314333

24225

03 Hours / 70 Marks Seat No. | | | | | | | | |

Instructions – (1) All Questions are *Compulsory.*

(2) Answer each next main Question on a new page.

(3) Illustrate your answers with neat sketches wherever necessary.

(4) Figures to the right indicate full marks.

(5) Assume suitable data, if necessary.

(6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Attempt any FIVE of the following: **10**

a) Define Artificial Intelligence.

b) List different uninformed search strategies.

c) Define First - order logic.

d) State any four important supervised machine learning algorithms.

e) List any two application of AIML in Robotics

f) What is reasoning in AI? Name two types of reasoning used in AI.

g) List different stages of predictive modeling?

Marks

2. Attempt any THREE of the following: **12**

a) Define initial state, action, plan and path cost w.r.t state space search.

b) Solve pegs and Disks state space problem.

c) Differentiate between forward and backward reasoning

d) What is computer vision, and how is it applied in robotics?

3. Attempt any THREE of the following: **12**

a) Explain any four characteristics of AI

b) Illustrate search process with example.

c) Describe knowledge representation in brief.

d) Explain the concept of ethical AI with respect to robotics applications.

4. Attempt any THREE of the following: **12**

a) List and Explain properties of search algorithm.

b) Explain Breadth First Search-Uninformed search Algorithm.

c) State and explain different types of learning.

d) Discuss the risks associated with AI-enabled robots in society.

e) Explain the following

i) Robotic perception

ii) Localization

5. Attempt any TWO of the following: **12**

a) List different types of informed search algorithms. Discuss the properties of A* algorithm

b) Describe the architecture of knowledge-based agent in A I.

c) Explain data exploration in machine learning

Marks

6. Attempt any TWO of the following: **12**

a) Explain the Environment in Artificial Intelligence in details

b) List different types of uninformed search algorithms. Explain any one uninformed search algorithm in detail.

c) Define Machine Learning. Differentiate between supervised and unsupervised learning (Any 4 points)
