

OPERATIONS RESEARCH

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	Which of the following is a limitation of Operations Research? a) It can solve all types of problems b) It only deals with simple problems c) It requires a detailed understanding of the problem and accurate data d) It does not require any mathematical models	K1	CO1
	2	Which of the following techniques is commonly used in Operational Research? a) Linear programming b) Social science modeling c) Statistical quality control d) Regression analysis	K2	CO1
2	3	What is the objective of the transportation problem in Operations Research? a) Minimizing the cost of transportation b) Maximizing the profit c) Maximizing transportation capacity d) Minimizing the number of vehicles used	K1	CO2
	4	Which method is commonly used to solve the assignment problem? a) Simplex method b) Hungarian method c) Vogel's Approximation method d) North West Corner method	K2	CO2
3	5	The "Minimax" strategy is used in a) Cooperative games b) Zero-sum games c) Mixed strategy games d) Coordination games	K1	CO3
	6	In Queuing Theory, what is the primary objective of analyzing queues? a) To reduce the waiting time for customers b) To maximize the number of customers served c) To minimize the total cost of the system d) All of the above	K2	CO3
4	7	Which of the following is a key decision in inventory management? a) How much inventory to order b) When to reorder inventory c) How much stock to keep in hand d) All of the above	K1	CO4
	8	Which of the following is NOT an inventory decision? a) How much inventory to order b) When to reorder inventory c) How to market products d) How much stock to keep in hand	K2	CO4

Cont...

5	9	a) Critical Path Method (CPM) b) Program Evaluation and Review Technique (PERT) c) Gantt Chart d) Fishbone diagram	K1	CO5
	10	Which of the following is a characteristic of the Critical Path Method (CPM)? a) It focuses on the probabilistic nature of activity durations b) It assumes that all activity durations are known with certainty c) It is used mainly for research and development projects d) It involves complex probability calculations	K2	CO5

SECTION - B (35 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks (5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	What are the characteristics of operations research?	K1 /K2	CO1
		(OR)		
	11.b.	Explain the assumptions of linear programming problem.		
2	12.a.	What are the features of assignment problems?	K1	CO2
		(OR)		
	12.b.	Explain the scope of transportation problems.		
3	13.a.	Identify the importance of mixed strategy in game theory.	K3 / K4	CO3
		(OR)		
	13.b.	List out the basic components of a queuing model?		
4	14.a.	Examine the Selective Inventory Control techniques.	K4	CO4
		(OR)		
	14.b.	Analyze the reasons for carrying inventory.		
5	15.a.	Classify the three types of time assumed by PERT?	K4	CO5
		(OR)		
	15.b.	List out the advantages of network analysis.		

SECTION -C (30 Marks)

Answer **ANY THREE** questions

ALL questions carry **EQUAL** Marks (3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Explain the nature and scope of operations research.	K2	CO1
2	17	Illustrate the steps involved in MODI method of obtaining optimal solution in the case of a transportation problem.	K2	CO2
3	18	Analyze the characteristics of queuing theory.	K4	CO3
4	19	Examine the types of inventory decisions.	K4	CO4
5	20	Assess the steps involved in finding the critical path in a project management.	K5	CO5

Z-Z-Z END