Progressive Education Society's
Modern College of Arts, Science & Commerce Ganeshkhind, Pune – 16
(Autonomous)
End Semester Examination: OCT / NOV 2024
Faculty: Science and Technology

Program: BCA Code: BCASc 08 **Semester: V** **SET: A**
Program (Specific): BCA(Sci) **Course Type: CC**
Class: TYBCA **Max.Marks: 35**
Name of the Course: Artificial Intelligence
Course Code: 24-BCA-354 **Time: 2Hr**
Paper:

Instructions to the candidate:

1) *There are 4 sections in the question paper. Write each section on separate page.*
2) *All Sections are compulsory.*
3) *Figures to the right indicate full marks.*
4) *Draw a well labelled diagram wherever necessary.*

SECTION: A

Marks

Q1) Attempt the followings **5x1=5**

a) Define 'Search & Control Strategies'.

b) Explain 'Best First Search'.

c) What is Procedural Knowledge?

d) Define 'Propositional Logic'.

e) What is Predictive Analytics?

Q2) Attempt any 4 of the following **4x1=4**

a) What is the 8- puzzle problem?

b) Define 'AO*'.

c) What is the difference between Supervised and Unsupervised Learning?

d) Name the types of Search Algorithms.

e) What is Uninformed search?

f) What are the recent trends in AI?

SECTION: B

Q3) Attempt any 4 of the following **4x2=8**

a) Explain the role of Intelligent Agents in AI.

b) Discuss the importance of Knowledge Representation in AI.

c) Describe the differences between Breadth-first Search and Depth-first Search.

d) Explain the concept of Clause Form in Propositional Logic.

e) What are the ethical considerations in developing AI systems?

f) Discuss the Semantic Networks.

SECTION: C

Q4) Attempt any 4 of the following **4x2= 8**

a) Define Heuristic Search and List the types of Heuristic Search.

b) Demonstrate the use of A* search in pathfinding algorithms.

c) Explain machine learning types.

d) How would you represent a decision-making process using Propositional Logic?

e) Compare script and frame.

f) Explain resolution with example.

SECTION: D

Q5) Attempt any 2 of the following **2x5= 10**

a) Analyze the effectiveness of various Search Algorithms in solving real-world problems.

b) Explain the 'Monkey & Banana problem' as a state-space search problem.

c) Write a case study on AI-based Chatbot.

d) Define terms:

1. Slot
2. Filler
3. Cyc
4. Facets
5. Weak slot

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