PD-390

(563) M.Sc. COMPUTER SCIENCE (THIRD SEMESTER)

Examination DEC. 2020

Compulsory/Optional

Group-

Paper-II

Name/Title of Paper- ARTIFICIAL INTELLIGENCE AND EXPERT SYSTEM

Time: Three hours

Maximum Marks-80

Minimum Passing Marks-...

Note: Answer from all the section as directed. The figures in the right-hand margin indicate marks.

SECTION-A

1. Answer the following very short-answer type questions : 1X10
   (a) What is knowledge?
   (b) Write full form of DFS and BFS.
   (c) What do you mean by dependency?
   (d) What is computable Function?
   (e) What do you mean by local variable in LISP?
   (f) Write any two manipulation function in LISP.
   (g) Write steps of natural language.
   (h) What is reactive system?
   (i) Write types of Expert System.
   (j) Define Expert System.

SECTION-B

2. Answer the following questions: 2X5
   (a) Discuss the foundation of AI.
   (b) What do you mean by Knowledge representation?
   (c) Write different Logical Function.
   (d) What is Natural Language?
   (e) What do you mean by Hybrid Expert Systems?

SECTION-C

Answer all questions: 12X5

Unit-I

3. (a) Explain different AI techniques.
   (b) Discuss A* Algorithm with suitable Example.

OR

Define Knowledge and knowledge representation. Describe Uninformed Search Techniques with suitable example.

Unit-II

4. (a) Differentiate Procedural and Declarative Knowledge.
   (b) Explain Syntax & Semantics of FOPL.

OR

Define and describe Forward and Backward Reasoning with suitable example.

Unit-III

5. (a) Write a program in LISP to print table of given number.

(b) What do you understand by PROLOG? Explain.

OR

(a) Write a program in LISP to explain Array and List.

(b) Write a program in LISP to check given number is even or odd.

Unit-IV

6. Define planning in natural language and explain different planning methods in natural language.

OR

Discuss about the Syntactic Processing and Semantic Analysis in respect of natural processing language.

Unit-V

7. (a) Explain different knowledge acquisition and validation techniques.

(b) Describe structure of an Expert System.

OR

Write notes on.

(i) Black Board Architecture

(ii) Case based Expert System