by traveling EAST. Hence, this is not possible.

Let TOWN 2 be Bengaluru.

By traveling EAST, a person will not be able to take the last left. By traveling WEST, a person cannot reach any other city .

Let TOWN 3 be Bengaluru.

Even in this case, no other city can be reached by traveling along this route.

Similarly, TOWN 4 also cannot be Bengaluru.

Let TOWN 5 be Bengaluru.

In this case, a person can reach TOWN 4 by traveling EAST. Hence, this is one possibility.

Town 6 cannot be Bengaluru because by taking this route one cannot reach to any other city.

TOWN 7 cannot be Bengaluru because there are no roads to travel along the given route.

Hence, the only possibility is that TOWN 5 is Bengaluru and TOWN 4 is Chennai.

From (ii), a person took two right turns, a left turn, and another right turn to reach Hyderabad from Delhi in the same order.

For the given turns, a person going EAST/ WEST from A to B will have to follow a path as shown in the figure below but the distance between turns can vary:
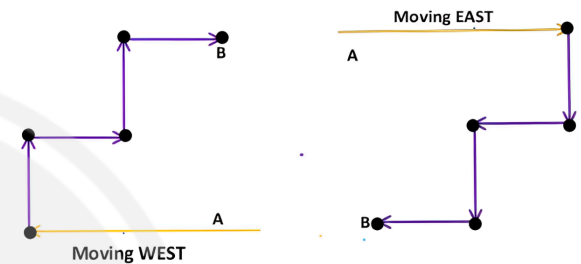
We can use this pattern to see whether this will connect any pair of towns. Let Delhi be TOWN 1. From TOWN 1, a person can only go EAST.

If he takes the first right, he will not be able to take the last right, as there will be no roads to take the last right.

If he takes the second right, he will have to pass through TOWN 3, which is not possible.

If he takes the third right, he will have to pass through TOWN5, which is again not allowed (it is cleared as BENGALURU).

He cannot take the fourth right because he will reach TOWN 6 before he can take the fourth right.

Hence, TOWN 1 is not Delhi.

Let TOWN 2 be Delhi.

If he is going EAST, he cannot take the path given above, since he cannot take the last right.

Hence, he must be going WEST. From TOWN 2, he can reach TOWN 6 by moving west first, and then the first 2 right after that, the first left, and then the right.

Hence, Delhi and Hyderabad can be TOWN 2 and TOWN 6 respectively.

From TOWN 2, no other city is accessible for the given route.

Let TOWN 3 be Delhi. From TOWN 3, a person can reach TOWN6 by travelling WEST.

Hence, this is another possibility.

TOWN 4 is Chennai and TOWN 5 is Bengaluru so it is not considered as Delhi.

TOWN 6 cannot be Delhi because there will be no roads to take a left after he takes two rights.

TOWN cannot be Delhi as one can not take any right. Hence, TOWN2/TOWN3 can be Delhi.

In either case, TOWN 6 is Hyderabad.

Since Chennai is TOWN 4, a person can reach Srinagar by taking three left turns and two right turns following condition(iii) as follows.

Srinagar can only be one among TOWN 1 or TOWN 2 or TOWN 3. By taking three left turns and two right turns, a person can only reach TOWN 3 from TOWN 4.

Hence, TOWN 3 is Srinagar.

From the possibilities arrived at from (ii), only one remains, i.e., TOWN 2 is Delhi.
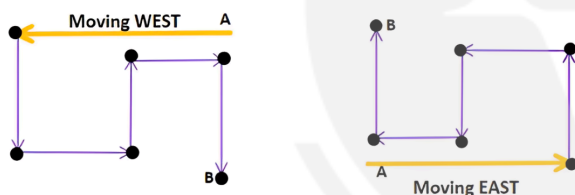
After this discussion, one can find this table as –

TOWN 1	Mumbai / Pune
TOWN 2	Delhi
TOWN 3	Srinagar
TOWN 4	Chennai
TOWN 5	Bengaluru
TOWN 6	Hyderabad
TOWN 7	Pune / Mumbai

Town 2 referred to Delhi.

Video Solution:

Q27. Text Solution:

TOWN 1	Mumbai / Pune
TOWN 2	Delhi
TOWN 3	Srinagar
TOWN 4	Chennai
TOWN 5	Bengaluru
TOWN 6	Hyderabad
TOWN 7	Pune / Mumbai

A person cannot reach Delhi.

Option A is correct.

Video Solution:

Q28. Text Solution:

TOWN 1	Mumbai / Pune
TOWN 2	Delhi
TOWN 3	Srinagar
TOWN 4	Chennai
TOWN 5	Bengaluru
TOWN 6	Hyderabad
TOWN 7	Pune / Mumbai

To get the minimum number of turns, he first moves to the east then takes 1 left then 1 right then 1 left. A person must take at least three turns to go from Delhi to Hyderabad.

Option B is correct.

Video Solution:

Q29. **Text Solution:**

TOWN 1	Mumbai / Pune
TOWN 2	Delhi
TOWN 3	Srinagar
TOWN 4	Chennai
TOWN 5	Bengaluru
TOWN 6	Hyderabad
TOWN 7	Pune / Mumbai

Starting from Srinagar one has to travel to the west first and by taking only one turn a person could reach TOWN 1.

Option D is correct.

Video Solution:

Q30. **Text Solution:**

TOWN 1	Mumbai / Pune
TOWN 2	Delhi
TOWN 3	Srinagar
TOWN 4	Chennai
TOWN 5	Bengaluru
TOWN 6	Hyderabad
TOWN 7	Pune / Mumbai

From the table, Hyderabad is considered as TOWN 6.

Option B is correct

Video Solution:

 Android App | **iOS App** | **PW Website**