

Total No. of Questions : 4]

SEAT No. :

PC-56

[Total No. of Pages : 2

[6360]-57

T.E. (IT) (Insem.)

MACHINE LEARNING

(2019 Pattern) (Semester - I) (314443)

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates :

- 1) Answer Q1 or Q2, Q3 or Q4.
- 2) Neat diagrams must be drawn wherever necessary.
- 3) Figures to the right side indicate full marks.
- 4) Assume Suitable data if necessary.

- Q1)** a) Explain with example Predictive and Descriptive tasks of Machine Learning. Also state Predictive and Descriptive Model (CO1). [6]
- b) Explain k-fold Cros Validation technique with example (CO1). [5]
- c) Write a note on Principal Component Analysis (PCA) (CO1) [4]

OR

- Q2)** a) Justify which type of learning could be the most appropriate considering any one real world application of Machine Learning also explain your reasoning (CO1). [6]
- b) Explain Reinforcement Learning with diagram (CO1). [5]
- c) Discuss various scales of measurement of features in machine learning (CO1). [4]

- Q3)** a) What is multiclass classification? Explain One-Vs-Rest and One-vs-One multiclass classifier construction method with suitable example (CO2). [6]
- b) Explain true positive, true negative, false positive, false negative and class ratio for classification task (CO2). [5]
- c) Explain linear Support vector machine with suitable diagram (CO2). [4]

P.T.O.

OR

- Q4) a)** What is binary classification? Consider the following confusion matrix: [6]

|        |   | Predicated |    | Total |
|--------|---|------------|----|-------|
|        |   | +          | -  |       |
| Actual | + | 25         | 5  | 30    |
|        | - | 10         | 20 | 30    |
| Total  |   | 35         | 25 | 60    |

Calculate

- Recall
  - Precision
  - Accuracy
  - F1-score
  - Justify which evaluation measures will be more suitable for above matrix (CO2).
- b) What are support vectors in Support vector Machine? Explain Hard and soft margin SVM with the suitable diagram (CO2). [5]
- c) Write short note on Logistic regression (CO2). [4]

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