Roll No…….. **Total No. of Printed Pages: 1**

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BCA-MCA Dual Degree (Semester –5th)

ARTIFICIAL INTELLIGENCE

Subject Code: BCMC527

Paper ID: 18340121

Time: 03 Hours **Maximum Marks: 60**

Instruction for candidates:

1. Section A is compulsory. It consists of 10 parts of two marks each.
2. Section B consist of 5 questions of 5 marks each. The student has to attempt any 4 questions out of it.
3. Section C consist of 3 questions of 10 marks each. The student has to attempt any 2 questions.

Section – A **(2 marks each)**

Q1. Attempt the following:

a. What is Artificial Intelligence (AI) in simple terms?
b. Name two examples of AI applications we use in daily life?
c. What is a chatbot, and how does it work?
d. Explain the difference between human intelligence and machine intelligence.
e. What is machine learning, and how is it related to AI?
f. What is the role of data in AI systems?
g. What are the main goals of AI?
h. What are expert systems in AI? Provide an example?
i. Explain what a robot is and how AI is used in robotics?
j. What is Natural Language Processing (NLP) in AI?

Section – B **(5 marks each)**

Q2. What are the main types of AI, and how are they applied in different industries?

Q3. How do AI-powered recommendation systems, like those used by Netflix or Amazon, work.

Q4. What is the difference between supervised learning and unsupervised learning in AI?

Q5. Explain the basic concept of machine vision and how AI helps computers understand images?

Q6. Explain the AO algorithm in constraint satisfaction problems and discuss its effectiveness.

Section – C **(10 marks each)**

Q7. Explain how AI is transforming healthcare, specifically in diagnostics and treatment planning.

Q8. What is deep learning, and how is it different from traditional machine learning?

Q9. Describe the methods and tools used for knowledge acquisition and validation in expert systems.