NTS GAT General Past Paper

Analytical – Exam No. 18 (PP)

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In a province, there are eight cities which are connected through path for trade purpose. The paths, which go to the center of each city, neither merge into nor cross each other. Trade would have passed in both directions along any of the trading paths. No further paths used during that period have yet been found. A shortest route between cities is one that goes through cities that are intermediate on the route the fewest times overall. There are following paths between the cities:
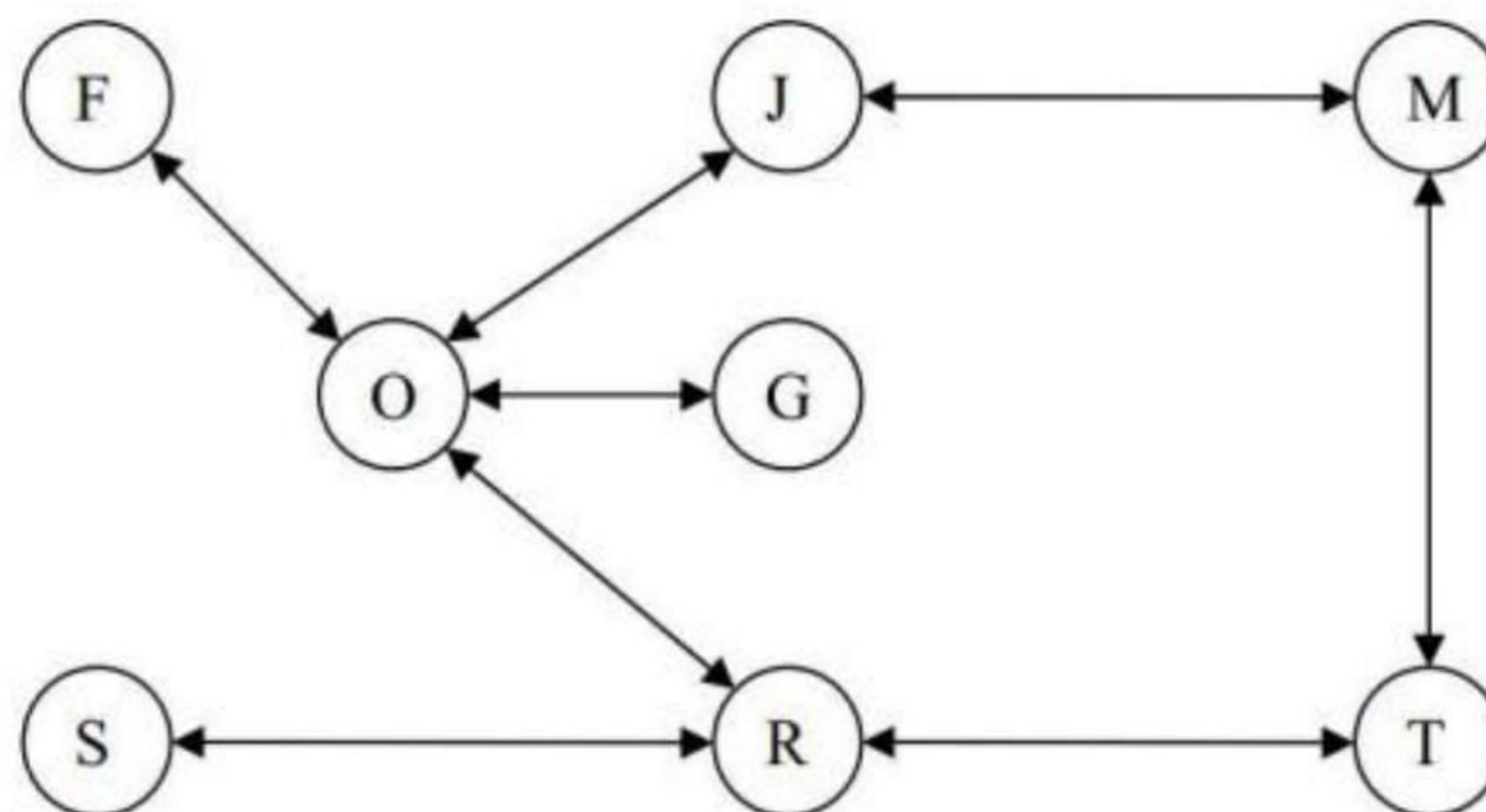
Paths of city O are directly without going through any of the other cities to each of the cities F, G, J, and R.

From R directly to each of the cities S and T.

From J directly to the city M.

From M directly to the city T.

Solution:

Questions:

1. On the network of paths, a trader could have traveled between the cities in which of the following pairs by going through exactly one other city?

Solution:

Options	Path	Intermediate cities	True/False
Option (A)	F → O → J → M	2	False
Option (B)	F → O → R → T	2	False
Option (C)	G → O → R → T	2	False
Option (D)	M → T → R → S	2	False
Option (E)	R → T → M	1	True

So, option E is correct.

2. A trader must have gone through O to travel on the network of discovered paths from _____.

   (A)   F to G

   (B)   J to T

   (C)   M to S

   (D)   R to T

   (E)   S to T

Solution:

Options	Path	Passing through city 'O' (Yes/No)
Option (A)	F → O → G	Yes
Option (B)	J → M → T	No
Option (C)	M → T → R → S	No

Option (D)	R → T	No
Option (E)	S → R → T	No

So, option A is correct.

3. A trader going on the network of paths from J to all of the cities F, G, and T, not necessarily in that order, by a shortest route could have gone through which of the following exactly twice?

    (A)   F

    (B)   M

    (C)   O

    (D)   R

    (E)   T

Solution:

    There are following two paths that can followed for this question:

P1   J → M → T → R → 0 → G → 0 → F

P2   J → M → T → R → 0 → F → 0 → G

As, we are passing exactly twice from city 'O', so option C is correct.

4. To make a trip on the network of discovered from S to both F and M, not necessarily in that order, without going through any intermediate city twice, a trader must have gone from _____.

    (A)   F to O

    (B)   G to O

    (C)   J to M

    (D)   O to J

    (E)   T to M

Solution:

    The following path can be followed for this question:

$$S \rightarrow R \rightarrow T \rightarrow M \rightarrow J \rightarrow O \rightarrow F$$

As, we are having a patch 'T → M', so option E is correct.

5. To travel on the network of paths from R to all of the cities J, F, and S, not necessarily in that order, by a route that is shortest overall, a trader could have gone first to _____.

    (A)   O and last to F

    (B)   O and last to J

    (C)   O and last to S

    (D)   S and last to F

    (E)   T and last to S

Solution:

There are following two paths that can followed for this question:

P1   R → S → R → O → J → O → F

P2   R → S → R → O → F → O → J

As in P1, we are going first to 'S' and last to 'F', so option D is correct.