Q.18 What is the role of resolution in logical reasoning? (CO4)

Q.19 Briefly explain the architecture of an expert system. (CO4)

Q.20 What is the difference between procedural and declarative knowledge? (CO5)

Q.21 Discuss the characteristics of problems that are suitable for AI techniques. (CO1)

Q.22 Compare forward and backward reasoning strategies used in rule-balsed systems. (CO5)

SECTION-D

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

Q.23 Describe and compare the working of Hill Climbing and Best First Search algorithms with suitable examples. (CO2)

Q.24 Describe the process of resolution in predicate logic. How is it used to perform logical inference in Ai systems? (CO4)

Q.25 Why is knowledge representation important in AI? Briefly explain its approaches and impact on reasoning with examples. (CO3)

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Roll No. .....

6th Sem.

Branch : Artificial Intelligence & Machine Learning

Sub.: AI Expert Systems

Time : 3 Hrs. M.M. : 60

SECTION-A

Note: Multiple Choice Questions. All Questions are compulsory. (6x1=6)

Q.1 Which of the following is heuristic search technique? (CO1)

a) Generated and Test b) Brute Force Search

c) Linear Search d) Binary Search

Q.2 Which search technique uses a heuristic to estimate the cost to reach the goal? (CO1)

a) Depth-First Search b) Breadth First Search

c) Best First Search d) Linear Search

Q.3 Which of the following is an approach to knowledge representation? (CO3)

a) Java Programming b) Neural back propagation

c) Semantic Networks d) HTML

Q.4 Mapping in knowledge representation refers to: (CO3)

a) Drawing mind maps

b) Linking data to visual diagrams

c) Associating knowledge elements with representations

d) Compressing knowledge into image

Q.5 Which of teh following is a valid reasoning mechanism in predicated logic? (CO4)

a) Compilation b) Deduction

c) Translation d) Segmentation

Q.6 Which of the following is a component of an expert system? (CO4)

a) Operating system b) Compiler

c) Knowledge Base d) Cache Memory

SECTION-B

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

Q.7 In, AI, the _____ is the environment in which all possible states and actions are defined for problem solving. (CO1)

Q.8 Hill Climbing is a search algorithm that moves in the direction of decreasing value. (True/False) (CO2)

Q.9 A _____ maps concept and relationships into structured representations for AI system (True / False) (CO3)

Q.10 Represent the fact "RAvi is a doctor" using predicate logic. (CO4)

Q.11 _____ networks represent knowledge using nodes and links to show relationships. (CO3)

Q.12 Procedural knowledge tells the system how to perform a task. (True/False) (CO5)

SECTION-C

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

Q.13 Highlight the key criteria for success in an AI System? (CO1)

Q.14 What is the difference between Generate and Test and Best First Search? (CO2)

Q.15 What is the significance of the Frame Problem in AI? (CO3)

Q.16 What challenges are associated with knowledge representation in AI systems? (CO3)

Q.17 How are Isa relationships represented in predicate logic? (CO4)