

Code No. : 8061

Sub. Code : ZCAM 22

M.C.A. (CBCS) DEGREE EXAMINATION,  
NOVEMBER 2023.

Second Semester

Computer Application — Core

MACHINE LEARNING USING PYTHON

(For those who joined in July 2021-2022 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Identify the type of learning in which labeled training data is used.
  - (a) supervised learning
  - (b) unsupervised learning
  - (c) reinforcement learning
  - (d) semi unsupervised learning

2. Machine learning is a subset of which of the following.
  - (a) data learning
  - (b) deep learning
  - (c) artificial intelligence
  - (d) subset learning
3. Which of the following is features scaling technique?
  - (a) Standardization
  - (b) Clustering
  - (c) Association Rule
  - (d) Classification
4. Which of the following is preprocessing technique?
  - (a) Classification
  - (b) Clustering
  - (c) Association Rule
  - (d) Removing noise
5. Data discretization is part of data reduction but with particular impedance, especially for \_\_\_\_\_ data.
  - (a) character
  - (b) numerical
  - (c) clustered
  - (d) incomplete data

Page 2 Code No. : 8061

6. Which one of the following is a discretization technique?
  - (a) binding
  - (b) binning
  - (c) rule extracting
  - (d) feature extracting
7. Which one of the following is a cross validation method?
  - (a) Lean-two-out
  - (b) Leave-one-out
  - (c) Last-one-out
  - (d) Last-k-out
8. Which cross validation would perform the fitting procedure a total often times?
  - (a) Leave-10-out
  - (b) 10 fold cross validation
  - (c) Last-10-out
  - (d) Last-k-out
9. Which one of the following tool is used for hyperparameter tuning?
  - (a) linear search
  - (b) grid search
  - (c) binary search
  - (d) clustering

Page 3 Code No. : 8061

10. Which one of the following method considers several hyperparameter combinations and chooses the one that returns a lower error score?
  - (a) random search
  - (b) grid search
  - (c) binary search
  - (d) linear search

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Explain the need of machine learning using python.
 

Or

 (b) Compare over fitting and under fitting with example.
12. (a) Describe about the preprocessing techniques in machine learning.
 

Or

 (b) Elucidate the challenges in feature selection with example.
13. (a) Discuss the binning methods with example.
 

Or

 (b) Discuss the automatic feature selection with example.

Page 4 Code No. : 8061  
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14. (a) Explain the need of cross validation in machine learning.

Or

(b) Explain the evaluation matrices in machine learning with example.

15. (a) Write a short on parameter selection with preprocessing with example.

Or

(b) Explain the grid search preprocessing algorithm.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Enumerate the various libraries and tools for machine learning using python.

Or

(b) Illustrate the supervised machine learning algorithms.

17. (a) Explain the types of unsupervised learning algorithms with example.

Or

(b) Explain the clustering technique using python with example.

Page 5      Code No. : 8061

18. (a) Discuss the need of discretization technique with example.

Or

(b) Demonstrate the non linear transformation with example.

19. (a) Discuss the model evaluation technique in machine learning with example.

Or

(b) Explain the grid search in model evaluation with example.

20. (a) Discuss the concept of pipeline with example.

Or

(b) Discuss the grid searching in pipeline with example.

Page 6      Code No. : 8061