

Class: II PG

Major: Computer Application

Max.Marks:60

Time : 3hours

17MCAC17 ARTIFICIAL INTELLIGENCE

10x1/2=5

Part -A

Choose the correct answer

1. The Knowledge captures _____
a. Specialization b. Generalization c. Clarity d. Extensibility
2. A _____ is a state that is better than all its neighbors but is not better than some other states farther away
a. Ridge b. Foothills c. Local maximum d. Plateau
3. When a particular object is evaluated, returns true or false depending on whether the object is in the set or not. Such rule is called _____
a. Frame Axioms b. Extensional definition c. Intensional definition d. Logic representation
4. The elements of specific classes inherit attributes and values from more general classes in which they are included is called _____ Inheritance
a. Multiple b. Multilevel c. Property d. Hierarchical
5. A _____ is a collection of attributes and associated values that describe some entity in the world
a. Form b. Frame c. Property d. Slot
6. The fundamental notion of Bayesian statistics is _____
a. $P(E|H)$ b. $P(E)$ c. $P(H|E)$ d. $P(H)$
7. Constraining one step to come before another in a final plan is called _____
a. Step Addition b. Declobbering c. Promotion d. Separation
8. _____ is arranging a sequence of actions to achieve a goal
a. Learning b. Planning c. Searching d. Reasoning
9. The _____ of expert systems contains both factual and heuristic knowledge.
a. Knowledge Engineering b. Knowledge Representation
c. Knowledge base d. Knowledge Engineers
10. The term _____ covers many cognitive skills, including the ability to solve problems, learn and understand language.
a. Reasoning b. Intelligence c. Expert system d. Knowledge

Part B

5 x 4 = 20

Answer ALL questions

Each answer should not exceed 200 words or one page

- 11.a. Discuss in detail about Production system characteristics OR
11.b Elaborate the A* Algorithm in detail.
- 12.a. Compare and contrast forward Vs Backward Reasoning OR
12.b. Explain about Hill climbing Algorithm
- 13.a. Describe forward chaining using PROLOG Program OR
13.b. What is certainty factors? Explain
- 14.a. Explain the components of a planning system OR
14.b. Write a short note on STRIPS with an example
- 15.a. Expound the Architecture of expert systems in detail OR
15.b. Explain in detail about Knowledge Acquisition

Part B

5 x 7 = 35

Answer ALL questions

Each answer should not exceed 600 words or three pages

- 16.a. Explain the Production Rules for the Water Jug problem OR
16.b How to solve a cryptarithmic problem? Explain
- 17.a. Expound the Issues in Knowledge Representation OR
17.b Discuss the resolution in Predicate Logic
- 18.a. Give an account on Bayesian Networks OR
18.b. Describe Dempster-Shafer Theory with example
- 19.a. Explain about Adaptive Learning OR
19.b. Explain the Goal Stack Planning algorithm and its states.
- 20.a. Explain the role of Knowledge engineers in the development of expert system OR
20.b. Illustrate the working on MYCIN expert system. What do you mean by explanation based learning? Explain with suitable example?