

SPPU-BE-COMP-CONTENT – KSKA Git

Total No. of Questions : 8]

SEAT No. :

PC-2369

[Total No. of Pages : 2

[6354]-486

B.E. (Computer Engineering)

MACHINE LEARNING

(2019 Pattern) (Semester - VII) (410242)

Time : 2 ½Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Answer Q.1 OR Q.2, Q.3 OR Q.4, Q.5 OR Q.6, Q.7 OR Q.8.*
- 2) *Figures to the right side indicate full marks.*
- 3) *Draw neat diagram wherever necessary.*
- 4) *Assume suitable data, if necessary.*

- Q1)** a) Explain Lasso Regression. Explain how Lasso Regression is used for feature selection. [6]
- b) Define different regression models. [6]
- c) Describe the bias-variance trade-off and its relationship to under fitting and overfitting. [6]

OR

- Q2)** a) Explain the advantages of RMSE over MSE as an evaluation metric. [6]
- b) What do you mean by least square method? Explain least square method in the context of linear regression. [6]
- c) Write a short note on Stochastic gradient descent algorithms. [6]
- Q3)** a) Explain kernel methods which are suitable for SVM. [6]
- b) What are advantages and disadvantages of K-NN? [6]
- c) What are different distance metrics are used in K-NN? [5]

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OR

- Q4)** a) What is Multi Class Classification? Explain the variants of Multi Class Classification. [5]
b) What are different techniques used for outlier handling? [6]
c) With suitable diagram, Explain Random forest Algorithm with example.[6]

- Q5)** a) Why K-medoid is used? Explain K-medoid algorithm. [5]
b) Why density based clustering is used? Explain any one. [6]
c) Cluster the following eight points (with (x, y) representing locations) into three clusters: [6]
P1(1, 3), P2(2, 2), P3(5, 8), P4(8, 5), P5(3, 9), P6(10, 7), P7(3, 3), P8(9, 4), P9(3, 7)

Use K-Means Algorithm to find the three cluster

OR

- Q6)** a) What is isolation factor model? [5]
b) Explain Hierarchical Clustering with an example. [6]
c) Micro-Average Precision and Recall, Micro-Average F-score, [6]
- Q7)** a) Explain Recurrent Neural Networks with an example. [6]
b) What are different activation function used in NN? [6]
c) What is multilayer perceptron? Describe with diagram. [6]

OR

- Q8)** a) Explain building blocks of RBF networks. [6]
b) What is personalized recommendation? What is content based recommendation? [6]
c) Explain the Convolution Neural Network (CNN) with suitable example.[6]

