Aryan College

AI (Artificial Intelligence)

Unit I:

1. Define AI. [2013]
2. What do you understand by domain in terms of AI? [2013]
3. Define Knowledge. [2013]
4. Define knowledge based system. Explain how knowledge can be acquired manipulated, organized and represented. [2013]
5. Which Systems are called knowledge based systems? [2014]
6. What do you understand by knowledge validation? [2014]
7. What is the difference between knowledge and information? [2014]
8. Compare between human and computer intelligence. [2014]
9. Describe definition and importance of knowledge. [2015]
10. Define integrating knowledge and memory. [2015]
11. Difference between knowledge base & database ,also explain level of knowledge representations. [2015]
12. What is AI? [2016]
13. Quote the application where AI aim to put the human mind into the computer. [2016]
14. Explain knowledge based system in the context of artificial intelligence? [2016]
15. Discuss the areas where AI based systems are being used. Also suggest the applications where AI can be used for better performance are throughput. [2016]
16. What is domain in AI? [2017]
17. What is the difference between knowledge and information? [2017]
18. What is knowledge based system? Explain how knowledge can be acquired, organized and represented. [2017]

Unit II:

1. How we can write a rule in prolog? [2013]
2. Explain the role of universal and existential quantifies in prolog? [2013]
3. A)Explain list in prolog. [2013]
   B Differentiate between rule order & goal order.
4. What is atom in prolog? [2014]
5. Explain facts. How can we represent the fact in prolog? [2014]
6. Write a prolog program to find length of an input list. [2014]
7. Show that (P→Q) is equivalent to 7PVQ . [2014]
8. What is database in prolog? [2015]
9. Write short notes on the following: [2016]
   a. Prolog and its features

10. What are the basic elements of Prolog? [2017]
11. Explain facts in prolog? [2017]
12. Explain following features of prolog in detail. [2017]
    a. Recursion
    b. Query
    c. Database
    d. Trial

Unit III:

1. How propositional logic is differ than predicate logic? [2013]
2. Describe resolution principle. [2013]
3. Define truth maintenance system. [2013]
4. Write a short note on circumscription. [2013]
5. What is Fuzzy Logic? [2013]
6. What is clausal form? [2014]
7. What is non-productive system? [2014]
8. What is called Fuzzy logic? [2014]
9. Transform the following FOPL statement into equivalent conceptual graph. [2014]

   "X ,Y MARRIED(X<Y)® MARRIED(Y,X).
10. Express the following sentences involving predicates in symbolic form: [2014]
    a. All students are clever.
    b. Some students are not successful.
    c. Every successful student is clever.
    d. There are some successful students who are not clever.
11. Define clausal form. [2015]
12. Explain Predicates logic. [2015]
13. What is non-productive system? [2015]
14. Explain the algorithms of prepositional logic . [2015]
15. Represent the following statement in the format of FOPL: [2015]
    a. There is a student who is loved by every other student.
    b. Bill does not take analysis.
    c. Bill has no sister.
    d. Every student who takes analysis also takes Geometry.
16. Express the following sentences involving predicates in symbolic form:- [2015]
    a. All hounds howls at night.
    b. Anyone who has any cats will not have any mice.
    c. Light slippers do not have anything which howls at night
    d. John has either a cat or a hound.
    e. If John is alight slipper,then John does not have any mice.
17. Write short note on- [2015]

a)Indexing Techniques
b)Recursion
c)Predicate completion and circumscription

1) What is semantic interpretation? [2016]
2) What is propositional logic? [2016]
3) What is interference? [2016]
4) Give the syntax and semantics of a first order logic in details with examples. [2016]
5) What is Fuzzy Logic? [2017]
6) What is resolution principle in artificial principle? [2017]
7) What is non productive system? [2017]
8) Define truth maintenance system [2017]

Unit IV:

1. Explain Bays Rule. [2013]
2. What is uniformed Search? [2013]
3. Explain AND-OR graph. [2013]
4. Explain different searching techniques of AI in detail. [2013]
5. Explain Backward chaining. [2014]
6. Explain Unification. [2014]
7. What are the salient features of hebbian learning? How it is different than competitive learning? [2014]
8. Write short note on-: [2014]
   a. Closed World Assumption
   b. Decision Theory
   c. Ad-Hoc Method
   d. And-OR Graph
9. Write a short note on AND-OR graph. [2015]
10. Define search problem. [2015]
11. Explain rule based architecture. [2015]
12. Explain the frame problems with suitable examples. [2015]
13. Explain matching techniques. [2015]
14. Explain heuristic reasoning methods. [2015]
15. Explain Heuristic functions. [2016]
16. What is frame network? [2016]
17. Explain about inference in Bayesian network. [2016]
18. Differentiate between solution and optimal solution. [2016]
19. What is uniformed and blind search? [2016]
20. What are the ways to evaluate algorithm performance? [2016]
21. Write short notes on the following: [2016]
    a. Ad-Hoc methods
    b. And – Or-Graph

c. Heuristic reasoning methods [2017]

22. Elaborate the approaches for AI with examples. Explain any two Heuristic searches in details. What is Bays Rule? [2016]
23. What is uniformed search? [2017]
24. Explain Unification? [2017]
25. Explain backward chaining? [2017]
26. Explain AND-OR graph [2017]
27. Explain different searching techniques in detail [2017]
28. How hebbian learning is different from competitive leaning? Explain features of hebbian leaning also. [2017]
29. What is probabilistic reasoning? Also explain dumpster Shafer theory with example . [2017]

Unit V:

1. Explain matching in detail. [2013]
2. Explain matching in detail. [2014]
3. Explain following Matching Technique. [2014]
   a. Indexing
   b. Matching with Variable
   c. Complex Matching Variable
4. What is Fuzzy matching? [2016]
5. Define indexing. [2016]
6. Write short notes on the following: [2016]
   a. Fuzzy matching algorithm
   b. Matching Techniques
   c. Indexing and retrieval techniques [2017]

Unit VI:

1. Define Certainty Factor. [2013]
2. Write down the application of an expert system? [2013]
3. Explain the factor of knowledge acquisition. [2014]
4. What are various knowledge representatives techniques used in expert system. [2014]
5. What is expert system? [2015]
6. Explain knowledge building tool. [2015]
7. What is acquisition of knowledge ?Explain with suitable example of knowledge. [2015]
8. Explain various knowledge representations techniques used in expert system. [2015]
9. Briefly explain the knowledge acquisition process. [2016]
10. Write short notes on the following: [2016]
    a. Knowledge Acquisition
    b. Validation
    c. Expert System

d. Knowledge acquisition and validation 6 [2017]

11. What is expert system? [2017]
12. What is certainty factor? [2017]