

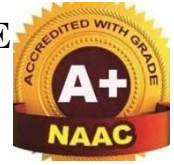


**SHRI GNANAMBICA DEGREE COLLEGE, MADANAPALLE  
(AUTONOMOUS)**

**Program: BCA (AI)**

**I YEAR-II-SEM**

**COURSE : ARTIFICIAL & COMPUTATIONAL INTELLIGENCE**



## **QUESTION BANK**

### **UNIT – I**

#### **Short Answer Questions**

1. What is Artificial Intelligence (AI)?
2. What are the applications of AI?
3. What are Sensors?
4. What are Intelligent Agents?
5. What are actuators?

#### **Long Answer Questions**

1. Explain the history of Artificial Intelligence.?
2. Explain the applications of Artificial Intelligence.?
3. Explain the PEAS framework with an examples?
4. What is intelligent agent? Explain the types of intelligent agents?
5. Explain agent architecture and rationality?

### **UNIT – II**

#### **Short Answer Questions**

1. What is an Expert System?
2. What is a Knowledge Base?
3. Examples of expert systems.?
4. What are Rule-Based Systems?
5. What is an Inference Engine?

#### **Long Answer Questions**

1. Explain the components of Expert Systems.?
2. Explain rule-based systems and knowledge representation?
3. Examples of expert systems: medical diagnosis, decision support
4. Compare Expert Systems with AI Agents?
5. Explain the role and significance of Expert Systems in AI evolution?

## UNIT – III

### Short Answer Questions

1. What is Problem Formulation in AI?
2. What is Uninformed (Blind) Search ?
3. What is Informed (Heuristic)?
4. Applications of Search in AI Problems ?
5. What is a state?

### Long Answer Questions

1. Explain Problem Solving as Search in AI?
2. Explain Breadth-first search?
3. Explain Depth-first search?
4. Explain Uniform-cost search?
5. Explain Greedy best-first search?
6. Explain A\* algorithm?

## UNIT – IV

### Short Answer Questions

1. What is Machine Learning?
2. Explain different Types of Machine Learning?
3. What is Classification?
4. What is Regression?
5. Explain Applications of Machine Learning?

### Long Answer Questions

1. Explain Supervised Learning in detail?
2. Explain Unsupervised Learning in detail.?
3. Explain Reinforcement Learning with examples.?.
4. Explain the basic learning algorithms used in Machine Learning?
5. Explain Classification and Regression in Machine Learning.?

## UNIT – V

### Short Answer Questions

1. What is Computational Intelligence?
2. Explain Fuzzy Logic.?
3. Explain Neural Networks?
4. What is Responsible AI?
5. Explain fairness?

### **Long Answer Questions**

1. Explain the concept of Computational Intelligence and discuss its main components such as fuzzy logic and neural networks.
2. Explain the basics of Fuzzy Logic and its applications in Artificial Intelligence systems.
3. Describe Neural Networks and explain how they are used in Artificial Intelligence.
4. Discuss the role of Computational Intelligence in Artificial Intelligence and its importance in solving complex problems.
5. Explain the ethical and societal challenges in Artificial Intelligence. Discuss responsible AI, fairness, transparency, and safety concerns.