www. allsubjects4you.com

B.Tech. (Sem. - 7th / 8th)

SYMBOLIC LOGIC AND LOGIC PROCESSING
SUBJECT CODE : CS - 402
Paper ID : [A0480]

[**Note** : Please fill subject code and paper ID on OMR]

Time : 03 Hours   **Maximum Marks : 60**

Instruction to Candidates:

1) Section - A is **Compulsory**.

2) Attempt any **Four** questions from Section - B.

3) Attempt any **Two** questions from Section - C.

Section - A

Q1)   (10 x 2 = 20)

a) How is knowledge manipulated?

b) What is backtracking?

c) Define functor with example.

d) What is goal?

e) Differentiate between Prolog and Logic.

f) What is syntax tree?

g) What is Meta-Interpreter in Prolog?

h) What are applications of knowledge based systems?

i) Explain neural nets.

j) What is resolution?

Section - B

<div align="right">*(4 x 5 = 20)*</div>

Q2) Define operations on list. Explain membership and append relation.

Q3) Explain the operations of cut and fail productions in Prolog.

Q4) Develop a predicate Sum (Int, Result), which succeeds if the result is the Sum of all the integers between 0 and Int in Prolog.

Q5) Differentiate between:
   (a) Facts and Rules.
   (b) Iteration and recursion.

Q6) Write a program to find factorial of the number using Prolog.

Section - C

<div align="right">*(2 x 10 = 20)*</div>

Q7) What are data structures available in Prolog? Write a Prolog program for merging two ordered lists.

Q8) Describe the following with respect to Prolog.
   (a) Abstract Data Types.
   (b) A Production System.
   (c) Search strategies.
   (d) Rules based expert system.

Q9) Write a Prolog Code for the farmer, wolf, goat and cabbage problem:
   (a) Execute the code and draw search space.
   (b) Alter the rule ordering to produce alternative solution paths.