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Unit		Question_Text	Ans	Marks	Option1	Option2	Option3	Option4	Option5	Option6
No.	No.		wer_ Text							
			Text							
		1 7 2	1405	Π_1	T 100	T 101	T 4050	1050	T 7040	1051
9		How many edges are in a graph K ₉₉ ?	485 1	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
	=	$\begin{array}{cccccccccccccccccccccccccccccccccccc$								
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 =	10	1	12	11	10	8	9	0

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Unit No.	Sr No.	Question_Text	Ans wer_ Text				Option3		Option5	Option6
9	6	is known as graph.	Dire cted com plete grap h	1	Comple te graph	Directe d comple te graph	Wheel graph	tree	Null graph	Simple graph
9	7	A graph in which degree of each vertex is same is known as	Reg ular grap h	1	Comple te graph	Directe d comple te 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< td=""><td>m=2n</td><td>2m=n</td><td>3m=n</td></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	Ans	Marks	Option1	Option2	Option3	Option4	Option5	Option6
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			1			T		I I		
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 &	1	Only A	A & C	A & B	A, B &	B & C	Only B
		a b	В			only	only	C only	only	
		a	only							
		f C								
		bx \acc								
		A. d e f B. e d								
		a ·								
		b								
		h. /								
		X X X X X								
		g								
		f								
		C. e								
9	15	Which of the following statements is TRUE about the greedy	Onl	1	Only I	Only II	Only	All of		
7	13	graph coloring algorithm?	y III	1			III	the		
		(I) It always finds the maximum number of colors needed to	J 111				111	above		
		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.								

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Unit	Sr	Note: The Practice Book is for reference only, LJU Question Text	Ans		Option1				Option5	Option6
No.	No.	Question_Text	wer	Marks	Option	Option2	Options	Option 4	Option3	Optiono
110.	140.		Text							
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? ME	4	1	5	6	3	4		
		NY NH MA RI CT NJ DE								

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	17	Txxx	Τ	1	- I	2	2	4		Π
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		Question_Text	Ans					Option4	Option5	Option6
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9	19	In the context of backtracking for graph coloring, what does	Rev	1	Moving	Reversi	Termin	Assigni		
		"backtracking" refer to?	ersin		to the	ng a	ating	ng a		
			g a		next	previou	the	color		
			prev		vertex	s color	algorith	random		
			ious		without	assign	m	ly to a		
			colo		assigni	ment to	when a	vertex.		
			r .		ng a	explore	solutio			
			assi		color.	a	n is			
			gnm			differen	found.			
			ent			t path				
			to							
			expl							
			ore a							
			diffe							
			rent							
			path							

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Unit No.	Sr No.	Question_Text	Ans wer_ Text	Marks			Option3		Option5	Option6
9	20	What is the main goal of vertex coloring in a graph?	Assi gn colo rs so that no two adja cent verti ces shar e the sam e colo	1	Assign the same color to all vertices	Assign differen t color to all the vertices	Assign colors so that no two adjacen t 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?	Chr oma tic num ber	1	Chrom atic index	Chrom atic number	Color depth	Degree of the graph		

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Unit	Sr	Question Text	Ans	Marks	Option1			Option4	Option5	Option6
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9	22	What happens when a color assignment leads to a conflict in	The	1	The	The	The	The		
		backtracking?	algo		algorith	graph	algorith	vertex		
			rith		m stops	is	m	is		
			m			deleted	backtra	skipped		
			back				cks to			
			trac ks to				try a differen			
			try a				t color			
			diffe				t Coloi			
			rent							
			colo							
			r							
9	23	Which of the following problems can be solved using	Vert	1	Vertex	Sorting	Binary	Matrix		
		backtracking?	ex		colorin		search	multipli		
			colo		g			cation		
			ring							
9	24	If three employees (i) are assigned jobs (j) in such a way that	2 nd ,	1	1 st , 20	1 st , 10	2 nd , 10	2 nd , 20	3 rd , 50	3 rd , 30
		takes minimum cost by Hungarian maximum matching	10							
		algorithm then which job should assigned to 1st employee and								
		how much it cost respectively?								
		F20 10 401								
		$\begin{bmatrix} 20 & 10 & 40 \\ 10 & 20 & 50 \end{bmatrix}$								
		50 30 20								
		130 30 201								

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Unit No.	Sr No.	Question_Text	Ans wer_ Text	Marks		Option2			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 2^{nd} employee and how much it cost respectively? $ \begin{bmatrix} 20 & 10 & 40 \\ 10 & 20 & 50 \\ 50 & 30 & 20 \end{bmatrix} $	1 st , 10	1	1 st , 20	1 st , 10	2 nd , 10	2 nd , 20	3 rd , 50	3 rd , 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 3^{rd} employee and how much it cost respectively? $ \begin{bmatrix} 20 & 10 & 40 \\ 10 & 20 & 50 \\ 50 & 30 & 20 \end{bmatrix} $	3 rd , 20	1	1 st , 20	1 st , 10	2 nd , 10	2 nd , 20	3 rd , 50	3 rd , 20
9	27	Color the Graph by using Backtracking algorithm.		4						

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Unit No.	Sr No.	Question_Text	Ans wer_ Text			Option2			Option5	Option6
9	28	Color the graph by using Backtracking algorithm.		4						
9	29	Color the vertices by using Backtracking method. $V_2 = V_3 = V_4$ $V_5 = V_5$		5						

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			Text							
9	30	Color the vertices by using Backtracking method.		4						
		(6)								
		4 5 6								
		\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc								
		(3)-(2)								
	21									
9	31	Color the vertices by using backtracking method.		4						
		(1) (2)								
		(5)								
		(3) (4)								
9	32	Using the backtracking method, color the vertices.		5						
	52			5						
		(3)								
		(b) (c)								
		(d) (e)								

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Unit No.	Sr No.	Question_Text	Ans wer_	Marks	Option1	Option2	Option3	Option4	Option5	Option6
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9	33	Using backtracking method to color the vertices.		4						
		1)—2								
		ĬĬ								
		(4)—(3)								
9	34	In following graphs find the number of vertices, the number of		3						
		edges, and the degree of each vertex in the given undirected graph. Identify all isolated and pendant vertices.								
		1. a b c								
		f e d								
		2. a b								
		e d c								
		3. a b c d								
		f i h g e								
9	35	Draw a graph which is regular but not bipartite.		2						

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Unit	Sr	Question_Text	Ans	Marks			Option3		Option5	Option6
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9	36	Find the shortest distance between each pair of any two vertices of a graph by Warshall's Algorithm.		4						
		1 7 3								
		<u>:1:</u> 6								
9	37	Find the shortest distance between each pair of any two vertices of a graph by Wars hall's Algorithm.		5						
		1 8 2 1 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3								
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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9	39	Find the Shortest path between each and every vertices using Floyd Warshall's Algorithm.		3						
		$ \begin{array}{c} 3 \\ \hline 1 \\ 8 \\ 2 \end{array} $								
9	40	Consider the following directed weighted graph $G = \{V, E\}$.		3						
		Find the shortest paths between all the vertices of the graphs			1		1			
		using the Floyd-Warshall algorithm.	!		'		1	'		
		$ \begin{array}{cccccccccccccccccccccccccccccccccccc$								

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			Text							
9	41	Find the shortest path between each pair of vertices for a simple digraph using Warshall's algorithm.		3						
		$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$								
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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9	11	Colon the yentions in almbahatic and an yeing Charley Coloning		4						
9	44	Color the vertices in alphabetic order, using Greedy Coloring algorithm.		4						
		urgorium.								
		ô								
		BOCC								
		DO E								
		DO								
9	45	Color the vertices in alphabetic order, using Greedy Coloring		4						
		algorithm.								
		-0 0.								
		1								
		A SE OD								
		0								
		FO BO								
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			Text							
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9	46	Use the greedy coloring algorithm, with the vertices in		4						
		alphabetical order, to color the vertices of this graph.							1	
		D _C								
		E_							1	
									1	
		B								
		\sim								
		F								
9	47	Use the greedy coloring algorithm, with the vertices in		4					 	
		alphabetical order, to color the vertices of this graph.		-					1	
		a O e							1	
									1	
		C							1	
									1	
									1	
		h of							1	
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			Text							'
9	48	Use the greedy coloring algorithm, with the vertices in		4		7	7	,		T .
		alphabetical order, to color the vertices of this graph.		, 1	1		'	'		
				, 1	'		'	'		
		D G C		i I	1		'	'		
				, 1	1		'	'		
				, 1	1		'	'		
				, 1	1		'	'		
				, 1	1		'	'		
		В		, 1	1		'	'		
				, 1	1		'	'		
		Y ₅		, 1	1		'	'		
				I	'	'	'	'		
9	49	Use the greedy coloring algorithm, with the vertices in		4				1		
		increasing order, to color the vertices of this graph.		, 1	1		'	'		
				, 1	1	'		'		
		(2) (3)		, 1	1		'	'		
				, 1	1		'	'		
				, 1	1		1	'		
		(4 y		, 1	1		'	'		
	<u></u>			<u></u> !	<u> </u>	<u></u> '	<u> </u>	<u> </u>	<u> </u>	

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Unit	Sr	Question_Text	Ans	Marks	Option	Option2	Option3	Option4	Option5	Option6
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9	50	Use the greedy coloring algorithm, with the vertices in alphabetical order, to color the vertices of this graph.		4						
		B C D								
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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	1.5.		Text							
9	52	Use the greedy coloring algorithm, with the vertices in alphabetical order, to color the vertices of this graph.		4						
		b C d e								
9	53	Find the maximum weight matching of the following graph and minimum total cost, using the Hungarian method using a graph.		4						
		5 5 6 5 8								

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9	54	Find the maximum weight matching of the following graph and		3						
	JT	minimum total cost, using the Hungarian method using a graph.		5						
		minimum total coot, asing the mangarian metrica asing a grap								
		9								
		111								
		14								
		6 15								
		13								
		12/13								
		6								
9	55	Find the maximum weight matching of the following graph and		3						
7	55	minimum total cost, using the Hungarian method using a graph.		3						
		millimum total cost, using the hungarian method using a graph.								
		10								
		20								
		30								
		20								
		B 10								
		40								
		50 30								
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		20								

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			Text							
9	56	Find the maximum weight matching of the following graph and		3						
		minimum total cost, using the Hungarian method using a graph.								
		0 7								
		8								
		6								
		7								
		5								
		3								
		6 4								
9	57	Find the maximum weight matching of the following graph and		3						
		minimum total cost, using the Hungarian method using a graph.								
		12								
		9								
		8								
		9								
		6 🗡								
		7 17								
		12								

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1,01	1.0.		Text							
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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			Text							
9	60	Find the maximum weight matching of the following graph and		3						
		minimum total cost, using the Hungarian method using a graph.	'	'						
		40	'	'			1			
		60	'	'			1			
		15	'				1			
		25 30	'				1			
		45	'				1			
		55 30	'							
			'				1			
		25	'	'						
9	61	Find the maximum weight matching of the following graph and	 	3						
		minimum total cost, using the Hungarian method using a graph.	'				1			
			'	!			1			
		A 7	'	!			1			
		8	'							
		6	'							
		6	'				1			
		7	'				1			
		5 7	'				1			
		6	'				1			
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			Text							
9	62	Find the perfect matching of given matrix using Hungarian Maximum		4						
		Matching Algorithm.								
		г12 30 21 15 ₁								
		18 33 9 31								
		18 33 9 31 44 25 24 21								
9	63	$\lfloor 23 30 28 14 \rfloor$ Find the perfect matching of all persons (P_i) to jobs (J_i) by		4						
	03	Hungarian Maximum Matching Algorithm using matrix.		7						
		$\begin{bmatrix} 2 & 10 & 9 & 7 \\ 15 & 4 & 14 & 8 \\ 13 & 14 & 16 & 11 \\ 3 & 15 & 13 & 8 \end{bmatrix}$								
		13 14 16 11								
		[3 15 13 8]								
9	64	Find the shortest routes for cab drivers to reach each Customers that		5						
		booked cabs by Hungarian Maximum Matching Algorithm using								
		matrix.								
		г 2 5 14 181								
		2 5 14 18 ₇ 22 18 14 32 5 8 2 10								
		5 8 2 10								
9	65	Lack 13 18 11 28 Find the perfect matching of given matrix using Hungarian Maximum		3						+
	03	Matching Algorithm.		3						
		[10 19 8]								
		10 18 7 13 16 9								

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		Note: The Practice Book is for reference only, LJU			not he co	mnulcory	set from t	this		
Unit	Sr	Question Text	Ans	Marks				Option4	Option5	Option6
No.	No.	Quositon_10.tt	wer_	Marko	Optioni	Option2	Options	орион.	Орионо	Optiono
			Text							
9	66	Find the perfect matching of given matrix using Hungarian Maximum		5						
		Matching Algorithm.								
		$\begin{bmatrix} 5 & 15 & 11 & 10 \\ 17 & 8 & 11 & 10 \\ 9 & 12 & 8 & 7 \\ 9 & 23 & 15 & 14 \end{bmatrix}$								
9	67	Find the minimum subset of vertices that covers all edges of		4						
		graph. 1 2 3								
		7								
9	68	Find the minimum subset of vertices that covers all edges of		4						
		graph. b c d f								

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		Note: The Practice Book is for reference only, LJU			not be co	mpulsorv	set from	this.		
Unit No.	Sr No.	Question_Text	Ans wer_ Text					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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		DM Practice					4 C	(1. ° a		
Unit	Sr	Note: The Practice Book is for reference only, LJU Question Text	Ans		Option 1			Option4	Option5	Option6
No.	No.	Question_Text	wer	IVIAIKS	Орион	Optionz	Options	Орион4	Options	Орионо
110.	110.		Text							
9	71	Find the minimum subset of vertices that covers all edges of		4						
	/ 1	graph.		'						
		d e								
		a C								
		f								
		b								
10	72	What is the maximum number of vertices in a binary tree with	655	1	65535	65632	63285	65015	63355	63535
		15 levels?	35							
10	73	The maximum number of nodes on level 6 of a binary tree are	64	1	107	117	63	64	75	74
10	7 4		7.10		710	710	1000	1004	5 00	
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	63	1	64 and	32 and	31 and	63 and	33 and 6	31 and
10	13		and	1	5	6 6	51 and 5	6 and	33 and 0	6
]		path in it. The maximum and minimum number of nodes in a	6					Ü		
]		binary tree of height 5 are								

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		DM Practice	Book_2	2025						
T.T. *.	2	Note: The Practice Book is for reference only, LJU								
Unit No.	Sr No.	Question_Text	Ans wer	Marks	Option	Option2	Option3	Option4	Option5	Option6
INO.	NO.		Text							
10	76	How many vertices are possible at level 4 in Binary tree of	Any	1	Any	Any	Any	Any	All of	None
		height 5 and in Binary tree of height 5 respectively?	two	_	one	two	three	four	them	
		1) 31, 63								
		2) 3, 6								
		3) 11, 33 4) 17, 15								
		5) 16, 63								
10	77	What would be the center of the given tree?	c &	1	d & h	c & k	g, b, c	h, i, m	c & h	d & k
		, , , , , , , , , , , , , , , , , , ,	h							
		b i								
		e c								
		d h k								
		g m								
		f n								
10	78	What is the centre of a given tree	4	1	3	4	7	10	3 and 4	4 and 7
		10 5	and							
		م ⁹ م ⁸ م ⁹	7							
		3 4 7 10								
		20 6 9 12								

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		DM Practice	Book_ 2	2025						
		Note: The Practice Book is for reference only, LJU								
Unit No.	Sr No.	Question_Text	Ans wer_ Text	Marks	Option1	Option2	Option3	Option4	Option5	Option6
10	79	What does Maximum flow problem involve?	findi ng a flow betw een sour ce and sink that is max imu m	1	finding a flow betwee n source and sink that is maxim um	finding a flow betwee n source and sink that is minimu m	finding the shortest path betwee n source and sink	comput ing a minimu m spannin g tree		
10	80	What is the source?	Vert ex with no inco min g edge s	1	Vertex with no incomi ng edges	Vertex with no leaving edges	Centre vertex	Vertex with the least weight		
10	81	In a flow network, if the capacities are: $s \to a$ (6), $s \to b$ (4), $a \to b$ (3), $a \to t$ (5), $b \to t$ (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	Ans wer_ Text	Marks			Option3		Option5	Option6
10	82	Find the maximum flow through the network shown below. Use Ford Fulkerson Algorithm. Source: 0 Sink: 5	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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		Note: T	The Practice Book					v not be co	ompulsory	set from	this.		
Unit No.			Question_Tex		V 0	Ans wer_ Text	Marks		Option2			Option5	Option6
10	85	Build the Huffman letters E I O P S T	1 tree for the follow 29 5 7 12 4 8	ing frequencies	of six		4						
10	86	Build The Huffman Also give the corres			s of letters.		5						

						T T T	4.4.4	C TO		0 7	T I	1		1				
						L. J. In	stitute			ng & l			Ahmedaba	<u>ad</u>				
			Note:	The Prac	tice Bo	ok is fo	or refe						not be co	mpulsory	set from	this.		
Unit	Sr				estion						Ans	Marks	Option1		Option3		Option5	Option6
No.	No.				_					W	ver_		-	-	-	-	-	-
										Т	Text							
	<u> </u>																	
10	87	Build The	Huffma	n tree foi	the fo	llowing	freque	ncies o	f letter	s.		5						
	0,	Also give					1104100											
				r			51											
				О		2	25											
				j		2	20											
				t			29											
				m			37											
				Z			24											
				d			80											
				a			20 26											
				W			32											
				u u			9											
				g			75											
				<u> </u>			35											
				У			35											
10	88	Build the	Huffmar	tree for	the fol	lowing	frequer	ncv and	obtair	1		4						
		the corres						10) 11111	001111			•						
		Lett Z		M	С	U	D	I	Е									
		er																
		Freq 2	7	24	32	37	42	42	120									
		uen																
10	00	cy	11 '			*1.1.1	TT 00		-			4						
10	89	For the fo							. For			4						
		each weig	P P	set, give	Corres	ponding		word E	7									
			1	$\frac{1}{3}$ $\frac{0}{8}$	10	15	A 22	9										
10	90	For the fo						-	rv nref	ĭv		4						
	70	code. For								.1/		⊣r						
		words. 8,9			5		P		,									

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Unit No.	Sr No.	Question_Text	Ans wer_ Text	Marks	Option1			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 <i>a</i> to <i>h</i> 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), 1 st (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						

Unit No.	Sr No.	L. J. Institute of Engineering of DM Practice I Note: The Practice Book is for reference only, LJU Question_Text	Book_ 2	2025	not be co	mpulsory	set from t	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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		Note: The Practice Book is for reference only, LJU			not be so	mpulsom	sat fram	this		
Unit No.	Sr No.	Question_Text	Ans wer_ Text		Option1				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) A B C 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 I			4 h a a a		-4 Coores	11.		
Unit	Sr	Note: The Practice Book is for reference only, LJU Question_Text	Ans		Option1				Option5	Option6
No.	No.	Question_Text	wer_	IVIAIKS	Орион	Optionz	Option5	Орион-	Options	Орионо
	1.0.		Text							
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. Source Source Sink		4						

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** **	- C	Note: The Practice Book is for reference only, LJU								
Unit No.	Sr No.	Question_Text	Ans	Marks	Option1	Option2	Option3	Option4	Option5	Option6
NO.	NO.		wer_ Text							
			TOAt							
1.0	102		1	-						
10	102	Find the maximum flow for the network diagram below using Ford Fulkerson algorithm. Show every step.		5						
		Tota Faikerson argorium. Snow every step.								
		2								
		12 5								
		Source 6								
		3								
		B Sink								
		5								
		C								
10	103	Find the maximum flow for the network diagram below using		5						
		Ford Fulkerson algorithm. Show every step.								
		A 7 D.								
		14								
		9/								
		3								
		$\begin{array}{c ccccccccccccccccccccccccccccccccccc$								
		10 B 4								
		11 10								
		C 12 F								

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		DM Practice	Book_ 2	2025						
		Note: The Practice Book is for reference only, LJU								
Unit No.	Sr No.	Question_Text	Ans	Marks	Option1	Option2	Option3	Option4	Option5	Option6
NO.	NO.		wer_ Text							
10	104	Find the maximum flow for the network diagram below using Ford Fulkerson algorithm. Show every step.		4						
		$a \xrightarrow{2} d$								
		3								
		s) 3 1 3 t								
		b 3 C 2								
10	105	Find the maximum flow for the network diagram below using		5						
		Ford Fulkerson algorithm. Show every step.								
		24								
		13								
		10 13								
		s t								
		10 15 6 16								
		15								

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T.T. **		Note: The Practice Book is for reference only, LJU							10 · 6	
Unit No.	Sr No.	Question_Text	Ans	Marks	Option	Option2	Option3	Option4	Option5	Option6
NO.	No.		wer_ Text							
			TOAL							
10	106	Has the Ford Eulkowan algorithm to find the maximum flow in		5	T	T		T	T	
10	100	Use the Ford-Fulkerson algorithm to find the maximum flow in the network below. Show every step.	'				1			
		$\begin{array}{c ccccccccccccccccccccccccccccccccccc$								
10	107	Use the Ford-Fulkerson algorithm to find the maximum flow in the network below. Show every step. Source 0/2 0/4 0/4 0/4 0/4 0/4 0/4 0/4		5						

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Unit No.	Sr No.	Note: The Practice Book is for reference only, LJU Question_Text	Ans wer_	Marks			Option3		Option5	Option6
1,0.	1,0.		Text							
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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		Note: The Practice Book is for reference only, LJU			not be co	mpulsory	set from	this.		
Unit No.	Sr No.	Question_Text	Ans wer_ 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) Edmonton Saskatoon Vancouver 12 Winnipeg Calgary Regina		4						

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Unit	Sr	Note: The Practice Book is for reference only, LJU Question_Text	Ans	Marks		Option2			Option5	Option6
No.	No.	Question_Text	wer_	Marks	Орионт	Optionz	Option3	Option4	Option3	Optiono
10.	1 (0.		Text							
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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Unit No.	Sr No.	Question_Text	Ans wer_ Text	Marks		Option2			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) 12 6 7 12 7 12 7 12 12 7 13 14		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 I			r = ot bo oc	nulcow	and from	Alain		
Unit	Sr	Note: The Practice Book is for reference only, LJU Question Text	Ans	Marks			Option3		Option5	Option6
No.	No.	Question_Text	wer	Marks	Орион	Optionz	Options	Option4	Options	Optiono
110.	110.		Text							
10	116	Find the maximum flow through the given network using Edmond-karp algorithm. Show every step. (S is Source and T is		5						
		Sink)								
		$\begin{array}{c c} \hline & & & & & \\ \hline & & $								
10	117	D E								
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						
		8 2 9 3 5 T 4 8 8 T								

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		Note: The Practice Book is for reference only, LJU			not be co	mpulsory	set from 1	this.		
Unit No.	Sr No.	Question_Text	Ans wer_ Text	Marks		Option2			Option5	Option6
10	110	Find the maximum flow through the given network using		5						
10	118	Dinic's Algorithm. B 4 Dinic's Algorithm.		5						
10	119	Find the maximum flow through the given network using Dinic's Algorithm.		5						
	ok	10 10 10 5 5 4 2 9 4 10								
10	120	Find the maximum flow through the given table form network using Dinic's Algorithm. FROM TO CAPACITY S A 10 S B 10 A C 2 B C 9 C t 8 A t 10		4						

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TT ·	C			or reference only,								0 5	
Unit No.	Sr No.		Question_Text			Ans	Marks	Option1	Option2	Option3	Option4	Option5	Option6
INO.	140.					wer_ Text							
10	121	Find the maximum flow	w through the giv	ven table form netw	vork		5						
		using Dinic's Algorithm											
		FROM	TO	CAPACITY									
		S	A	16									
		S	В	13									
		A A	<u>В</u> С	10 12									
		B	D D	14									
		C	$\frac{D}{D}$	20									
		D	$\frac{-}{t}$	7									
10	122	Find the maximum flo	w through the give	ven data form netw	vork		4						
		using Dinic's Algorithm	1.										
		$s \rightarrow A(15), s \rightarrow B(10)$)										
		$S \rightarrow A(15), S \rightarrow B(10)$	')										
		$A \rightarrow C(6), A \rightarrow D(10)$)										
		D ((f) D (0)											
		$B \to C(5), B \to D(8)$											
		$C \rightarrow t(15)$											
		$D \rightarrow t(10)$											

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		DM Practice B					1.0			
		Note: The Practice Book is for reference only, LJU								
Unit		Question_Text		Marks	Option I	Option2	Option3	Option4	Option5	Option6
No.	No.		wer_ Text							
			Text							
	T							г		T 1
10	123	Find the maximum flow through the given data form network		5						
1 '		using Dinic's Algorithm.							I	
'		$P \rightarrow Q(12)$								
'		$P \longrightarrow R(10)$								
'		$Q \rightarrow S(8)$								
'										
'		$R \to T(9)$								
'		$S \longrightarrow U(14)$								
'		$T \rightarrow U(7)$								
'		$U \longrightarrow Z(10)$								

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Unit Sr Question Text Ans Marks Option1 Option2 Option3 Option4 O											Ontion 5	Option6
No.	No.	Question_Text			wer_	Iviaiks	Орионт	Option2	Option3	Option 4	Options	Optiono
1,0,	110.				Text							
10	124	Logistics "Food Supply Chain"				5						
		A		i-i fo - 11i-f								
	A non-profit organization led by Anaya is organizing food relief											
			om Warehouse (Anaya)									
		to Village Center (Ri										
		the network:	etwork:									
		FROM	TO	MAX CAPACITY								
		Anaya	Shreya	12								
		Anaya	Pranav	10								
		Shreya	Sameer	6								
		Pranav	Tara	8								
		Sameer	Riyansh	7								
		Tara	Riyansh	5								
		Using Dinic's Algor	rithm, find the maxi	mum food that can be								
		delivered from Anay	a to Riyansh.									

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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.UnitSrQuestion TextAnsMarksOption1Option2Option3Option4Option5Option6												
Unit		Question_Text			Ans wer_	Marks	Option1	Option2	Option3	Option4	Option5	Option6	
No.	No.												
						•	•		•	•	•		
10	125	Animal Rescue Netw	vork			5							
				1.0 0 1.1									
	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		MAY ED ANGEED C									
		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.											
		_			1		1		l				

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Note: The Practice Book is for reference only, LJU Test paper may not be compulsory set from this.											
Unit No.	Sr No.	Question_Text	Ans wer_ Text		Option1		Option3		Option5	Option6	
10	0k	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: → 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							