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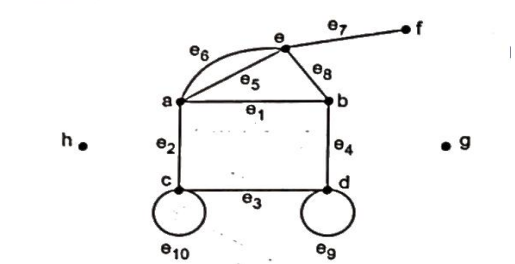
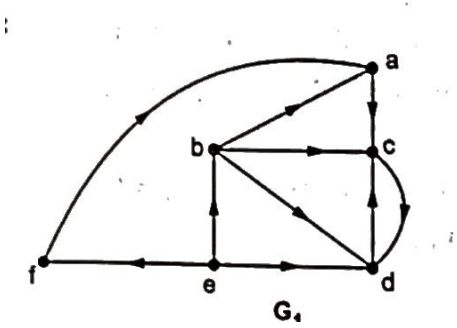
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
9	1	How many edges are in a graph K_{99} ?	4851	1	100	101	4950	4850	5049	4851
9	2	What is the degree of vertex **d** in graph 	4	1	0	1	2	3	4	5
9	3	Degree of any vertex in a simple graph with n- vertices is at the most_____.	n-1	1	n	n-1	2n-1	3n	2n+1	n+1
9	4	Maximum number of edges in any simple graph is_____	$\frac{n(n-1)}{2}$	1	$\frac{n(n-1)}{2}$	2n	$\frac{n(n-1)}{3}$	$\frac{n(n+1)}{2}$	n	3n
9	5	Sum in-degrees of each vertices of G = _____  G_4	10	1	12	11	10	8	9	0

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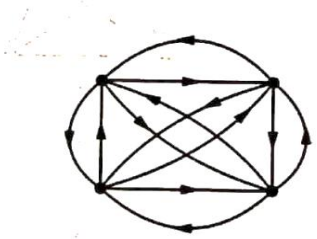
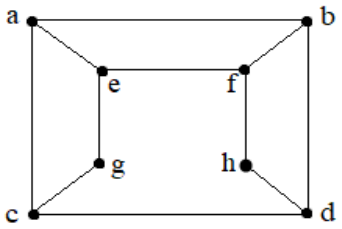
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
9	6	 is known as _____ graph.	Directed complete graph	1	Complete graph	Directed complete graph	Wheel graph	tree	Null graph	Simple graph
9	7	A graph in which degree of each vertex is same is known as_____ .	Regular graph	1	Complete graph	Directed complete graph	Wheel graph	Regular graph	Null graph	Simple graph
9	8	How many edges in a complete bipartite graph $K_{m,n}$?	mn	1	m	n	mn	m+n	m/n	m-n
9	9	A complete Bipartite graph $K_{m,n}$ is regular if and only if ___	m=n	1	m=n	m>n	m<n	m=2n	2m=n	3m=n
9	10	The maximum number of edges in bipartite graph containing 11 vertices is?	30	1	18	24	30	55	65	None
9	11	A star graph is denoted as_____	$K_{1,n}$	1	K_1	$K_{1,n}$	K_n	C_n	W_n	$K_{m,n}$
9	12	Consider the graph given below: The two distinct sets of vertices, which make the graph bipartite are: 	(a, d, f, g);(b, c, e, h)	1	(a, d, f);(b, c, e, g, h)	(a, g, h);(b, c, e, f)	(a, d, f, g);(b, c, e, h)	(a, f, g);(b, c, d, e, h)	(a, d, f, g, h);(b, c, e)	(a, g, h, c);(b, e, f, d)

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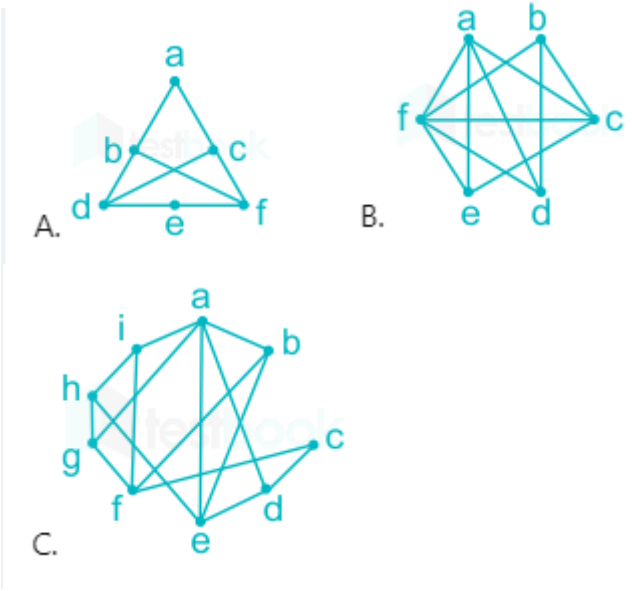
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
9	13	The maximum number of edges in a bipartite graph on 12 vertices is _____.	36	1	32	36	11	20	27	
9	14	Which of the following graphs is(are) planar?  	A & B only	1	Only A	A & C only	A & B only	A, B & C only	B & C only	Only B
9	15	Which of the following statements is TRUE about the greedy graph coloring algorithm? (I) It always finds the maximum number of colors needed to color a graph. (II) It assigns colors to vertices in a random order. (III) It assigns colors to vertices one at a time, always choosing the smallest available color for each vertex.	Only III	1	Only I	Only II	Only III	All of the above		

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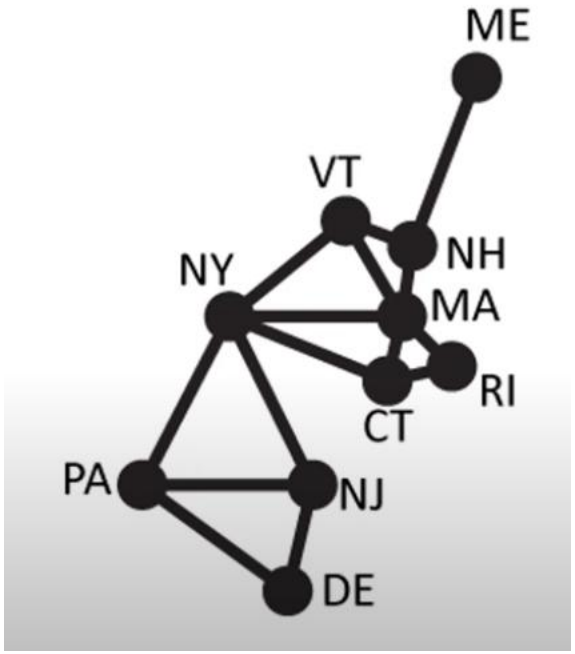
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
9	16	What is the minimum number of colors needed using the Greedy Coloring Algorithm if the states are considered in the following order: PA, NJ, DE, NY, CT, MA, RI, NH, VT, ME? 	4	1	5	6	3	4		

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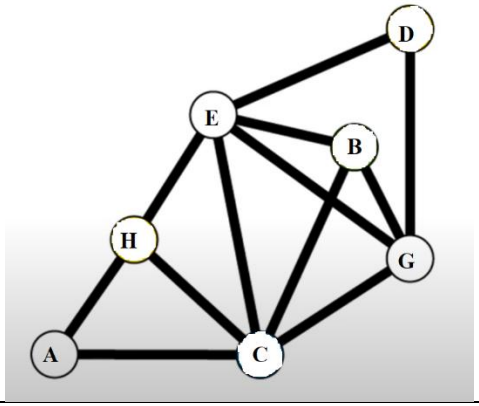
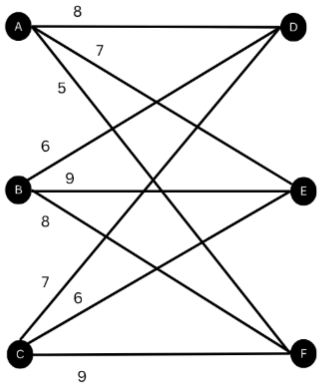
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
9	17	What is the minimum number of colors needed using the Greedy Coloring Algorithm with the vertices in alphabetical order. 	3	1	5	2	3	4		
9	18	A company needs to assign 3 workers (A, B, C) to 3 jobs (D, E, F). Find the minimum total cost, using the Hungarian method. 	17	1	21	22	23	17		

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Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
9	19	In the context of backtracking for graph coloring, what does "backtracking" refer to?	Reversing a previous color assignment to explore a different path	1	Moving to the next vertex without assigning a color.	Reversing a previous color assignment to explore a different path	Terminating the algorithm when a solution is found.	Assigning a color randomly to a vertex.		

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Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
9	20	What is the main goal of vertex coloring in a graph?	Assign colors so that no two adjacent vertices share the same color	1	Assign the same color to all vertices	Assign different color to all the vertices	Assign colors so that no two adjacent vertices share the same color	Assign colors to edges instead of vertices		
9	21	What is the minimum number of colors required to color a graph called?	Chromatic number	1	Chromatic index	Chromatic number	Color depth	Degree of the graph		

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Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
9	22	What happens when a color assignment leads to a conflict in backtracking?	The algorithm backtracks to try a different color	1	The algorithm stops	The graph is deleted	The algorithm backtracks to try a different color	The vertex is skipped		
9	23	Which of the following problems can be solved using backtracking?	Vertex coloring	1	Vertex coloring	Sorting	Binary search	Matrix multiplication		
9	24	If three employees (i) are assigned jobs (j) in such a way that takes minimum cost by Hungarian maximum matching algorithm then which job should assigned to 1st employee and how much it cost respectively? $\begin{bmatrix} 20 & 10 & 40 \\ 10 & 20 & 50 \\ 50 & 30 & 20 \end{bmatrix}$	2nd, 10	1	1st, 20	1st, 10	2nd, 10	2nd, 20	3rd, 50	3rd, 30

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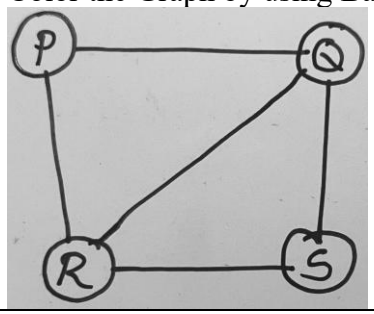
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
9	25	If three employees (i) are assigned jobs (j) in such a way that takes minimum cost by Hungarian maximum matching algorithm then which job should assigned to 2nd employee and how much it cost respectively? $\begin{bmatrix} 20 & 10 & 40 \\ 10 & 20 & 50 \\ 50 & 30 & 20 \end{bmatrix}$	1st, 10	1	1st, 20	1st, 10	2nd, 10	2nd, 20	3rd, 50	3rd, 30
9	26	If three employees (i) are assigned jobs (j) in such a way that takes minimum cost by Hungarian maximum matching algorithm then which job should assigned to 3rd employee and how much it cost respectively? $\begin{bmatrix} 20 & 10 & 40 \\ 10 & 20 & 50 \\ 50 & 30 & 20 \end{bmatrix}$	3rd, 20	1	1st, 20	1st, 10	2nd, 10	2nd, 20	3rd, 50	3rd, 20
9	27	Color the Graph by using Backtracking algorithm. 		4						

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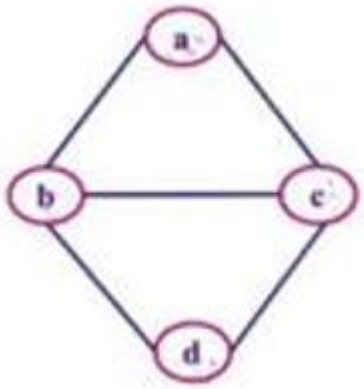
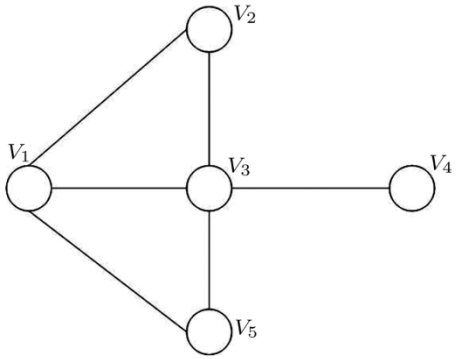
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
9	28	Color the graph by using Backtracking algorithm. 		4						
9	29	Color the vertices by using Backtracking method. 		5						

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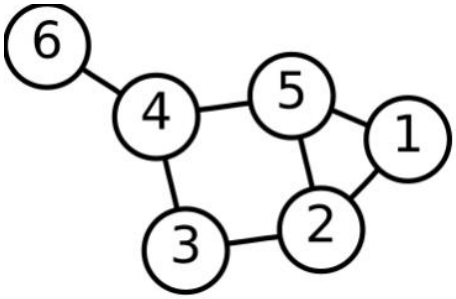
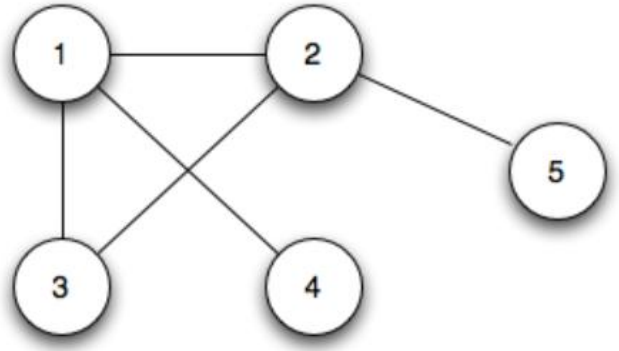
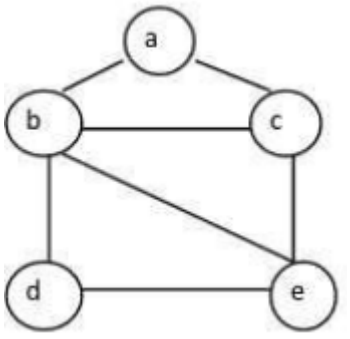
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
9	30	Color the vertices by using Backtracking method. 		4						
9	31	Color the vertices by using backtracking method. 		4						
9	32	Using the backtracking method, color the vertices. 		5						

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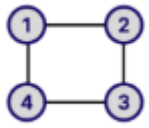
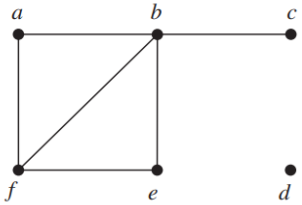
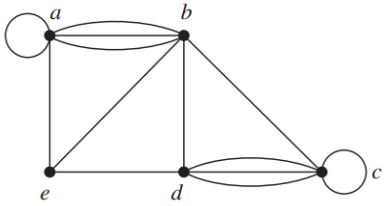
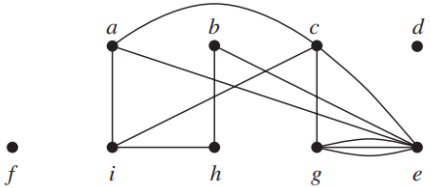
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
9	33	Using backtracking method to color the vertices.  		4						
9	34	In following graphs find the number of vertices, the number of edges, and the degree of each vertex in the given undirected graph. Identify all isolated and pendant vertices. **1.**  **2.**  **3.**  		3						
9	35	Draw a graph which is regular but not bipartite.		2						

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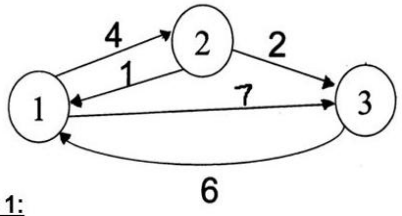
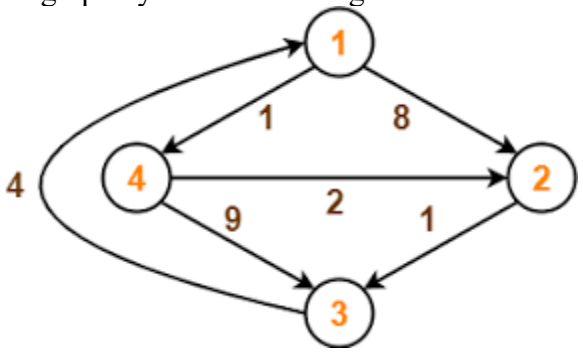
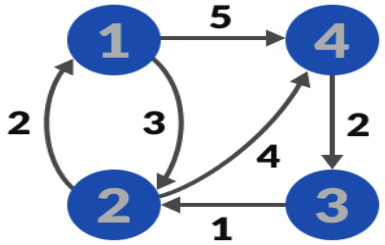
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
9	36	Find the shortest distance between each pair of any two vertices of a graph by Warshall's Algorithm.  1:		4						
9	37	Find the shortest distance between each pair of any two vertices of a graph by Wars hall's Algorithm.  		5						
9	38	Find the shortest distance between each pair of any two vertices of a graph by Warshall's Algorithm.  		4						

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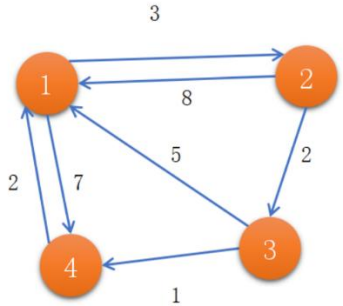
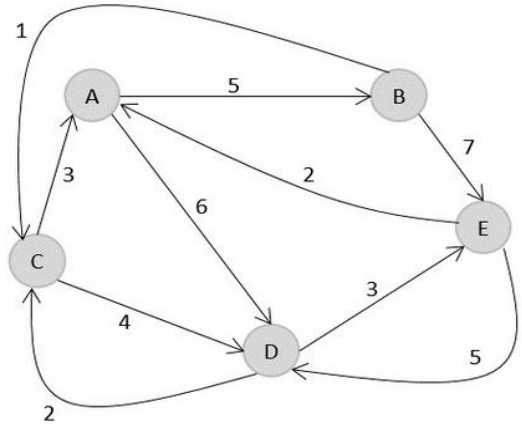
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
9	39	Find the Shortest path between each and every vertices using Floyd Warshall's Algorithm. 		3						
9	40	Consider the following directed weighted graph $G = \{V, E\}$. Find the shortest paths between all the vertices of the graphs using the Floyd-Warshall algorithm. 		3						

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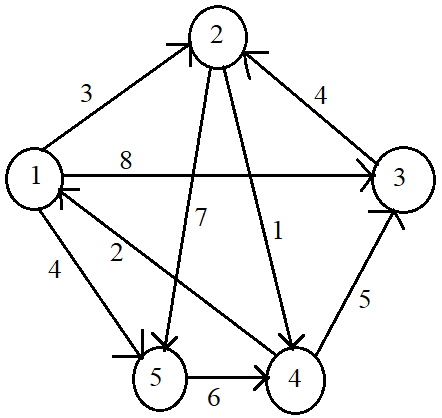
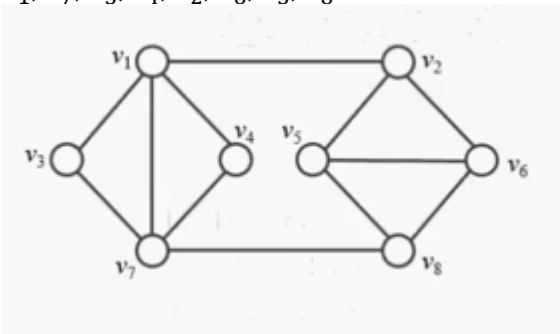
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
9	41	Find the shortest path between each pair of vertices for a simple digraph using Warshall's algorithm. 		3						
9	42	Draw three different planner graphs with 4, 5, & 10 vertices.		3						
9	43	Use the greedy coloring algorithm, with the vertices in order $v_1, v_7, v_3, v_4, v_2, v_6, v_5, v_8$ to color the vertices of the graph. 		4						

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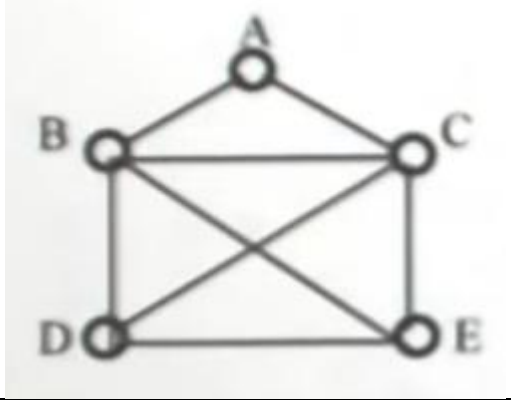
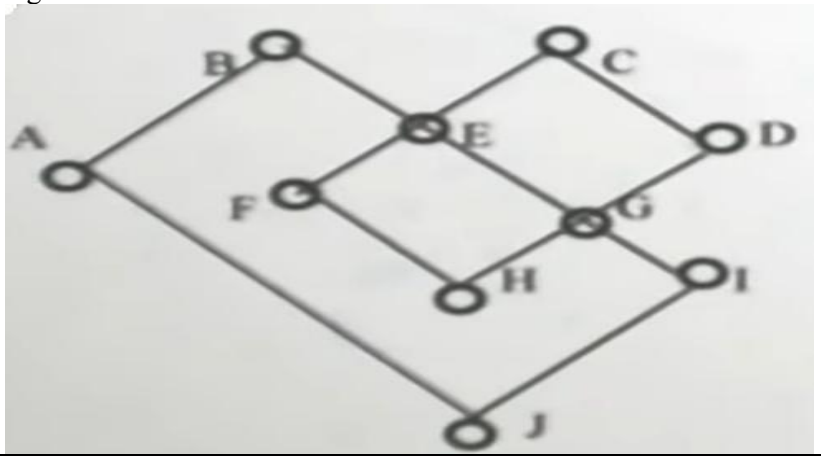
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
9	44	Color the vertices in alphabetic order, using Greedy Coloring algorithm. 		4						
9	45	Color the vertices in alphabetic order, using Greedy Coloring algorithm. 		4						

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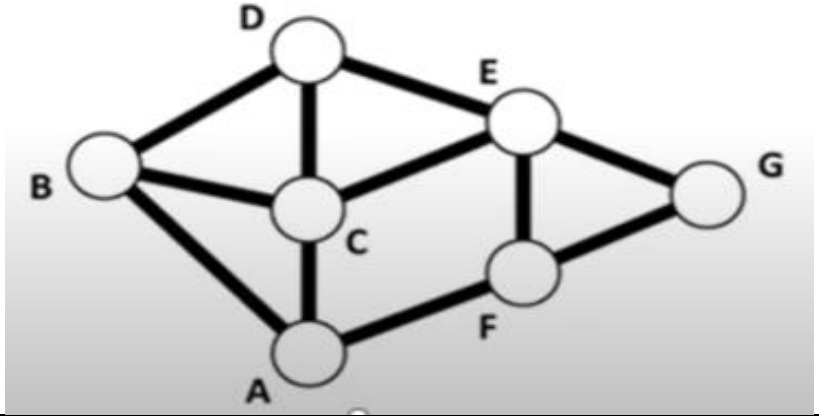
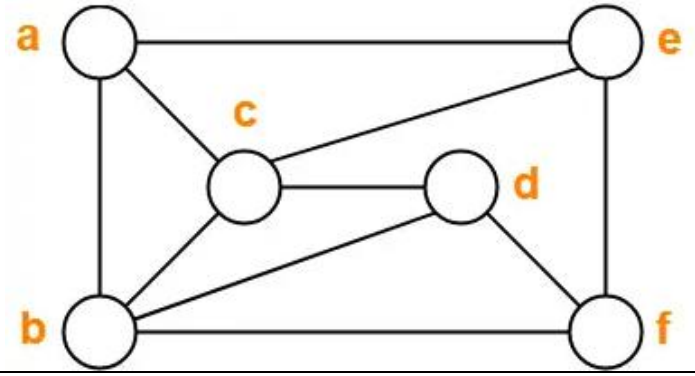
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
9	46	Use the greedy coloring algorithm, with the vertices in alphabetical order, to color the vertices of this graph. 		4						
9	47	Use the greedy coloring algorithm, with the vertices in alphabetical order, to color the vertices of this graph. 		4						

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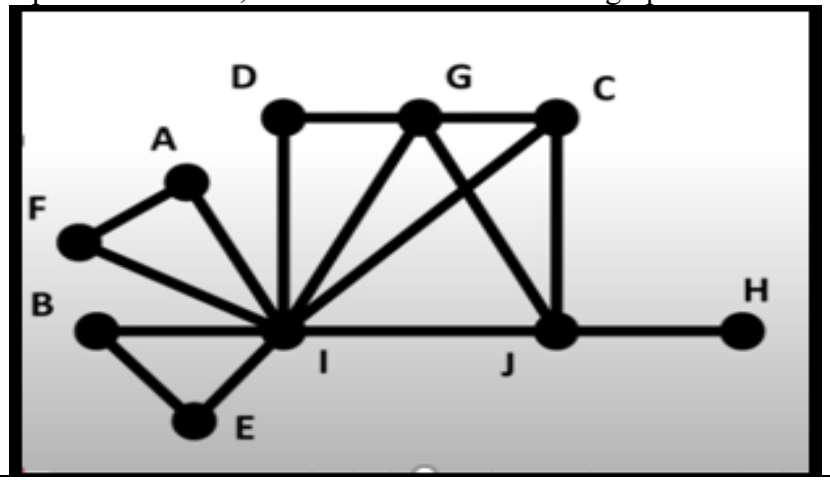
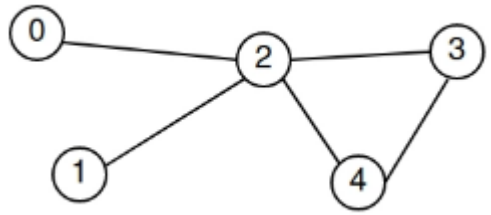
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
9	48	Use the greedy coloring algorithm, with the vertices in alphabetical order, to color the vertices of this graph. 		4						
9	49	Use the greedy coloring algorithm, with the vertices in increasing order, to color the vertices of this graph. 		4						

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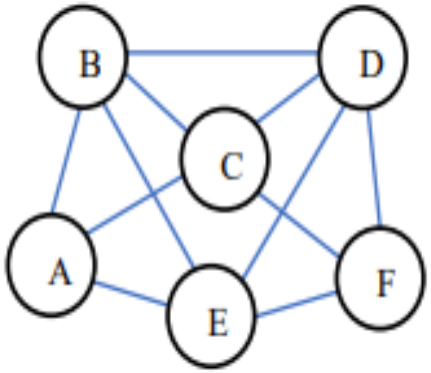
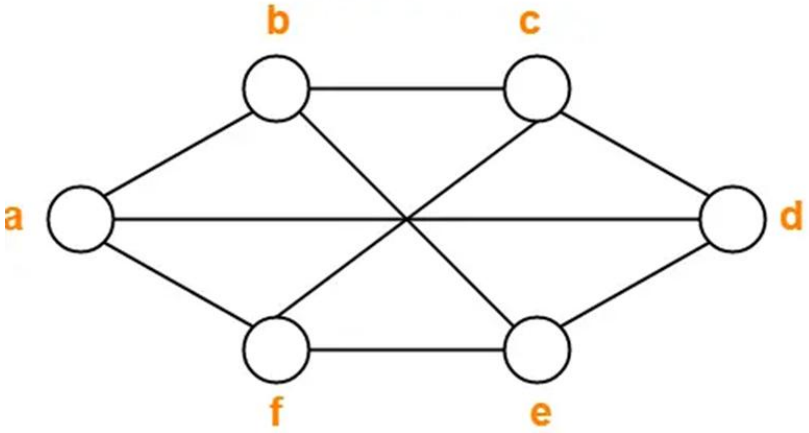
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
9	50	Use the greedy coloring algorithm, with the vertices in alphabetical order, to color the vertices of this graph. 		4						
9	51	Use the greedy coloring algorithm, with the vertices in alphabetical order, to color the vertices of this graph. 		4						

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DM Practice Book_ 2025										
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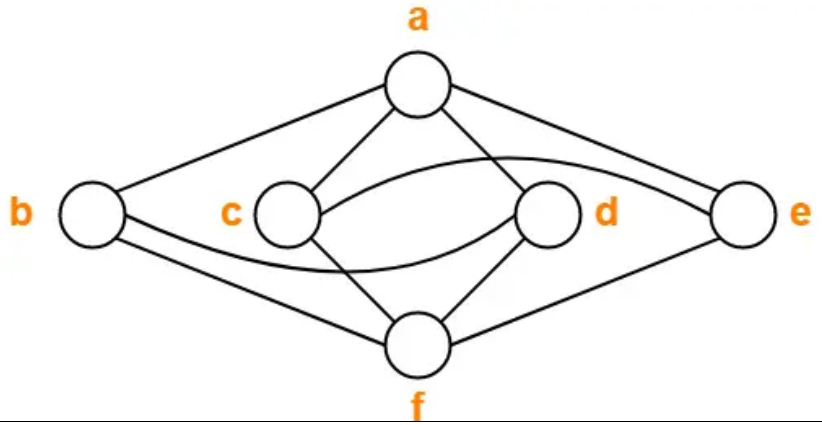
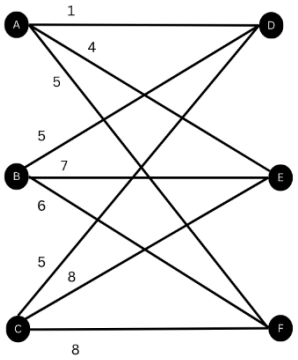
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
9	52	Use the greedy coloring algorithm, with the vertices in alphabetical order, to color the vertices of this graph. 		4						
9	53	Find the maximum weight matching of the following graph and minimum total cost, using the Hungarian method using a graph. 		4						

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DM Practice Book_ 2025										
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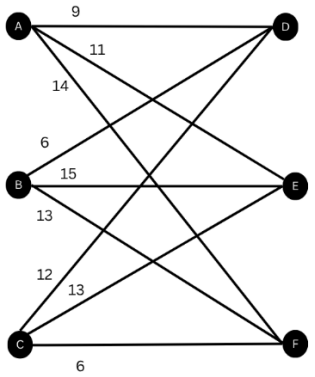
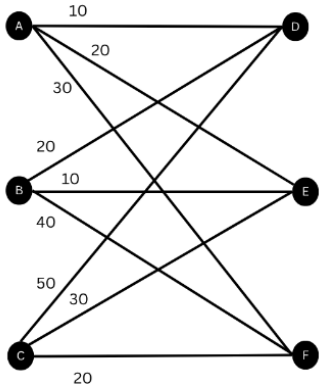
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
9	54	Find the maximum weight matching of the following graph and minimum total cost, using the Hungarian method using a graph. 		3						
9	55	Find the maximum weight matching of the following graph and minimum total cost, using the Hungarian method using a graph. 		3						

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DM Practice Book_ 2025										
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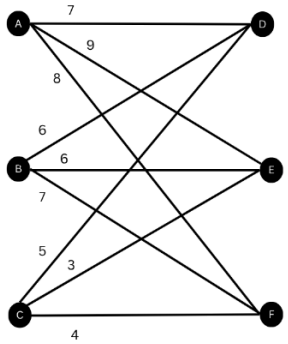
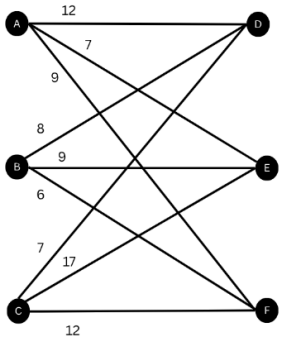
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
9	56	Find the maximum weight matching of the following graph and minimum total cost, using the Hungarian method using a graph. 		3						
9	57	Find the maximum weight matching of the following graph and minimum total cost, using the Hungarian method using a graph. 		3						

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DM Practice Book_ 2025										
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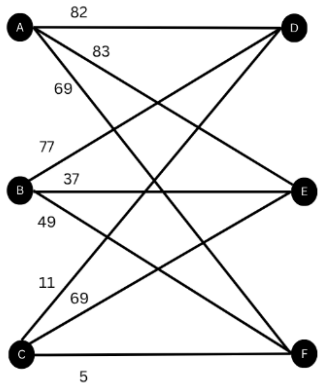
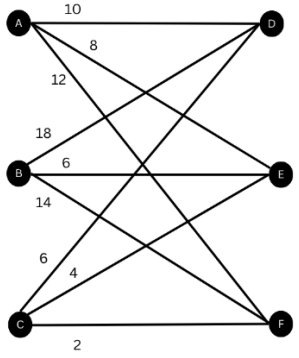
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
9	58	Find the maximum weight matching of the following graph and minimum total cost, using the Hungarian method using a graph. 		3						
9	59	Find the maximum weight matching of the following graph and minimum total cost, using the Hungarian method using a graph. 		3						

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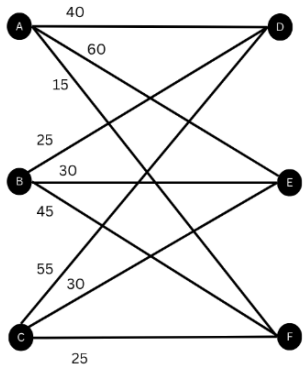
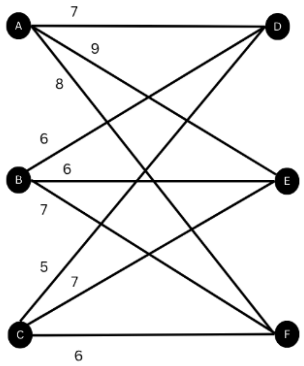
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
9	60	Find the maximum weight matching of the following graph and minimum total cost, using the Hungarian method using a graph. 		3						
9	61	Find the maximum weight matching of the following graph and minimum total cost, using the Hungarian method using a graph. 		3						

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DM Practice Book_ 2025										
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Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
9	62	Find the perfect matching of given matrix using Hungarian Maximum Matching Algorithm. $\begin{bmatrix} 12 & 30 & 21 & 15 \\ 18 & 33 & 9 & 31 \\ 44 & 25 & 24 & 21 \\ 23 & 30 & 28 & 14 \end{bmatrix}$		4						
9	63	Find the perfect matching of all persons (P_i) to jobs (J_i) by Hungarian Maximum Matching Algorithm using matrix. $\begin{bmatrix} 2 & 10 & 9 & 7 \\ 15 & 4 & 14 & 8 \\ 13 & 14 & 16 & 11 \\ 3 & 15 & 13 & 8 \end{bmatrix}$		4						
9	64	Find the shortest routes for cab drivers to reach each Customers that booked cabs by Hungarian Maximum Matching Algorithm using matrix. $\begin{bmatrix} 2 & 5 & 14 & 18 \\ 22 & 18 & 14 & 32 \\ 5 & 8 & 2 & 10 \\ 13 & 18 & 11 & 28 \end{bmatrix}$		5						
9	65	Find the perfect matching of given matrix using Hungarian Maximum Matching Algorithm. $\begin{bmatrix} 10 & 19 & 8 \\ 10 & 18 & 7 \\ 13 & 16 & 9 \end{bmatrix}$		3						

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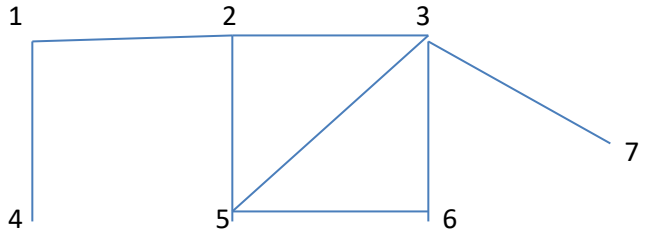
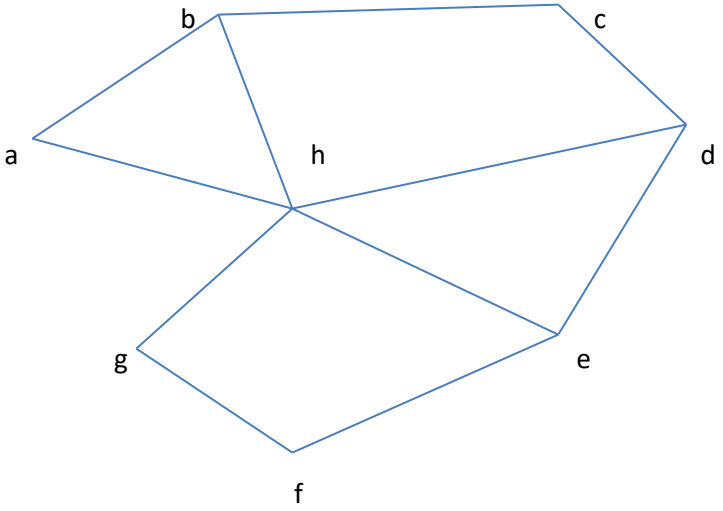
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
9	66	Find the perfect matching of given matrix using Hungarian Maximum Matching Algorithm. $\begin{bmatrix} 5 & 15 & 11 & 10 \\ 17 & 8 & 11 & 10 \\ 9 & 12 & 8 & 7 \\ 9 & 23 & 15 & 14 \end{bmatrix}$		5						
9	67	Find the minimum subset of vertices that covers all edges of graph. 		4						
9	68	Find the minimum subset of vertices that covers all edges of graph. 		4						

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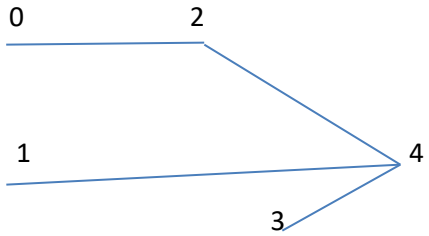
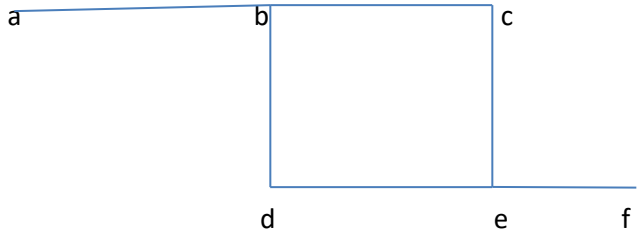
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
9	69	Find the minimum subset of vertices that covers all edges of graph. 		4						
9	70	Find the minimum subset of vertices that covers all edges of graph. 		4						

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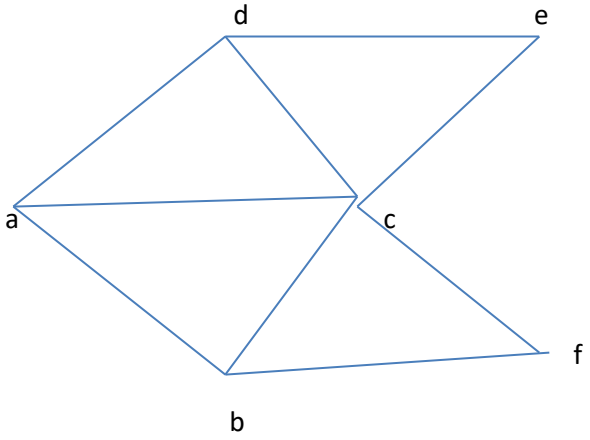
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
9	71	Find the minimum subset of vertices that covers all edges of graph. 		4						
10	72	What is the maximum number of vertices in a binary tree with 15 levels?	65535	1	65535	65632	63285	65015	63355	63535
10	73	The maximum number of nodes on level 6 of a binary tree are	64	1	107	117	63	64	75	74
10	74	The maximum number of nodes on level 9 of a binary tree.	512	1	513	512	1023	1024	509	
10	75	The height of a tree is the length of the longest root -to -leaf path in it. The maximum and minimum number of nodes in a binary tree of height 5 are _____.	63 and 6	1	64 and 5	32 and 6	31 and 5	63 and 6	33 and 6	31 and 6

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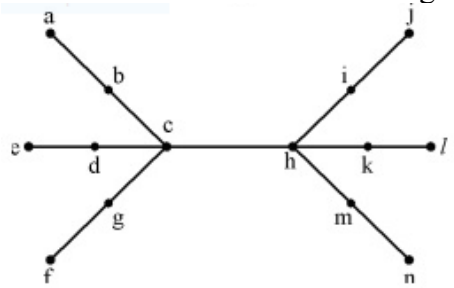
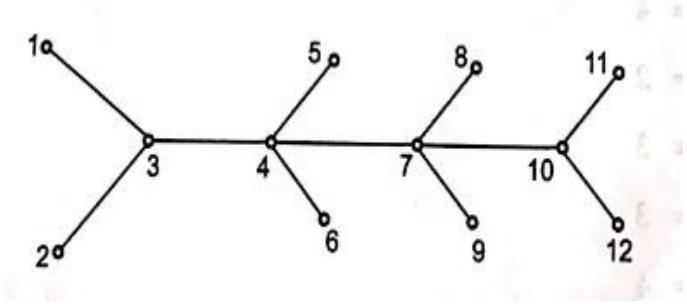
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
10	76	How many vertices are possible at level 4 in Binary tree of height 5 and in Binary tree of height 5 respectively? 1) 31, 63 2) 3, 6 3) 11, 33 4) 17, 15 5) 16, 63	Any two	1	Any one	Any two	Any three	Any four	All of them	None
10	77	What would be the center of the given tree? 	c & h	1	d & h	c & k	g, b, c	h, i, m	c & h	d & k
10	78	What is the centre of a given tree 	4 and 7	1	3	4	7	10	3 and 4	4 and 7

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Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
10	79	What does Maximum flow problem involve?	finding a flow between source and sink that is maximum	1	finding a flow between source and sink that is maximum	finding a flow between source and sink that is minimum	finding the shortest path between source and sink	computing a minimum spanning tree		
10	80	What is the source?	Vertex with no incoming edges	1	Vertex with no incoming edges	Vertex with no leaving edges	Centre vertex	Vertex with the least weight		
10	81	In a flow network, if the capacities are: $s \rightarrow a\,(6), s \rightarrow b\,(4), a \rightarrow b\,(3), a \rightarrow t\,(5), b \rightarrow t\,(2)$. What is the maximum flow from s to t? Use Ford Fulkerson Algorithm.	7	1	6	7	8	9		

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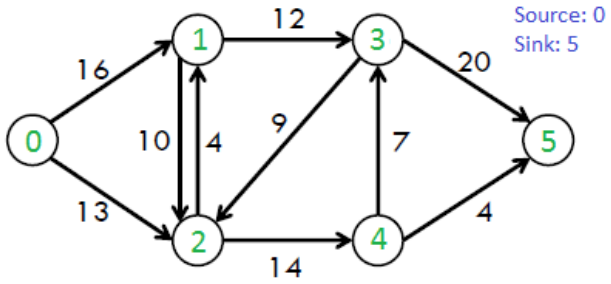
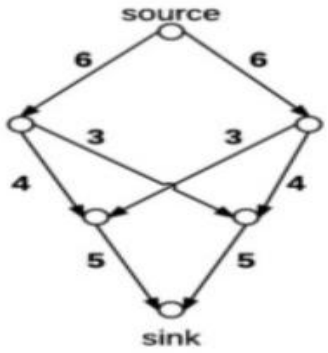
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
10	82	Find the maximum flow through the network shown below. Use Ford Fulkerson Algorithm. 	23	1	20	23	25	27		
10	83	Find the maximum flow through the network shown below. Use Ford Fulkerson Algorithm. 	10	1	10	12	8	11		
10	84	In a flow network, the source has two outgoing edges with capacities 8 and 6. Both lead to intermediate nodes, which then connect to the sink with capacities 7 and 5 respectively. What is the maximum possible flow from source to sink? Use Ford Fulkerson Algorithm.	12	1	14	15	12	11		

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<table>
<tr><th>Unit No.</th><th>Sr No.</th><th>Question_Text</th><th>Answer_Text</th><th>Marks</th><th>Option1</th><th>Option2</th><th>Option3</th><th>Option4</th><th>Option5</th><th>Option6</th></tr>
<tr><td>10</td><td>85</td><td>Build the Huffman tree for the following frequencies of six letters<table><tr><td>E</td><td>29</td></tr><tr><td>I</td><td>5</td></tr><tr><td>O</td><td>7</td></tr><tr><td>P</td><td>12</td></tr><tr><td>S</td><td>4</td></tr><tr><td>T</td><td>8</td></tr></table></td><td></td><td>4</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>10</td><td>86</td><td>Build The Huffman tree for the following frequencies of letters. Also give the corresponding code word:<table><tr><td>S</td><td>9</td></tr><tr><td>I</td><td>5</td></tr><tr><td>P</td><td>1</td></tr><tr><td>O</td><td>3</td></tr><tr><td>U</td><td>7</td></tr><tr><td>T</td><td>3</td></tr><tr><td>E</td><td>1</td></tr><tr><td>F</td><td>1</td></tr><tr><td>G</td><td>1</td></tr><tr><td>M</td><td>4</td></tr><tr><td>N</td><td>1</td></tr><tr><td>R</td><td>5</td></tr><tr><td>Q</td><td>1</td></tr><tr><td>J</td><td>2</td></tr></table></td><td></td><td>5</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table>

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<table>
<tr><th>Unit No.</th><th>Sr No.</th><th>Question_Text</th><th>Answer_Text</th><th>Marks</th><th>Option1</th><th>Option2</th><th>Option3</th><th>Option4</th><th>Option5</th><th>Option6</th></tr>
<tr><td>10</td><td>87</td><td>Build The Huffman tree for the following frequencies of letters. Also give the corresponding code word:
<table>
<tr><td>r</td><td>51</td></tr>
<tr><td>o</td><td>25</td></tr>
<tr><td>j</td><td>20</td></tr>
<tr><td>t</td><td>29</td></tr>
<tr><td>m</td><td>37</td></tr>
<tr><td>z</td><td>24</td></tr>
<tr><td>d</td><td>30</td></tr>
<tr><td>a</td><td>20</td></tr>
<tr><td>w</td><td>26</td></tr>
<tr><td>n</td><td>32</td></tr>
<tr><td>u</td><td>19</td></tr>
<tr><td>g</td><td>75</td></tr>
<tr><td>s</td><td>85</td></tr>
<tr><td>y</td><td>35</td></tr>
</table></td><td></td><td>5</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>10</td><td>88</td><td>Build the Huffman tree for the following frequency and obtain the corresponding code word
<table>
<tr><td>Letter</td><td>Z</td><td>K</td><td>M</td><td>C</td><td>U</td><td>D</td><td>I</td><td>E</td></tr>
<tr><td>Frequency</td><td>2</td><td>7</td><td>24</td><td>32</td><td>37</td><td>42</td><td>42</td><td>120</td></tr>
</table></td><td></td><td>4</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>10</td><td>89</td><td>For the following set of weights build the Huffman tree. For each weight in the set, give corresponding code word
<table>
<tr><td>P</td><td>I</td><td>O</td><td>S</td><td>T</td><td>A</td><td>E</td></tr>
<tr><td>11</td><td>13</td><td>8</td><td>10</td><td>15</td><td>22</td><td>9</td></tr>
</table></td><td></td><td>4</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>10</td><td>90</td><td>For the following set of weights, construct optimal binary prefix code. For each weight in the set, give the corresponding code words. 8,9,12,14, 16 ,19</td><td></td><td>4</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table>

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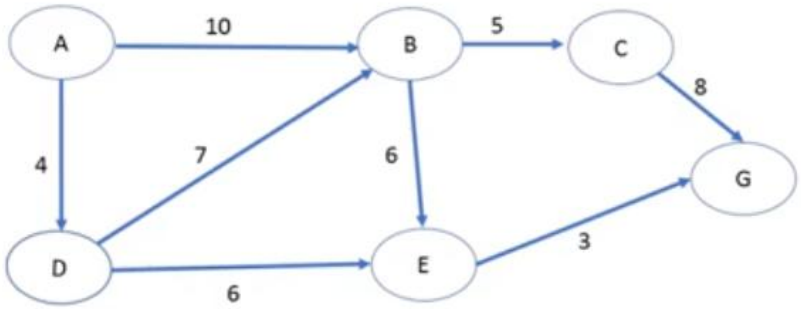
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
10	91	For the following set of weights, construct optimal binary prefix code. For each weight in the set, give the corresponding code words: 15, 85, 19, 90, 35, 21, 55.		4						
10	92	For the following set of weights construct an optimal binary prefix code. For each weight in the set, give corresponding code word. 5,7,8,15,35,40.		5						
10	93	For the following set of weights construct an optimal binary prefix code. For each weight in the set, give corresponding code word. 2,3,5,7,9,13.		5						
10	94	The characters a to h have the set of frequencies based on the first 8 Fibonacci numbers. A Huffman code is used to represent the characters. Construct an optimal binary prefix code. What is the sequence of characters corresponding to the code 110111100111010?		4						
10	95	A Secondary Storage media contains information in files with different formats. The frequency of different types of files is as follows. Exe(20), bin(75), bat(20) , jpeg(85) ,dat (51) ,doc(32), sys(26), c(19) , cpp(25) , bmp (30), avi (24) ,prj (29) ,1st (35) ,zip (37). Construct the Huffman code for this.		5						
10	96	Find out the maximum flow in given graph using Ford – Fulkerson Algorithm. Show every step. (A is Source and G is Sink) 		4						

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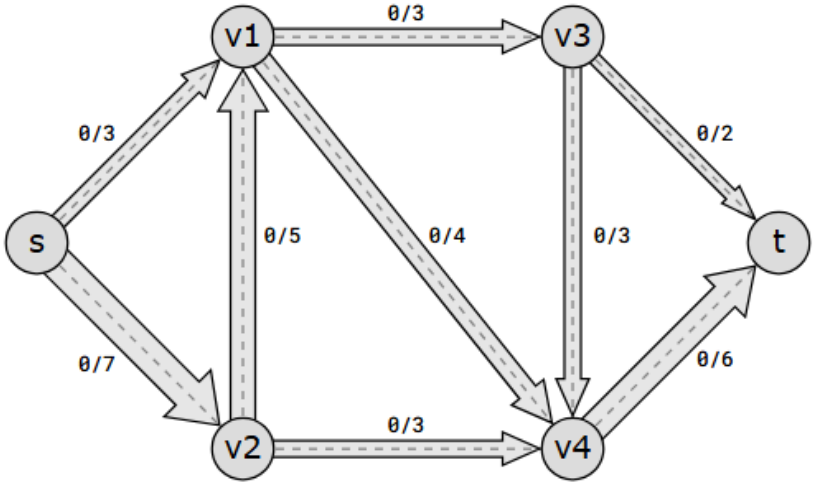
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
10	97	Find out the maximum flow in given graph using Ford – Fulkerson Algorithm. Show every step. (S is Source and t is Sink) 		4						

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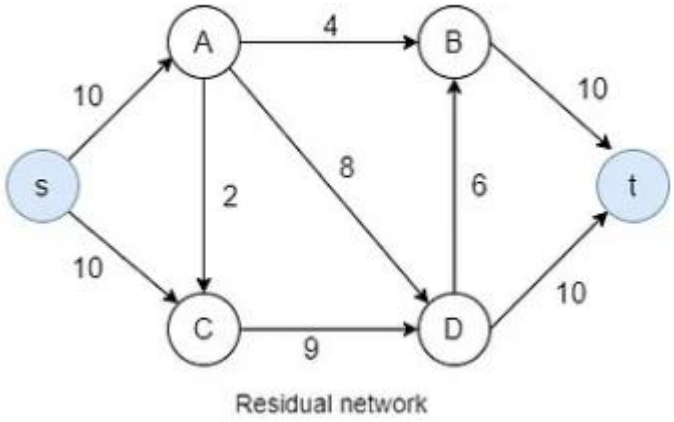
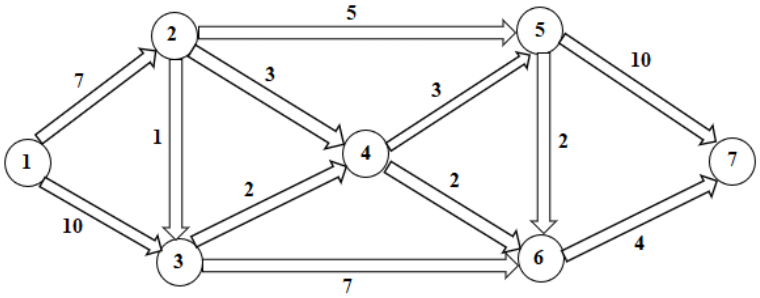
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
10	98	Find out the maximum flow in given graph using Ford – Fulkerson Algorithm. Show every step. (S is Source and t is Sink)  Residual network		4						
10	99	Find the maximum flow through the given network using Ford Fulkerson algorithm. Show every step. (1 is Source and 7 is Sink)  		5						

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DM Practice Book_ 2025										
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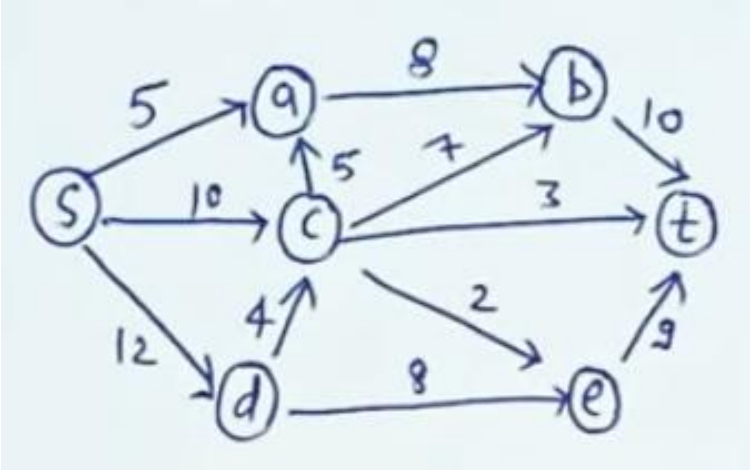
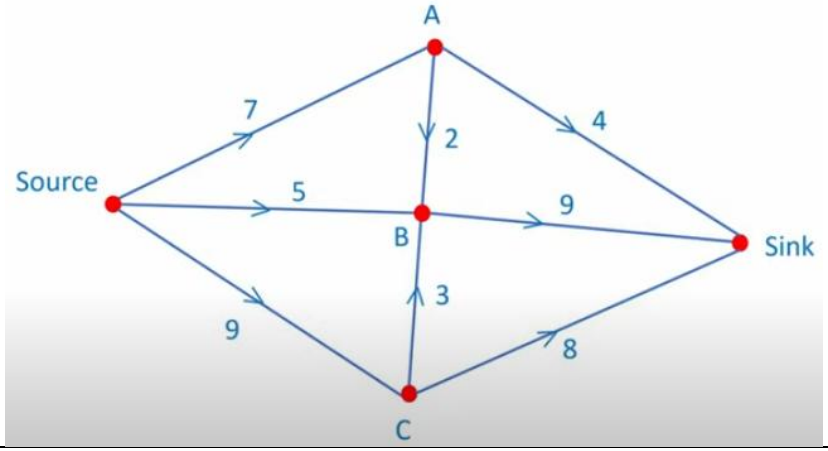
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
10	100	Find the maximum flow through the given network using Ford Fulkerson algorithm. Show every step. (S is Source and t is Sink) 		5						
10	101	Find the maximum flow for the network diagram below using Ford Fulkerson algorithm. Show every step. 		4						

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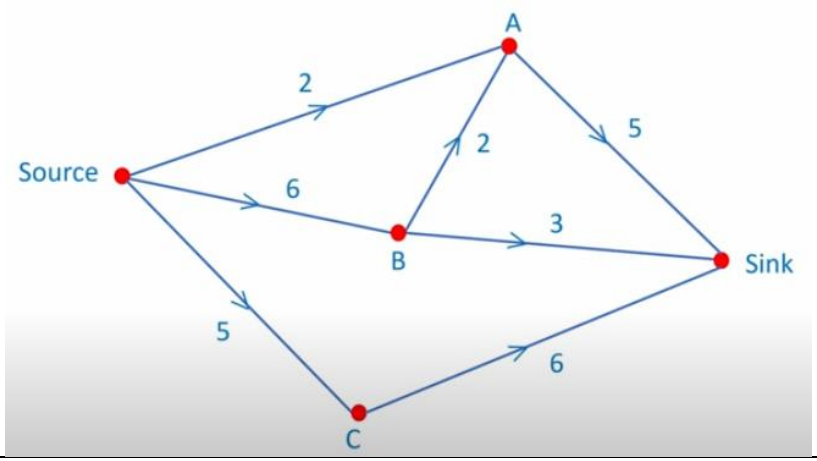
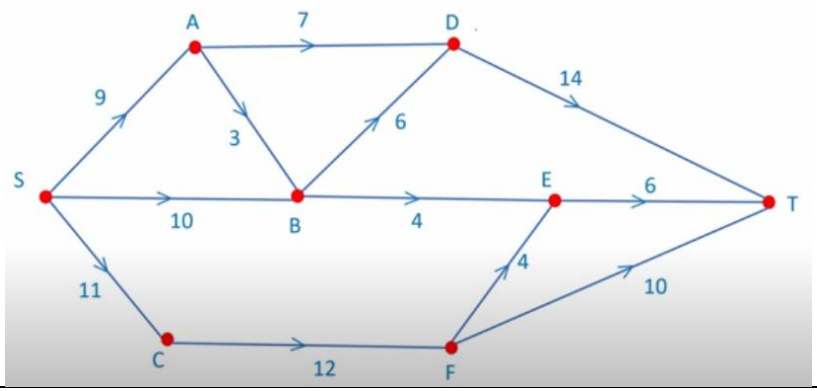
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
10	102	Find the maximum flow for the network diagram below using Ford Fulkerson algorithm. Show every step. 		5						
10	103	Find the maximum flow for the network diagram below using Ford Fulkerson algorithm. Show every step. 		5						

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DM Practice Book_ 2025										
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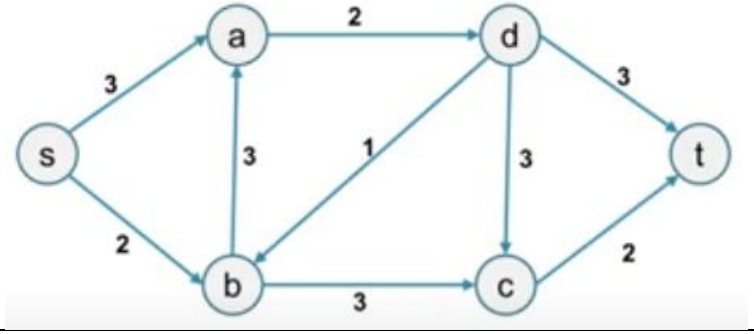
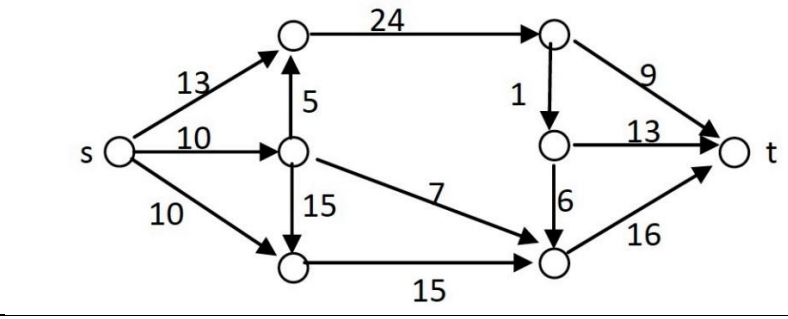
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
10	104	Find the maximum flow for the network diagram below using Ford Fulkerson algorithm. Show every step. 		4						
10	105	Find the maximum flow for the network diagram below using Ford Fulkerson algorithm. Show every step. 		5						

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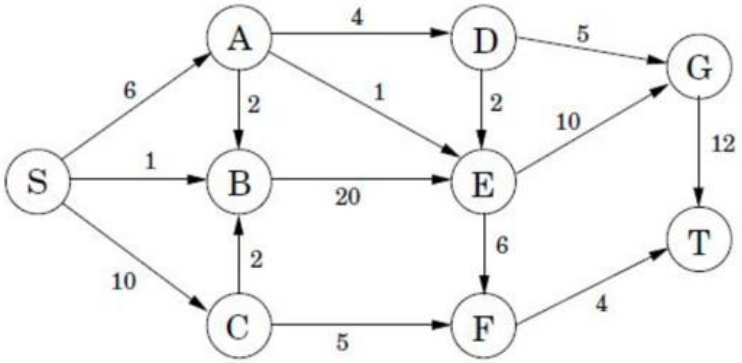
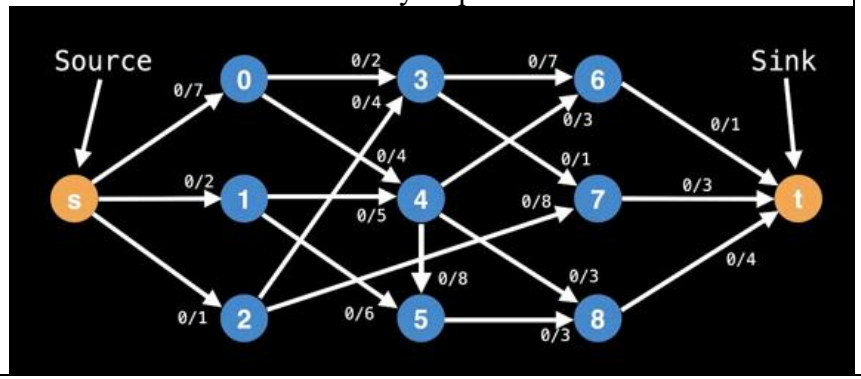
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
10	106	Use the Ford-Fulkerson algorithm to find the maximum flow in the network below. Show every step. 		5						
10	107	Use the Ford-Fulkerson algorithm to find the maximum flow in the network below. Show every step. 		5						

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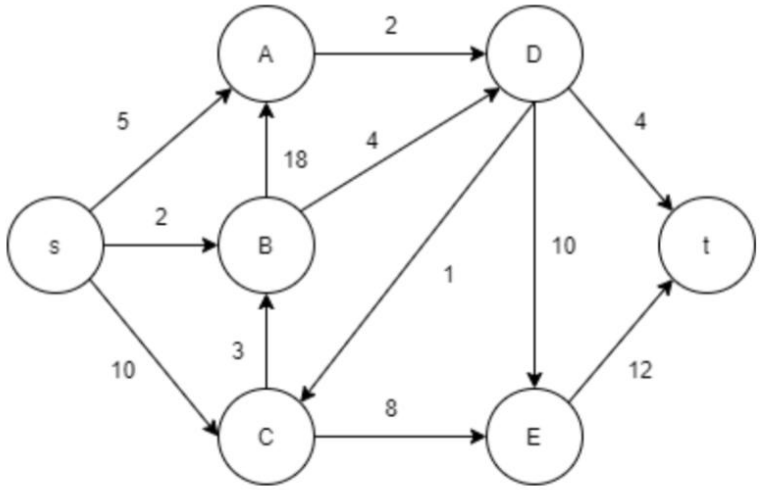
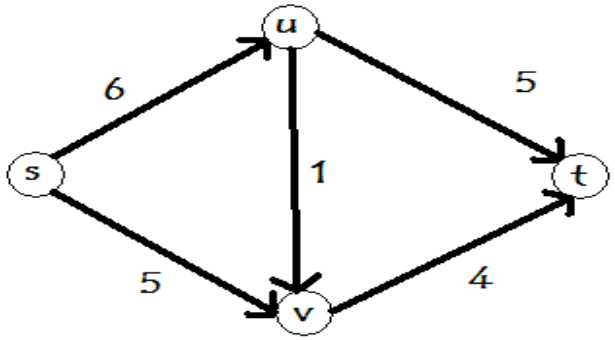
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
10	108	Find out the maximum flow in given graph using Edmond-karp Algorithm. Show every step. (s is Source and t is Sink) 		4						
10	109	Find the maximum flow through the given network using Edmond-karp algorithm. Show every step. (s is Source and t is Sink) 		3						

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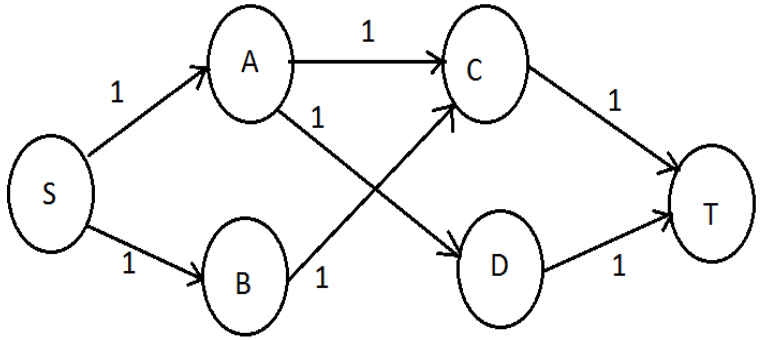
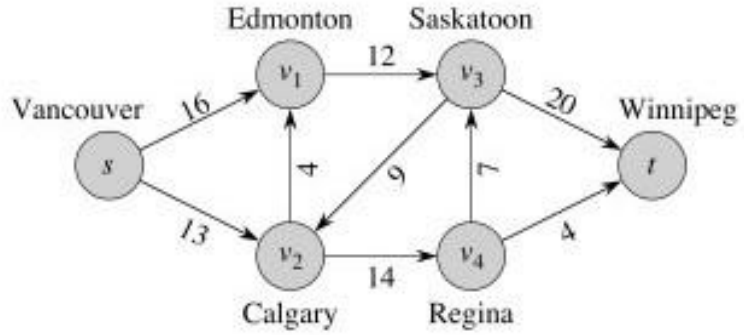
DM Practice Book_ 2025										
Note: The Practice Book is for reference only, LJU Test paper may not be compulsory set from this.										
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
10	110	Use the Edmond-karp algorithm to find the maximum flow in the network below. (S is Source and T is Sink) 		4						
10	111	Find the maximum flow through the given network using Edmond-karp algorithm. Show every step. (s is Source and t is Sink) 		4						

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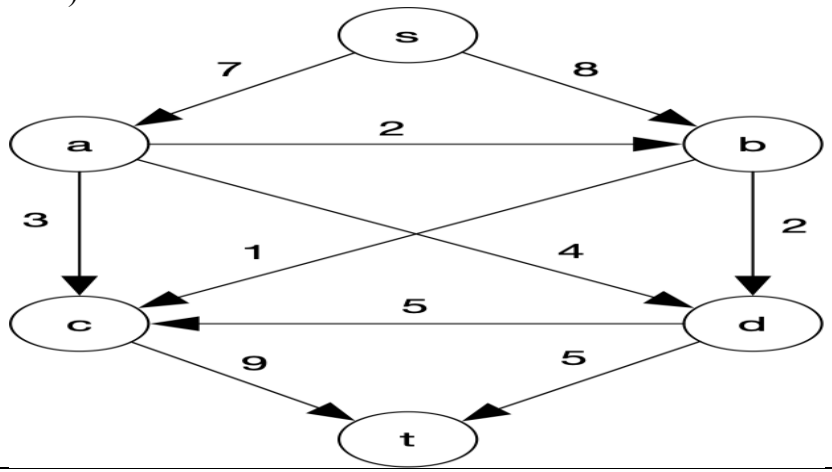
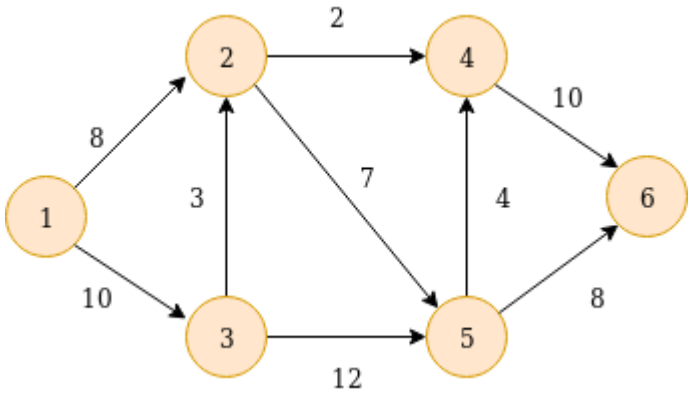
DM Practice Book_ 2025										
Note: The Practice Book is for reference only, LJU Test paper may not be compulsory set from this.										
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
10	112	Find the maximum flow through the given network using Edmond-karp algorithm. Show every step. (s is Source and t is Sink) 		5						
10	113	Find the maximum flow through the given network using Edmond-karp algorithm. Show every step. (1 is Source and 6 is Sink) 		4						

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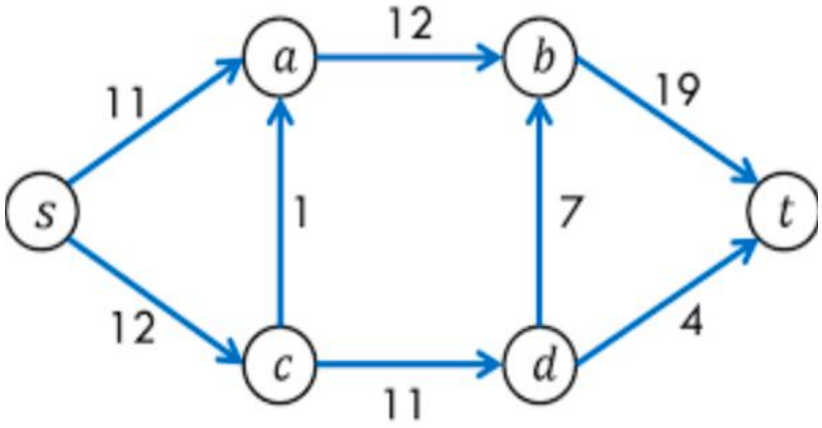
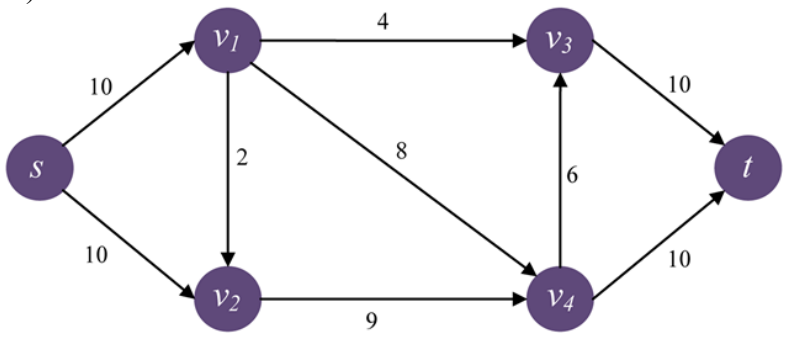
DM Practice Book_ 2025										
Note: The Practice Book is for reference only, LJU Test paper may not be compulsory set from this.										
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
10	114	Find the maximum flow through the given network using Edmond-karp algorithm. Show every step. (s is Source and t is Sink) 		4						
10	115	Find the maximum flow through the given network using Edmond-karp algorithm. Show every step. (s is Source and t is Sink) 		4						

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DM Practice Book_ 2025										
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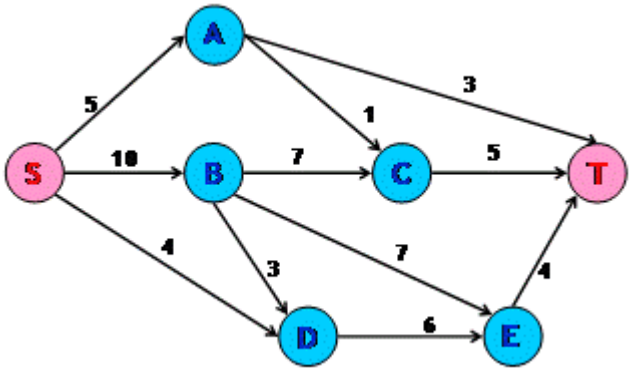
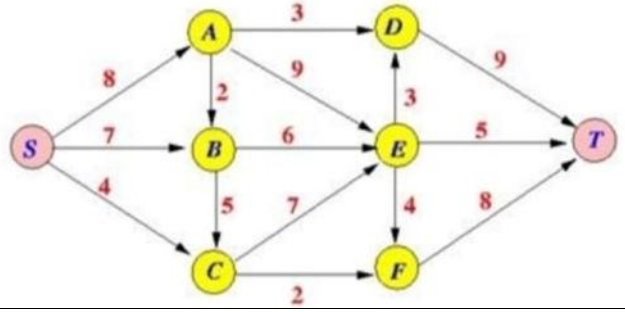
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
10	116	Find the maximum flow through the given network using Edmond-karp algorithm. Show every step. (S is Source and T is Sink) 		5						
10	117	Find the maximum flow through the given network using Edmond-karp algorithm. Show every step. (S is Source and T is Sink) 		5						

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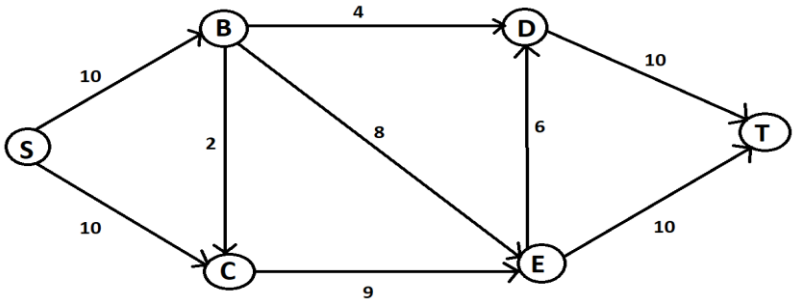
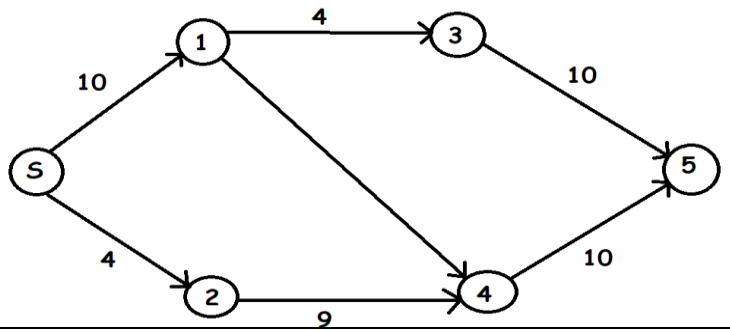
Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
10	118	Find the maximum flow through the given network using Dinic's Algorithm. 		5						
10	119	Find the maximum flow through the given network using Dinic's Algorithm.  ok		5						
10	120	Find the maximum flow through the given table form network using Dinic's Algorithm.		4						

FROM	*TO*	*CAPACITY*
s	A	10
s	B	10
A	C	2
B	C	9
C	t	8
A	t	10

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<table>
<tr><th>Unit No.</th><th>Sr No.</th><th>Question_Text</th><th>Answer_Text</th><th>Marks</th><th>Option1</th><th>Option2</th><th>Option3</th><th>Option4</th><th>Option5</th><th>Option6</th></tr>
<tr><td>10</td><td>121</td><td>Find the maximum flow through the given table form network using Dinic’s Algorithm.
<table><tr><th>FROM</th><th>TO</th><th>CAPACITY</th></tr><tr><td>s</td><td>A</td><td>16</td></tr><tr><td>s</td><td>B</td><td>13</td></tr><tr><td>A</td><td>B</td><td>10</td></tr><tr><td>A</td><td>C</td><td>12</td></tr><tr><td>B</td><td>D</td><td>14</td></tr><tr><td>C</td><td>D</td><td>20</td></tr><tr><td>D</td><td>t</td><td>7</td></tr></table></td><td></td><td>5</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>10</td><td>122</td><td>Find the maximum flow through the given data form network using Dinic’s Algorithm.
$s \longrightarrow A(15), s \longrightarrow B(10)$
$A \longrightarrow C(6), A \longrightarrow D(10)$
$B \longrightarrow C(5), B \longrightarrow D(8)$
$C \longrightarrow t(15)$
$D \longrightarrow t(10)$</td><td></td><td>4</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table>

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Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
10	123	Find the maximum flow through the given data form network using Dinic's Algorithm. $P \longrightarrow Q(12)$ $P \longrightarrow R(10)$ $Q \longrightarrow S(8)$ $R \longrightarrow T(9)$ $S \longrightarrow U(14)$ $T \longrightarrow U(7)$ $U \longrightarrow Z(10)$		5						

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<table>
<tr><th>Unit No.</th><th>Sr No.</th><th>Question_Text</th><th>Answer_Text</th><th>Marks</th><th>Option1</th><th>Option2</th><th>Option3</th><th>Option4</th><th>Option5</th><th>Option6</th></tr>
<tr><td>10</td><td>124</td><td>Logistics “Food Supply Chain”

A non-profit organization led by Anaya is organizing food relief supplies. The food needs to be moved from Warehouse (Anaya) to Village Center (Riyansh) using various transport hubs. Here’s the network:

<table>
<tr><th>FROM</th><th>TO</th><th>MAX CAPACITY</th></tr>
<tr><td>Anaya</td><td>Shreya</td><td>12</td></tr>
<tr><td>Anaya</td><td>Pranav</td><td>10</td></tr>
<tr><td>Shreya</td><td>Sameer</td><td>6</td></tr>
<tr><td>Pranav</td><td>Tara</td><td>8</td></tr>
<tr><td>Sameer</td><td>Riyansh</td><td>7</td></tr>
<tr><td>Tara</td><td>Riyansh</td><td>5</td></tr>
</table>
Using Dinic’s Algorithm, find the maximum food that can be delivered from Anaya to Riyansh.</td><td></td><td>5</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table>

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Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
10	125	Animal Rescue Network A rescue group is trying to relocate animals from a flooded zone (Forest A) to a safe Shelter (Forest E) through a network of animal keepers who can handle only limited transfers: *FROM* | *TO* | *MAX TRANSFERS* *Forest A* | *Keeper B* | 15 *Forest A* | *Keeper C* | 10 *Keeper B* | *Keeper D* | 10 *Keeper C* | *Keeper D* | 5 *Keeper D* | *Forest E* | 12 Using Dinic's Algorithm, determine how many maximum animals can be safely relocated from Forest A to Forest E.		5						

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Unit No.	Sr No.	Question_Text	Answer_Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
10	126	University Project Allocation In a University, there are three Professors: Arjun, Lata and Mehta. Each of them has a limited number of project slots available for students: Neha, Vivek, Rashi and Zeenat can work with only one professor. Once the students complete their projects, they must submit them to Supervisor Mrs. Joshi, who can accept only limited number of finalized projects. From there, the projects are sent to the final evaluation Board. The Capacities are: ok ⟶ Start to Arjun: 5, Lata: 4, Mehta: 6 ⟶ Arjun to Neha: 3 ⟶ Lata to Vivek: 2 ⟶ Mehta to Rashi: 4 and Zeenat: 2 ⟶ Neha, Vivek, Rashi, Zeenat to Mrs. Joshi: 2, 2, 3, 1 respectively ⟶ Mrs. Joshi to End: 5 Using Dinic's Algorithm, determine the maximum number of project submissions that can reach the final evaluation.		5						