III B.TECH II SEM MID-II EXAMINATIONS
DESCRIPTIVE QUESTION PAPER

Name of the subject	OPERATIONS RESEARCH		Duration	90 MINUTES
Date of Exam	20.08.2021 AN		BRANCH	ME
H T NO.			Sign of Invigilator	

ANSWER ANY THREE QUESTIONS

MAX 30 M

S.No	UNIT	Blooms Taxonomy	CO	QUESTION DESCRIPTION	MARKS
1	III	Understand	CO4	(a) Write a short note on Characteristics of game theory	2
				(b) What is Jockeying in Queuing Models?	2
				(c) What is AOA Diagram?	2
				(d) Write Applications of Dynamic Programming.	2
				(e) Define Total Elapsed Time and Idle Time.	2
2	III	Apply	CO4	Solve the game whose pay off matrix is given below $$\begin{matrix} 3 & 2 & 4 & 0 \\ 3 & 4 & 2 & 4 \\ 4 & 2 & 4 & 0 \\ 0 & 4 & 0 & 8 \end{matrix}$$	10
3	IV	Remember	CO5	(a) Explain saddle point.	2
				(b) What is Balking in Queuing Models?	2
				(c) Define Total Elapsed Time?	2
				(d) Write Applications of PERT & CPM.	2
				(e) Write a note on Decision Tree.	2

For a Project the details are given below. Draw the network diagram and find the critical path and Project time.

Activity	A	B	C	D	E	F	G	H	I	J	K	L
Dependence	-	-	-	B,C	A	C	E	E	D,F,H	E	I,J	G
Duration(days)	10	5	6	9	7	6	10	9	7	8	9	3

(Question 4 | IV | Apply | CO5 | 10)

Find the Shortest path

(Question 5 | V | Apply | CO6 | 10)

Arc	Distances
1-2	8
1-3	7
1-4	1
2-5	5
3-5	9
3-6	9
3-7	8
4-7	10
5-8	12
5-9	7
6-9	9
7-9	6
7-10	13
8-11	4
9-11	2
10-11	15

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III B.TECH II SEM MID-II EXAMINATIONS
OBJECTIVE QUESTION PAPER

Name of the subject	OPERATIONS RESEARCH		Duration	20 MINUTES
Date of Exam	20.08.2021 AN		BRANCH	ME
H T NO.			Sign of Invigilator	

ANSWER ALL QUESTIONS

10 M

S.No	UNIT	QUESTION DESCRIPTION				ANSWER
1	III	Which one of the following is not a key operating characteristic for a queuing system? A. Utilization factor	B. None of the above	C. Percent idle time	D. Average time spent for waiting in system and queue	
2	IV	The activity which can be delayed without affecting the execcution of the immediate succeeding activity is determined by …… A. Independent float	B. Total float	C. none	D. Free float	
3	III	The game is said to be fair, if A. Both upper and lower values of the game are same and zero.	B. None of the above	C. Upper and lower values of the game are not equal.	D. Upper value is more than lower value of the game.	
4	IV	In PERT the span of time between the optimistic time estimates of an activity is ….. A. 14 sigma	B. 12 sigma	C. 6 sigma	D. 3sigma	
5	III	The size of the payoff matrix of a game can be reduced by using the principle of A. Rotation reduction	B. Game inversion	C. Dominance	D. Game transpose	
6	IV	The slack for an activity is equal to A. LF-LS	B. LS-ES	C. EF-ES	D. LS-LF	
7	III	The calling population is assumed to be infinite when A. Service rate is faster than the arrival rate	B. Average waiting time of customers in the system.	C. Capacity of the system is infinite	D. Arrivals are independent of each other	
8	V	What are the methods to find the step by step Analysis A. Cargo Load Problem	B. Capital Budgeting Problem	C. All	D. Stage Coach Problem	
9	V	which Recursive Formulae is used in Dynamic Programming A. Bellman's Principal of optimality	B. Travelling Salesmen Problem	C. Minimax Principal	D. MaximinPrincipal	
10	III	A mixed strategy game can be solved by A. Matrix method	B. Algebraic method	C. Graphical method	D. All	
11	III	Two person zero sum game means that the A. None	B. Sum of losses to one player is not equal to the sum of gains to other	C. Both A and B	D. Sum of losses to one player equals to the sum of gains to other	
12	IV	The another term commonly used for activity slack time is …. A. Independent float	B. all	C. Total float	D. Free float	
13	IV	If the activity has zero slack , it implies that …. A. It is a dummy activity	B. The project progressing well	C. none	D. It lies on critical path	
14	III	Which symbol describes the inter-arrival time distribution? A. M	B. All	C. D	D. G	
15	III	A Calling population is considered to be infinite when.. A. Arrivals are dependent upon each other	B. All of the above	C. All customers arrive in time	D. Arrivals are independent of each other	
16	IV	If the activity has zero slack , it implies that A. none	B. It is a dummy activity	C. The project progressing well	D. It lies on critical path	
17	III	The payoff value for which each player in a game always selects the same strategy is called the A. none	B. Equilibrium point	C. Both A and B	D. Saddle point	