Question Paper Code : 91407

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2019

Fifth/Sixth Semester

Computer Science and Engineering

CS 6659 – ARTIFICIAL INTELLIGENCE

(Common to Electronics and Instrumentation Engineering/Instrumentation and Control Engineering/Information Technology)

(Regulations 2013)

(Also Common to PTCS 6659 – Artificial Intelligence for B.E. (Part-Time) – Fifth Semester – (Regulations – 2014))

Time : Three Hours   Maximum : 100 Marks

Answer ALL questions

PART – A   (10×2=20 Marks)

1. What is Artificial Intelligence ?

2. Compare program with pattern matching.

3. Differentiate propositional and predicate logic.

4. What is refutation principle ?

5. Define forward chaining.

6. What is Baye's theorem ?

7. What is planning ?

8. What do you understand by the term "K-strips" ?

9. Enumerate the features of DART expert system.

10. What are the components of an expert system ?

PART – B   (5×13=65 Marks)

11. a) Describe the following Hill Climbing procedures
    i) Simple hill climbing.   (6)
    ii) Simulated annealing.   (7)

(OR)

   b) Illustrate constraint satisfaction problem to solve a cryptarithmatic problem.

12. a) Discuss alpha-beta pruning with suitable examples.

(OR)

b) Consider the following facts.

• Any boy or girl is a child.

• Any child gets a toy or a candy or a stick.

• No boy gets any toy.

• No child who is good gets a stick.

• If no child gets a candy, then no boy is good.

    i) Translate the above facts to wff.   (5)

    ii) Convert the wff to clause form representation.   (8)

13. a) Construct a comparison between production based system and frame based system.

(OR)

b) i) Explain Dempster-Shafer theory with examples.   (6)

    ii) Give a brief outline on Bayesian network with an example.   (7)

14. a) Analyze the search strategy used in STRIPS with examples.

(OR)

b) What is Adaptive learning ? Illustrate with suitable examples.

15. a) Construct an outline on MYCIN.

(OR)

b) i) What is knowledge acquisition ? Discuss.   (6)

    ii) Write a brief summary on expert system shells.   (7)

PART – C   (1×15=15 Marks)

16. a) What is machine learning ? Construct a creative discussion to relate machine learning vs. artificial intelligence.

(OR)

b) Compile a case study of a knowledge based expert system for selecting a course in University.