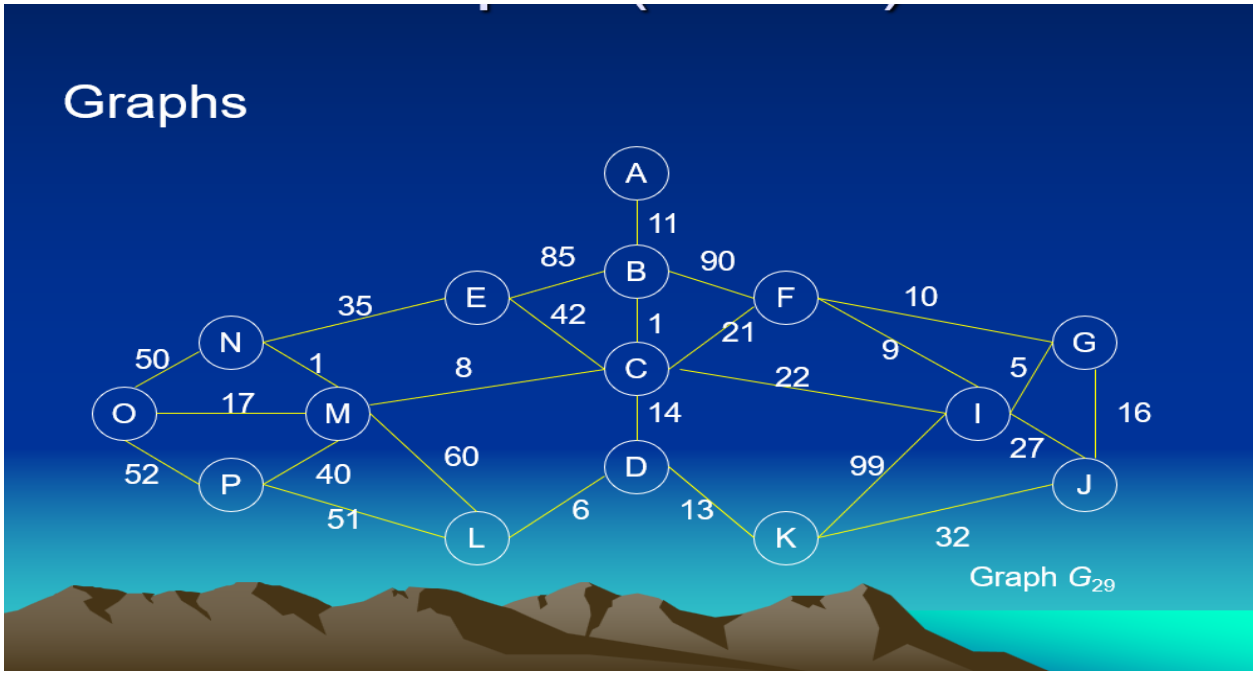
RHONAN RICHMOND D. BANGAY **January 13, 2023**

202101447

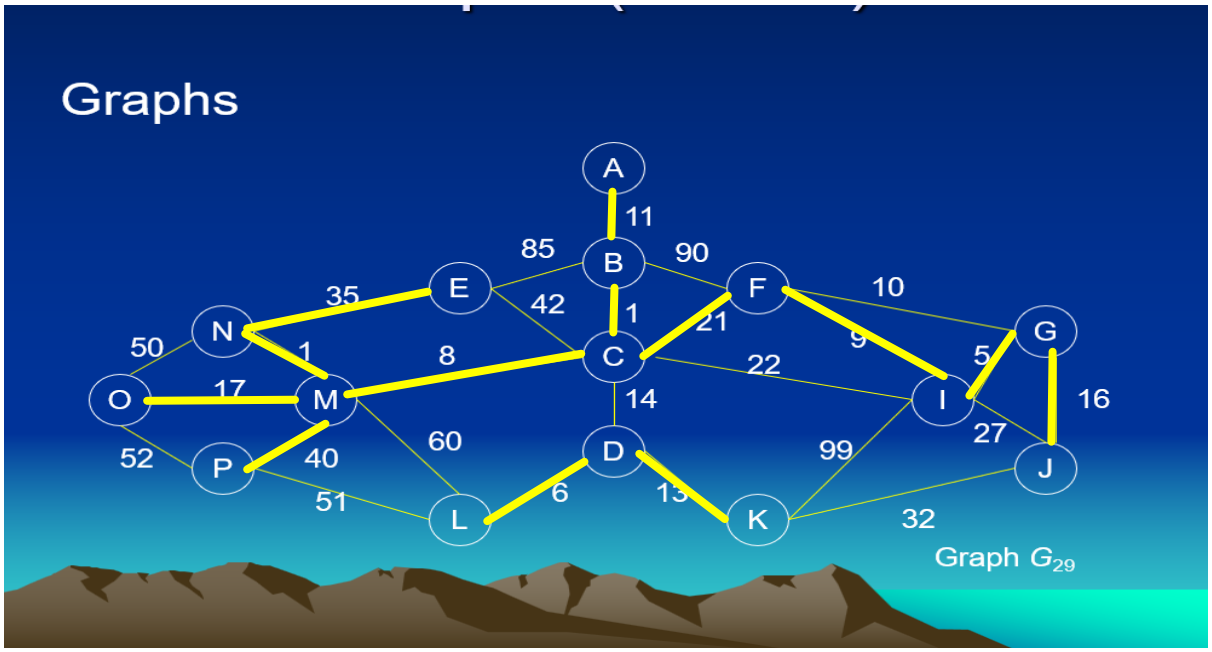
BSCPE 2-1

GRAPHS: - GRAPH G29



ANSWER:

USING KRUSKAL'S ALGORITHM



W (B, C) = 1

W (M, N) = 1

W (G, I) =5

W (D, L) = 6

W (C, M) = 8

W (F, I) = 9

W (A, B) = 11

W (D, K) = 13

W (C, D) = 14

W (G, J) =16

W (M, O) =17

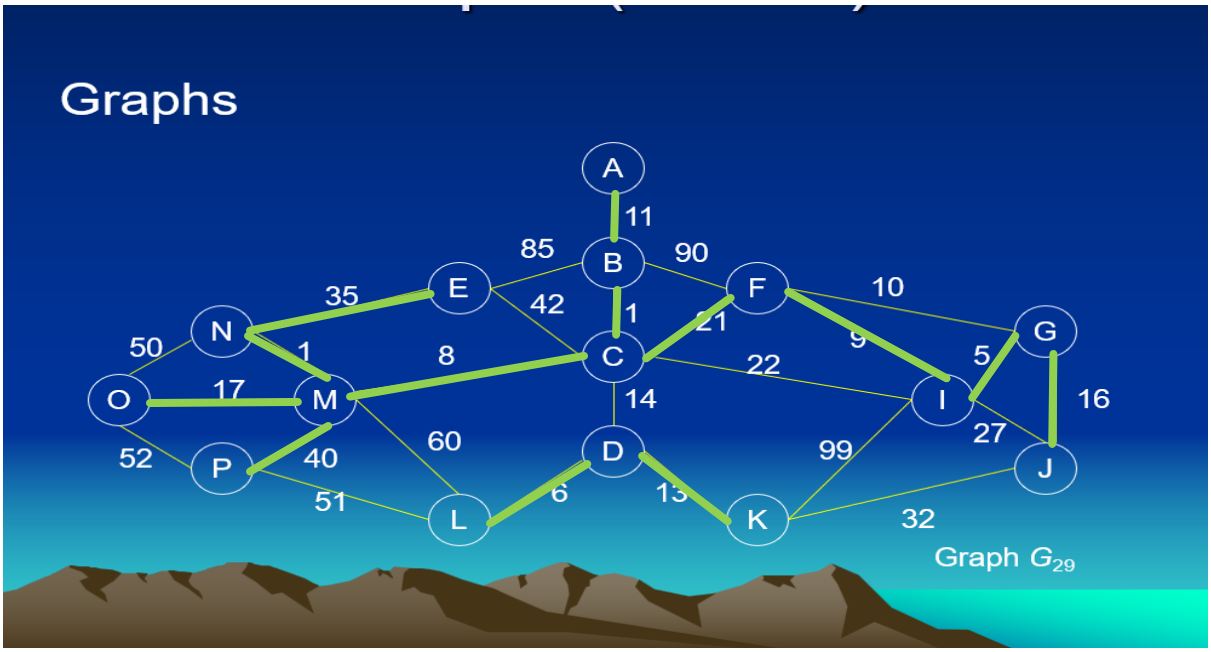
W (C, F) =21

W (E, N) = 35

W (M, P) =40

TOTAL MINIMUM SPANNING TREE:_____197____

USING PRIM'S ALGORITHM



w (A, B) = 11

w (B, C) = 1

w (C, M) = 8

w (M, N) = 1

w (C, D) =14

w (D, L) = 6

w (D, K) = 13

w (M, O) = 17

w (C, F) = 21

w (F, I) = 9

w (G, I) = 5

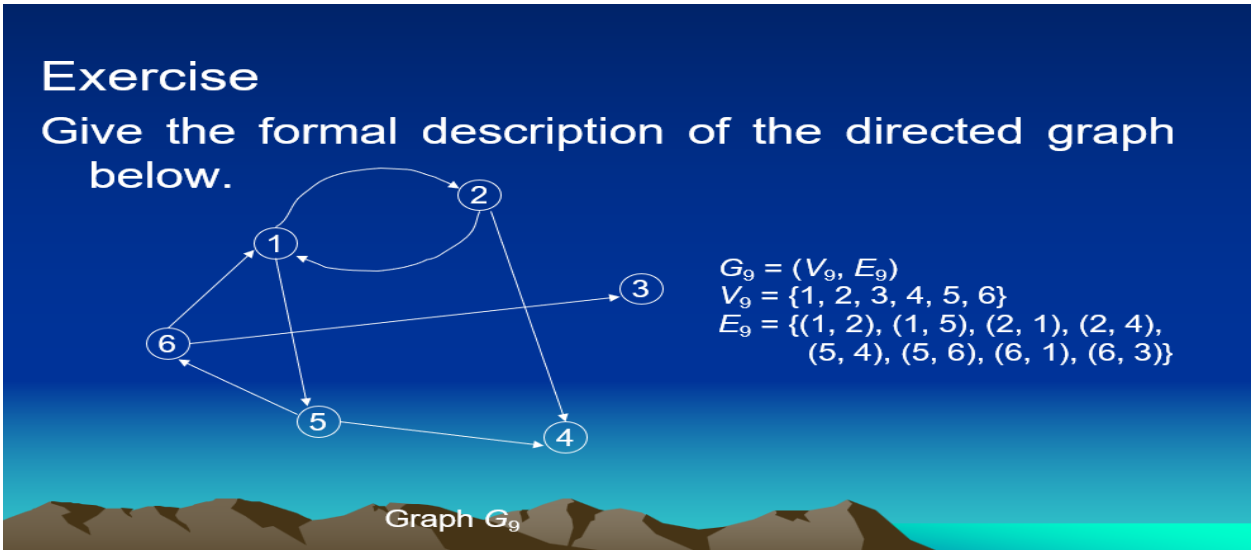
w (G, J) = 16

w (E, N) = 35

w (M, P) = 40

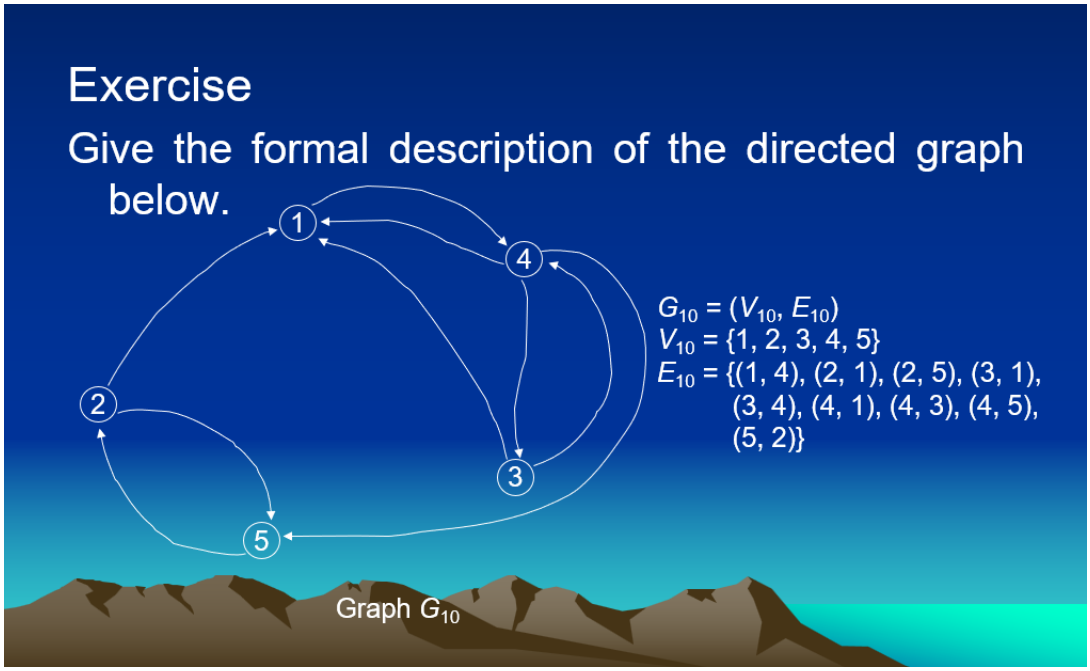
TOTAL MINIMUM SPANNING TREE:____197____

Graph 9:



VERTICES	IN-DEGREE	OUT-DEGREE
1	2	2
2	1	2
3	1	0
4	2	0
5	1	2
6	1	2

Graph 10:



VERTICES	IN-DEGREE	OUT-DEGREE
1	3	1
2	1	2
3	1	2
4	2	3
5	2	1

TREES

Answer in a Short Quiz

1. Trees is a nonlinear hierarchical data structure that consists of nodes connected by edges.
2. Yes
3. Root
4. One
5. Yes
6. 13, 6, 60
7. 7
8. Has no siblings
9. 4, 12, 7, 22
10. 13, 6, 60, 23, 21
11. 23, 6, 60, 12, 4, 7, 22
12. 13, 16, 60, 12, 4, 7, 22
13. 3 (depth)
14. 3 (degree)
15. 4 (height)
16. 6 (leaves)
17. No
18. No
19. No
20. No
21. Yes
22. n^h
23. $\log_n m$
24. $\frac{n^h-1}{n-1}$
25. $n^h - 1$