U.S.N

P.E.S. College of Engineering, Mandya - 571 401
(An Autonomous Institution affiliated to VTU, Belagavi)
First Semester, M. Tech - Computer Science and Engineering (MCSE)
Semester End Examination; June -2022
Artificial Intelligence

Time: 3 hrs   *Max. Marks: 100*

Course Outcomes

The Students will be able to:

CO1: Define Artificial Intelligence and identify problems for AI. Characterize the search techniques to solve problems and recognize the scope of classical search techniques.

CO2: Define knowledge and its role in AI. Demonstrate the use of logic in solving AI problems.

CO3: Demonstrate handling of uncertain knowledge and reasoning in probability theory.

CO4: Explain Learning methods in AI.

CO5: Demonstrate Natural Language processing and its application in Natural language communication

<u>*Note:*</u> *I) Answer any **FIVE** full questions, selecting **ONE** full question from each unit.*

*II) Any **THREE** units will have internal choice and remaining **TWO** unit questions are compulsory.*

III) Each unit carries 20 marks.

Q. No.	Questions	Marks	BLs	COs	POs
	UNIT - I	**20**			
1 a.	Explain the applications of Artificial Intelligence.	10	L2	CO1	
b.	Explain the four basic kinds of Agents programs used in Intelligent systems	10	L2	CO1	
	OR				
1 c.	Explain the history of Artificial Intelligence.	10	L2	CO1	
d.	Explain any two uniformed search strategies.	10			
	UNIT - II	**20**			
2 a.	Explain the wumpus world.	10	L2	CO2	
b.	Explain the following in brief: i) Forward chaining ii) Backward chaining	10	L2	CO2	
	UNIT - III	**20**			
3 a.	Write Baye's Rule and explain its use.	10	L2	CO3	
b.	With an algorithm, explain the direct sampling method for approximate interface in Bayesian networks.	10	L3	CO3	
	OR				
3 c.	With an algorithm, explain the algorithm used for Lag Smoothing.	10	L3	CO3	
d.	Explain the following in brief: i) Relational probability models. ii) Open-universe probability models	10	L2	CO3	

	UNIT - IV	**20**		
4 a.	Explain the learning decision tree with suitable example.	10	L2	CO4
b.	Summarize regression and classification with linear models.	10	L1	CO4
	OR			
4 c.	Explain the following in brief:			
	i) Artificial Neural Network.	10	L2	CO4
	ii) Supervised learning			
d.	Describe Ensemble Learning with suitable diagram.	10	L1	CO4
	UNIT - V	**20**		
5 a.	Explain the knowledge in learning with suitable diagram.	10	L2	CO5
b.	With FOIL algorithm, explain the top-down inductive learning methods.	10	L2	CO5

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