Reg. No. : ⬚⬚⬚⬚⬚⬚⬚⬚⬚⬚⬚⬚

Question Paper Code : 90046

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2022.

Fifth Semester

Artificial Intelligence and Data Science

AD 8552 – MACHINE LEARNING

(Regulations 2017)

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1.   Define Machine learning.

2.   List few ML methods based on time.

3.   What are Neurons in a Neural Network?

4.   Give any two featurization techniques.

5.   What is machine learning pipeline?

6.   What does Precision and Recall metrics reveal?

7.   Define Predictive Analytics.

8.   Write down the contribution of Machine learning in Predictive Analytics.

9.   Provide any two machine learning based medical diagnosis that is done on image data.

10. List any two real-time applications that could be benefited by Machine learning.

PART B — (5 × 13 = 65 marks)

11. (a)   Differentiate linear and non-linear machine learning algorithms and discuss the working of k-nearest neighbor algorithm.

Or

     (b)   Discuss on any two univariate and bi-variate visualization techniques.

12. (a) Discuss in detail the working of both Decision tree and Support vector machines algorithm and conclude which among them will be suitable for large data sets.

Or

(b) Illustrate the working of any one classification algorithm by providing a sample dataset and brief on how it is different from regression.

13. (a) Discuss on the significance of ranking in machine learning and illustrate with an example how ranking could be used in recommendation systems.

Or

(b) Provide few scenarios for the usage of libraries or tool kits for machine learning provided by Azure and Amazon platforms each.

14. (a) Write Short notes on :

   (i) Data to insight to decision

   (ii) Data exploration in machine learning

Or

(b) Brief on information based and error based learning.

15. (a) Discuss in detail how machine learning helps in ensuring security of web users.

Or

(b) Elaborate any two scenarios each how machine learning is used for image and speech recognition.

PART C — (1 × 15 = 15 marks)

16. (a) A OTT platform is to be designed and developed. The primary focus is in HO grouping together users with similar viewing patterns in order to recommend similar content. Suggest a suitable Machine learning technique and justify by providing the illustration.

Or

(b) One of the best seller of the milk products is planning to launch a new product that could bring him the highest profit margin. Discuss on machine learning algorithm that could suggest the product perfectly fit his need.

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