Roll No. Total Pages: 3

BT-7/D-23 47422

ROBOTICS AND INTELLIGENT **SYSTEMS**

Paper-OE-CS-AIML-401

Time Allowed: 3 Hours]

[Maximum Marks: 75

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- (a) Discuss the main characteristics of robotics.
 - (b) Write some of the main challenges that are faced in robotics.
- Explain various types of robots. Also, describe the robotic 2. applications in the following fields:
 - (a) Defense. (b) Medical.

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UNIT-II

William short sours on the follow What is an end effector in robotics? Also, discuss its three basic types.

4. What do you mean by degree of freedom in robotics? Discuss the different degrees of freedom along with benefits and limitations of the same.

UNIT-III

- (a) What is knowledge acquisition? Discuss along with its various techniques.
 - (b) Discuss the rule-based approach. Also, describe some of the main industries that are using rule-base expert system.
- 6. (a) What do you mean by conflict resolution? Can AI assist in conflict resolution? Justify your answer.
 - (b) With the help of suitable example, differentiate between data-driven and goal-driven strategy.

UNIT-IV

- 7. (a) What do you mean by fuzzy logic? Draw the fuzzy logic architecture and discuss each component of the same in detail.
 - (b) Write short notes on the following:
 - (i) UML.

(ii) Dynamic binding.

- 8. (a) What is Decision Support System (DSS)? Discuss along with the various types of DSS.
 - (b) What is NLP? Discuss some of the NLP tasks. Also, describe the term NLU and NLG related to natural language.

