

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2024
(Fifth Semester)

Branch – COMPUTER SCIENCE WITH DATA ANALYTICS

MACHINE LEARNING

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(5 x 1 = 5)

- 1 The major motivation of _____ is to learn from past information.
(i) supervised learning (ii) un-supervised learning
(iii) semi- supervised learning (iv) reinforcement learning
- 2 Once the model is trained using the training data, the labels of the test data are predicted using the model's _____.
(i) target function (ii) expected values
(iii) target output (iv) expected out
- 3 Classification is a type of supervised learning where a target feature, which is of categorical type, is predicted for test data on the basis of the information imparted by the _____.
(i) training data (ii) validation testing
(iii) testing data (iv) validation data
- 4 Unsupervised learning is a machine learning concept where the unlabelled and unclassified information is analysed to discover _____.
(i) input knowledge (ii) output knowledge
(iii) prediction knowledge (iv) hidden knowledge
- 5 The main objective of representation learning is to find an appropriate representation of data based on features to perform a _____ task.
(i) machine learning (ii) neural networks
(iii) deep learning (iv) artificial intelligence

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks

(5 x 3 = 15)

- 6 a Explain the reinforcement learning.
OR
b Explain the machine learning activities.
- 7 a Describe of the K-fold Cross-validation method.
OR
b Classify the Overfitting in machine learning.
- 8 a Describe the common classification algorithms in details.
OR
b Classify regression lines based on the types of slopes.
- 9 a Explain the clustering.
OR
b Find out the understanding of biological neurons.

Cont...

- 10 a Explain the representation of machine learning.
OR
b Describe the active learning.

SECTION -C (30 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks

(5 x 6 = 30)

- 11 a Examples of machine learning applications in details.
OR
b Discuss about the basic types of data in machine learning
- 12 a Discuss about the selecting a model in briefly.
OR
b Explain about evaluating the performance of a machine learning model.
- 13 a Identify the classification learning steps in machine learning.
OR
b. Justify the maximum likelihood estimation.
- 14 a Point out the application of unsupervised learning.
OR
b Classify the types of activation functions.
- 15 a Describe the association rule learning algorithm in machine learning.
OR
b Explain the ensemble learning algorithm in details of machine learning.

Z-Z-Z

END