[Total No. of Printed Pages:1] **CODE NO:- U-8160**

FACULTY OF ENGINEERING & TECHNOLOGY

M.E (CSE)Examination - DEC - 2014

Machine Learning(Revised)

[Time: THREE Hours] **[Max. Marks: 80]**

"Please check whether you have got the right question paper."

N.B *1) Solve any two questions from each section.*
2)Assume suitable data, it necessary and state them clearly.
3) Answer should be precise.

SECTION A

Q.1	A)	What do you mean by a well –posed learning problem? Explain the important features that are required to well –define a learning problem. Explain the inductive biased hypothesis space and unbiased learner.	10
	B)	What is the role of a function approximation algorithm? How does learner system estimate training values and adjusts weights while learning?	10
Q.2	A)	What is Multilayer perception? How is it trained using Bank propagation? What is linear separability issue? What is the role of hidden layer?	10
	B)	What do you mean by Gain and Entropy? How is it used to build the Decision tree in algorithm? Illustrate using an example.	10
Q.3	A)	What is the importance of binomial and Normal Distribution? Define True Error and Sample Error. What are they used for?	10
	B)	Describe in brief: I) Version spaces and Candidate –Elimination Algorithm. II) Face Recognition using Neural Network.	10
Q.4	A)	What is Brute Force MAP hypothesis learner? How is it related to Concept Learning? What is the Minimum Description Length (MDL) Principle?	10
	B)	Explain how naïve bays algorithm is useful for learning and classifying text.	10
Q.5	A)	Describe k-nearest neighbor algorithm. Why is it called instance based learning?	10
	B)	Describe the method of learning using Locally weighted linear regression	10
Q.6	A)	Describe the Genetic Algorithm (GA) steps using the Population, Fitness function, other necessary data and hypothesis it returns.	10
	B)	Describe in brief: I) Cross-over operators and mutations. II) Case- based reasoning. III) PAC Hypothesis.	10

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