

Q.21 Differentiate between breadth-first and depth-first search. (CO1)

Q.22 What is the role of ontologies in AI? (CO3)

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 What are expert systems? Describe their architecture and characteristics. (CO5)

Q.24 What is Artificial Intelligence. Explain the major AI techniques used to solve real-world problems. (CO1)

Q.25 Explain the generate-and-test method in detail with a suitable example. (CO2)

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6th Sem / Artificial Intelligence & Machine Learning

Subject : AI Expert Systems

Time : 3 Hrs.

M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 Procedural knowledge is about: (CO5)

- a) Facts only b) How to do things
- c) Database schema d) Static rules

Q.2 Resolution in predicate logic requires: (CO4)

- a) CNF conversion b) Sorting
- c) Optimization d) Looping

Q.3 Which AI technique involves representing knowledge in a way that allows inference? (CO1)

- a) Linear Programming
- b) Neural networks
- c) Knowledge representation
- d) Search trees

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- Q.4 Which of the following is NOT an approach to knowledge representation? (CO3)
- a) Semantic networks b) Frames
 c) Decision trees d) TCP/IPQ

- Q.5 Heuristic functions are used to: (CO2)
- a) Reduce search space
 b) Guarantee optimality
 c) Increase randomness
 d) Avoid all rules

- Q.6 Forward reasoning is also known as: (CO5)
- a) Backward chaining
 b) Data-driven reasoning
 c) Goal-driven reasoning
 d) Top-down reasoning

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. (6x1=6)

- Q.7 Which logic operator denotes “for all”? (CO4)
- Q.8 Define goal state. (CO1)
- Q.9 Control knowledge guides the inference process. (T/F) (CO5)

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- Q.10 A _____ is a structure that holds attributes and values about concepts. (CO3)
- Q.11 Define expert system. (CO5)
- Q.12 _____ is a simple local search method that evaluates neighbors. (CO2)

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

- Q.13 List & Explain the phases in the expert system life cycle. (CO5)
- Q.14 Explain the Isa Relationship with an example. (CO4)
- Q.15 What are the limitations of hill climbing? (CO2)
- Q.16 Describe any two AI techniques used for solving problems. (CO1)
- Q.17 Explain the need for knowledge representation (CO3)
- Q.18 Write the advantages of Predicate logic over propositional logic? (CO4)
- Q.19 What is A* search and how does it work? (CO2)
- Q.20 Compare procedural and declarative knowledge. (CO5)

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