Reg. No.Reg. No.Reg. No.Question Paper Code12587B.E. / B.Tech DEGREE EXAMINATIONS, APRIL / MAY 2024 Seventh SemesterGomputer Science and Engineering CS8082 - MACHINE LEARNING TECHNIQUES Regulations - 2017Duration: 3 HoursMax. Marks: 100PART - A (10 x 2 = 20 Marks) Answer ALL QuestionsMarks $\frac{k_{eed}}{k_{eed}}$ co0.Point out the applications of machine learning.2KI2k2Computer Science and Engineering2KIComputer Science and Engineering0.Point out the applications of machine learning.2KI2KIColspan="2">Colspan="2"Colspan="2															r	
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2 Sunny Warm High Strong Warm Same Yes			1	Sunny	Warm	Normal	Strong	Warm	Sa	me	Yes	5				
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4 Sunny Warm High String Cold Change Yes			<u> </u>	Sunny	Warm	пign Hiøh	String	Cold	Cha	nge	INO Yes					

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create

	Asses and apply the Candidate -Elimination algorithm to obtain the									
		final version space for the training example.								
	OR									
	b) i)	Explain in detail the FIND-S: FINDING A MAXIMALLY SPECIFIC HYPOTHESIS.	7	K2	<i>CO2</i>					
	ii)	Conclude the key properties of FIND-S algorithm.	6	K2	<i>CO2</i>					
13.	a) i)	Summarize the derivation of the Back propagation Algorithm.	6	K2	CO3					
	ii)	Explain Detail about the Gradient Descent algorithm.	7	K2	СО3					
	OR									
	b) i)	Explore how the hypothesis in GAs is represented by bit strings.	6	K2	СО3					
	ii)	Write about the IF -THEN rules and why it can be encoded.	7	K2	СО3					
14.	a)) Does the patient have cancer, or does he not? A patient takes a lab test and the result comes back positive. The test returns a correct positive result in only 98% of the cases in which the disease is actually present, and a correct negative result in only 97% of the cases in which the disease is not present. Furthermore, 0.008 of the entire population have this cancer.								
OR										
	b)	Demonstrate the General Statement of EM Algorithm.	13	K2	<i>CO4</i>					
15.	a) i)	Summarize the detail about locally weighted regression.	6	K3	CO5					
	ii)	Discuss the pros and cons of Locally weighted regression.	7	K2	CO5					
OR										
	b)	Elucidate the detail the first order logic basic definitions.	13	K2	CO5					
		PART - C (1× 15 = 15 Marks)								
16.	a) i)	List the learning sets of first-order rules: foil.	8	К3	<i>CO6</i>					
	ii)	Memorize about the Basic Foil algorithm.	7	K3	<i>CO6</i>					
	OR									
	b)	Elaborate on Q functions, algorithm for Q learning in reinforcement	15	K2	<i>CO6</i>					

learning.