

G. Narayanamma Institute of Technology & Science

(Autonomous)

(for Women)

Shaikpet, Hyderabad- 500 104

I-M.Tech I-Semester Regular Examinations, Dec-2018/Jan-2019.

MACHINE LEARNING

(Computer Science and Engineering)

Max. Marks: 70

Time: 03 Hours

Note:

1. Question paper comprises of **Part A** and **Part B**.
2. **Part A** is compulsory which carries 10 marks. Answer all questions in Part A.
3. **Part B** (for 60 marks) consists of **five questions** with **“either” “or”** pattern. Each question carries 12 marks and may have a,b,c as sub questions. The student has to answer any one full question.

PART-A

(Answer 05 questions. Each question carries 2 marks)

[5x2= 10]

- Q.1**
- a) What are the important objectives of Machine Learning? **[02]**
 - b) State the issues in Decision Tree Learning. **[02]**
 - c) Describe the significance of Locally Weighted Regression. **[02]**
 - d) Illustrate about Inductive Learning. **[02]**
 - e) Describe about the elements of Reinforcement Learning. **[02]**

END OF PART A

PART-B

(Answer 05 full questions. Each question carries 12 marks)

[5x12= 60]

- Q.2(a)** What is Machine Learning? Illustrate the steps involved in the design of a Learning System. **[07]**
- (b)** Describe the perspectives and issues in Machine Learning. **[05]**

OR

- Q.3(a)** Explain the key property of FIND-S algorithm for Concept Learning with necessary example. **[06]**
- (b)** Discuss the remarks on Version Space and Candidate Elimination algorithm. **[06]**
- Q.4(a)** What do you mean by Gain and Entropy? How is it used to build the Decision Tree in algorithm? Illustrate with example? **[06]**
- (b)** Describe Hypothesis Space Search in Decision Tree Learning. **[06]**

OR

[GNITS-R-18-(18-BATCH)]

- Q.5(a)** Explain Bayesian Belief Network and Conditional Independence with example. [06]
(b) Illustrate general statement of EM algorithm with example. [06]
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- Q.6(a)** Explain Mistake bound model of learning for FIND-S algorithm. [06]
(b) Describe Case Based Reasoning with suitable example. [06]

OR

- Q.7(a)** Describe K-Nearest Neighbor Algorithm? Why is it called Instance based learning? [06]
(b) With the help of block diagram explain PAC learning model. [06]
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- Q.8(a)** Why it is necessary to Estimate the Accuracy of Hypothesis? Explain procedure to Estimate difference in error between two learning methods. [06]
(b) Write and explain the FOIL algorithm. [06]

OR

- Q.9(a)** What are the main properties of PROLOG-EBG algorithm? Is it Deductive or Inductive? Justify your answer? [08]
(b) Elaborate about Analytical Learning. [04]
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- Q.10(a)** Explain about KBANN algorithm with example. [06]
(b) Explain about the use of Prior Knowledge to Augment Search Operators. [06]

OR

- Q.11(a)** Explain in detail about Reinforcement technique Temporal Difference Learning. [06]
(b) Define Q-function. Explain about Q-learning algorithm with Update Sequence. [06]

END OF PART B
END OF THE QUESTION PAPER