

Time: 3 Hours

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.** a) Explain encapsulation with example. How does it differ from abstraction? (10)  
b) Describe the use of scripting in web development along with an example (10)
- Q2.** a) Explain Type and Type classes in Haskell. (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) Describe various methods to create a thread. (10)
- Q4.** a) What is logic programming? Explain Facts and Rules along with an example. (10)  
b) Explain the different communication and synchronization techniques in Concurrent Programming model. (10)
- Q5.** a) Explain database manipulation commands in Prolog with an example. (10)  
b) What is Inheritance? Explain different types of Inheritance in OPP. (10)
- Q6.** Short note on: (Any 4) (20)  
a) Static Scoping vs. Dynamic Scoping  
b) Forward chaining vs. Backward chaining  
c) List operations in Prolog  
d) Currying in Haskell  
e) Programming languages vs. Scripting languages

\*\*\*\*\*