

(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.

- Q6.** Solve any four (20)
- a) Compare Static Scoping vs. Dynamic Scoping
  - b) Explain Inheritance in OOP
  - c) How to choose a programming language?
  - d) Explain Types of binding in Programming Languages
- Q2.** a) Explain database manipulation commands in Prolog with an example. (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) What are Scripting Languages? Explain characteristics of scripting languages. (10)
- Q4.** a) What is logic programming? Explain Facts and Rules along with an example. (10)  
b) Discuss Call by value vs. Call by reference. (10)
- Q5.** a) Explain Type and Type classes in Haskell. (10)  
b) Explain encapsulation. How does it differ from abstraction? (10)
- Q6.** a) What is the role of an Exception Handler in a programming language? Briefly explain important tasks it performs. (10)  
b) Explain the life cycle of a thread with neat labeled diagram. (10)

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