B. E. Degree (Autonomous) Sixth Semester End Examination (SEE), JUL/AUG 2024

ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

Time:[3 Hours] [Maximum Marks: 100]

<u>Instructions to students</u>

- 1. Answer FIVE FULL Questions.
- 2. Answer ANY ONE from Question No. 1 and 2
- 3. Answer ANY ONE from Question No. 3 and 4
- 4. Answer ANY ONE from Question No. 5 and 6
- 5. Answer ANY ONE from Question No. 7 and 8
- 6. Answer ANY ONE from Question No. 9 and 10

1 (a) What is AI ? Explain the different perspectives of its definition. 10 CO1 L2 1 (b) Explain the definition of Task environment with an example 10 CO1 L2 OR 2 (a) Illustrate the agent and its working with an example Vacuum-Cleaner World 10 CO1 L3 2 (b) With an example illustrate Utility based agents 10 CO1 L3 MODULE 2 3 (a) Explain BFS algorithm with an example 10 CO2 L3 3 (b) 10 CO2 L2 Apply DFS algorithm consider V1 is the starting node OR 4 (a) Consider the following set: S = {12, 14, 19, 22, 24, 26, 28, 31, 34}. 10 CO2 L4 Apply various binning techniques and show the result. 4 (b) Consider the set: V = {88, 90, 92, 94}. Apply Min-Max procedure and z-score 10 CO2 L2	SL	MODULE 1	Marks	CO	BTL					
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and z-score	4 (a)		10	CO2	L4					
MODIU F 3	4 (b)	1	10	CO2	L2					
MODULE 3		MODULE 3								

5 (a)	EXAMPLE	COLOR	TOUGHNESS	FUNGUS	APPEARANCE	POISONOUS	10	CO3	L2
		COSSN	HARR	NO.	MAINTEN D	MEE			
	1.	GREEN	HARD	NO	WRINKELD	YES			
	2.	GREEN	HARD	YES	SMOOTH	NO			
	3.	BROWN	SOFT	NO	WRINKLED	NO			
	4.	ORANGE	HARD	NO	WRINKLED	YES			
	5.	GREEN	SOFT	YES	SMOOTH	YES			
	6.	GREEN	HARD	YES	WRINKLED	YES			
	7.	ORANGE	HARD	NO	WRINKLED	YES			
	Illutsrate the	-	theory ,hy	ypothesis	s ,version s	space for the			
5 (b)	Explain Car		mination A	lgorithn	1		10	CO3	L2
	1)R					
6 (a)	Write the al	gorithm fo	r KNN and	l weighte	ed KNN		10	CO3	L3
6 (b)			. 121 11 1 MIK	- 11 CIZIII	VG 131 11 1		10	CO3	L2
0 (0)	Height (CM)	Weight (KG)	Class				10		
	167	51	Underweigh	t					
	182	62	Normal						
	176	69	Normal						
ĺ	173	64	Normal						
	172	65	Normal						
	174	56	Underweigh	t					
	169	58	Normal						
	173	57	Normal						
	170	55	Normal						
	Consider th KNN algori		training da	taset.Tes	st (171,57) i	nstance using			
			MOD	ULE 4					
7 (a)	Explain the method of constructing Regression trees				10	CO4	L2		
7 (b)	Explain ID3 algorithm with an example			10	CO4	L2			
			C	R					
8 (a)	Write a procedure to construct Decision Tree Using C4.5			10	CO4	L2			
8 (b)	Illustrate th	e procedure	e for the cl	assificati	ion using Ba	ayes model	10	CO4	L2
			MOD	ULE 5					
9 (a)	Explain the following terminologies in ANN 1)Weights 2)Bias				10	CO5	L2		
9 (b)	Illustrate the flow chart of Hebb Training algorithm			10	CO5	L2			
			OR						
10	Define Ant	ificial No.		ork 9W/	hat are the	annropriato	08	CO5	L2
111	Define Artificial Neural Network ?What are the appropriate problems for Neural Network				00	1003	LZ		

10	Explain back propagation algorithm with an example		CO5	L2
(b)				
