Avinashilingam Institute for Home Science and Higher Education for Women

(Deemed to be University under Category 'A' by MHRD, Estd. u/s 3 of UGC Act 1956)
Re-accredited with 'A+' Grade by NAAC. Recognised by UGC Under Section 12B
Coimbatore - 641 043, Tamil Nadu, India

Master's Degree Examination – June / July 2021
II Semester

Class : I PG **Time : 3 Hours**
Major : Computer Science **Max. Marks: 100**

20MCSC11 Artificial Intelligence

Part A **10 x 1 = 10**
Choose the Correct Answer

1. _____agents directly map states into actions and fail to operate in an environment where mapping is too large. CO1K2
   a. reflex b. goal-based c. problem-solving d. transition

2. The problem generated by the combination of production rules is _____ CO1K1
   a. conflict resolution b. modularity
   c. opacity d. modifiability

3. _____ is known as imperative knowledge. CO2K1
   a. declarative knowledge b. procedural knowledge
   c. meta knowledge d. heuristic knowledge

4. _____technique works by building refutation proofs. CO2K2
   a. Wavelets b. Resolution c. Neural network d. Deep learning

5. Which one of the following is not the advantage of semantic network? CO3K3
   a. Semantic networks are natural representation of knowledge
   b. Semantic networks convey meaning in a transparent manner
   c. Semantic networks are simple and easily understandable
   d. Semantic networks do not have any standard definition for the link names

6. In _____, the knowledge is represented in the form of graphical networks CO3K1
   a. logical representation b. semantic networks
   c. frame representation d. production rules

7. The common language for writing STRIPS domain and problem sets is the _____ CO4K1
   a. Planning Domain Definition Language b. Planning Discrete Definition Language
   c. Planning Data Definition Language d. Planning Discrete Definition Language

8. _____is not included in the levels of knowledge in language understanding. CO4K3
   a. Phonological b. Syntactic c. Empirical d. Logical

9. The expert systems are capable of _____ CO5K3
   a. possessing human capabilities b. diagnosing
   c. refining their own knowledge d. Substituting human decision makers

10. In _____ phase, formalized knowledge is converted into a working computer program. CO5K2
    a. Formalization b. Conceptual c. Implementation d. Testing

Part - B **5 x 6 = 30**

Answer ALL questions

Each answer should not exceed 400 words or two pages

11.a.	Give the advantages and disadvantages of production system in artificial intelligence.	CO1K2
	(or)	
11.b.	Explain the searching process in AI using breadth first search algorithm.	CO1K2
12.a.	List the kinds of knowledge that has to be represented in artificial intelligence systems and discuss its types.	CO2K1
	(or)	
12.b.	Write a resolution algorithm for predicate logic.	CO2K3
13.a.	Write notes on forward chaining with example.	CO3K3
	(or)	
13.b.	Determine how reasoning is done using fuzzy logic.	CO3K3
14.a.	Outline and discuss the components of planning system.	CO4K4
	(or)	
14.b.	Describe learning with macro operators.	CO4K1
15.a.	How will you build expert system efficiently?	CO5K1
	(or)	
15.b.	What are the capabilities to be expected from expert systems?	CO5K1

Part C **5 x 12 = 60**

Answer ALL questions

Each answer should not exceed 800 words or four pages

16.a.	What are the components of production systems? Give the salient features of production rules.	CO1K1
	(or)	
16.b.	Discuss in brief about the heuristic search methods.	CO1K2
17.a.	Summarize the approaches to knowledge representation.	CO2K5
	(or)	
17.b.	State and explain the algorithm to convert predicates to causal form with examples.	CO2K1
18.a.	What is Dempster-Shafer theory? Explain with suitable example.	CO3K1
	(or)	
18.b.	Discuss about the exact inference in Bayesian network.	CO3K2
19.a.	Describe in detail about STRIPS.	CO4K1
	(or)	
19.b.	What is learning? Develop the Winston’s learning program with example.	CO4K6
20.a.	Describe in detail about knowledge acquisition.	CO5K1
	(or)	
20.b.	Illustrate the architecture of expert system with neat diagram.	CO5K3

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