25/11/2024 IT SEM-III C SCHEME PCPF QP CODE: 10067142

(3 Hours) **(Total Marks: 80)**

N.B.: 1. Question No.1 is compulsory.

2. Answer any three out of remaining questions.

3. Assume suitable data if necessary.

4. Figures to the right indicate full marks.

Q1. Solve the following **(20)**

a) Define binding. What is static and dynamic binding?

b) Explain lazy evaluation and eager evaluation with example.

c) With an example explain process of encapsulation in Object Oriented Programming.

d) Explain process of unification in logic programming with example.

Q2. a) Using example explain fact, rule and query in Prolog **(10)**

b) Explain different storage allocation mechanisms. **(10)**

Q3. a) What do you mean by Programming Paradigm. Explain with example the difference between declarative and imperative programming paradigm. **(10)**

b) Write Haskell code to multiply 2 numbers using recursive call to add function which adds 2 numbers. Clearly write the Type Signature of both functions. **(10)**

Q4. a) Explain different types of Inheritance supported by Object Oriented Programming **(10)**

b) Discuss Call by value vs. Call by reference with example each. **(10)**

Q5. a) What are Scripting Languages? Explain characteristics of scripting languages. **(10)**

b) Explain encapsulation with example. How does it differ from abstraction? **(10)**

Q6. **Write short note on (Any 4)** **(20)**

a) Need of thread synchronization.

b) Gated Expression in Haskell.

c) Generic Subroutines and modules.

d) Higher Order Functions.

e) Lambda Calculus.
