

K. J. Somaiya Institute of Technology, Sion, Mumbai-22
(Autonomous College Affiliated to University of Mumbai)

May-June 2024			
B.Tech Program: Computer Engineering Scheme II			
Regular Examination: TY Semester: VI			
Course Code: HAIMLC601 and Course Name: Game Theory using AI & ML			
Date of Exam: 29/05/2024	Duration: 2.5 Hours	Max. Marks: 60	

Instructions:				
(1)All questions are compulsory.				
(2)Draw neat diagrams wherever applicable.				
(3)Assume suitable data, if necessary.				
		Max. Marks	CO	BT level
Q 1	Solve any six questions out of eight:	12		
i)	What is Game Theory?What are the limitation of Game Theory?	02	CO1	U
ii)	Explain Mixed Strategy Equilibrium with an example.	02	CO2	R
iii)	Explain Hidden Markov Models in detail?	02	CO4	R
iv)	What are the Applications of AI?	02	CO3	U
v)	What is Subset Selection?	02	CO5	U
vi)	Explain Association Rules using Market Basket Analysis.	02	CO6	R
vii)	Give the structure of an agent in an environment.	02	CO3	U
viii)	What are Bayesian Networks?	02	CO4	U
Q 2	Solve any four questions out of six.	16		
i)	Compare Artificial Intelligence vs Machine learning.	04	CO5	U
ii)	Develop The Payoff Matrix of Prisoner's Dilemma considering their Actions (Quiet, Fink) with proper Steps and find NE.	04	CO2	U
iii)	What is SVM? Write a note on types of Kernels used by SVM.	04	CO5	U
iv)	What are the Causes of uncertainty.	04	CO4	U
v)	Find Nash Equilibrium by Calculating Best Response for the Following Payoff matrix.	04	CO1	Ap

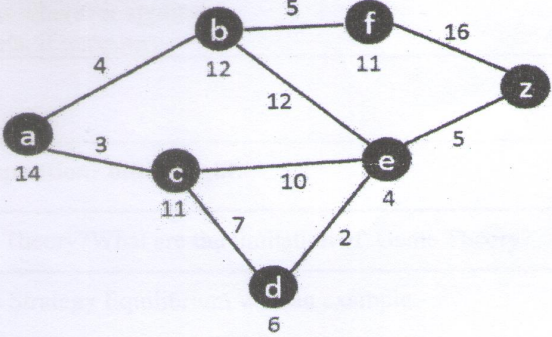
K. J. Somaiya Institute of Technology, Sion, Mumbai-22
(Autonomous College Affiliated to University of Mumbai)

May-June 2024		
B.Tech Program: Computer Engineering Scheme II		
Regular Examination: TY Semester: VI		
Course Code: HAIMLC601 and Course Name: Game Theory using AI & ML		
Date of Exam: 29/05/2024	Duration: 2.5 Hours	Max. Marks: 60

		Player 2							
		Player 1	L	C				R	
			T	1, 2				2, 1	1, 0
			M	2, 1				0, 1	0, 0
B	0, 1	0, 0	1, 2						
vi)	What is Heuristic Search? Write Generate-and-Test algorithm.	04	CO3	U					
Q.3	Solve any two questions out of three.	16							
i)	What is supervised and unsupervised learning? Explain with the examples.	08	CO5	U					
ii)	What is Game Theory? What are the properties of a Game? Discuss the following terms: (a) Pay off Matrix (b) Saddle point (c) Two Persons zero sum game (d) Strategies of a Game.	08	CO1	U					
iii)	Explain Uncertain Knowledge and Reasoning.	08	CO4	R					
Q.4	Solve any two questions out of three.	16							
i)	Explain Cluster Analysis Proximity Matrices.	08	CO6	R					
ii)	Find the most cost-effective path to reach from start state A to final state Z using A* Algorithm.	08	CO3	Ap					

K. J. Somaiya Institute of Technology, Sion, Mumbai-22
(Autonomous College Affiliated to University of Mumbai)

May-June 2024
 B.Tech Program: Computer Engineering Scheme II
 Regular Examination: TY Semester: VI
 Course Code: HAIMLC601 and Course Name: **Game Theory using AI & ML**
 Date of Exam: 29/05/2024 Duration: 2.5 Hours Max. Marks: 60

				
iii)	Explain Mixed strategies and polymorphic equilibrium.	08	CO2	R
