



Avinashilingam Institute for Home Science and Higher Education for Women

Deemed to be University Estd. u/s 3 of UGC Act 1956, Category A by MHRD (now MoE)
Re-accredited with A++ Grade by NAAC. CGPA 3.65/4, Category I by UGC
Coimbatore - 641 043, Tamil Nadu, India

Continuous Internal Assessment Test II- October 2025

Semester V

Class : III UG

Time : 2 Hours

Branch : Mathematics

Max.Marks : 60

23BMAPA3 - Fundamentals of Data Science

Course Outcomes:

CO1: understand the fundamental concepts of data science.

CO2: learn the concepts of data storage and big data.

CO3: illustrate the different types of process and tools used in data science.

CO4: validate the performance measures on agents and search agencies.

CO5: construct models to make predictions.

Part A

6 x 1 = 6

Choose the Correct Answer

1. Data often contains..... CO3K1
a. target class b. uncertainty c. methods d. keywords
2. What is the goal of Artificial Intelligence? CO4K4
a. to solve artificial problems b. to extract scientific causes
c. to explain various sorts of intelligence d. to solve real world problems
3. A problem solving approach works well for.... CO4K2
a. 8 – puzzle problem b. 8- queen problem
c. finding optimal path from a given source to a destination d. Mars Hover
4. Which search strategy is also called as blind search? CO4K3
a. uninformed search b. informed search c. simple reflex search d. both a and b
5. Which of the following does not include different learning methods? CO5K2
a. analogy b. introduction c. memorization d. deduction
6. Who is the Father of Machine Learning ? CO5K1
a. Geoffrey Chaucer b. Geoffrey Hill c. Geoffrey Everest Hinton d. None of the above

Part B

3 x 6 = 18

Answer ALL questions

- 7.a.What is data cleaning and explain its steps? CO3K3
(or)
- 7.b.What is data transformation? What are the methods in data transformation?. CO3K4
- 8.a. Explain the concept of problem solving in AI and describe the steps involved in solving a problem using problem solving agent. CO4K5
(or)
8. b. Describe the characteristics of a rational agent in Artificial Intelligence. CO4K1

9.a. Describe the difference between supervised and unsupervised learning. CO5K3

(or)

9. b. Explain the concept of regression in Machine Learning? CO5K4

Part C

3 x 12 = 36

Answer ALL questions

10.a. What is the difference between open data and multimodal data in the context of data collection? CO3K5

(or)

10.b. How does data preprocessing help in data science, specifically focusing on data cleaning and data transformation? CO3K3

11.a. Explain the various types of Agents in Artificial Intelligence . CO4K5

(or)

11.b. Explain briefly uninformed search strategies and informed search algorithm? CO4K3

12.a. What is classification and explain its types and how it works in Machine Learning? CO5K4

(or)

12. b. Explain Reinforcement learning and its types? CO5K4

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