

**Subject : UML and Design Patterns**

Day : Tuesday  
Date : 06/12/2016



Time : 02.00 P.M. TO 05.00 P.M.  
Max Marks : 80 Total Pages : 1

**N.B.:**

- 1) Attempt **ANY FIVE** questions from Section – I and attempt **ANY TWO** questions from Section – II.
- 2) Answers to both the sections should be written in the **SAME** answer book.
- 3) Figures to the right indicate **FULL** marks.

**SECTION – I**

- Q.1** Describe the following terms: [10]  
a) Aggregation                      c) Class qualifiers  
b) Generalization                    d) Multiplicity
- Q.2** Illustrate the use of component and deployment diagram with example. [10]
- Q.3** What is prototyping? Explain design pattern which uses this? [10]
- Q.4** Explain the proxy design pattern with its indent, structure and applicability. [10]
- Q.5** What is use of observer design pattern? Explain if with Indent, Structure and Applicability. [10]
- Q.6** What is state diagram? Explain its use in software modeling with example. [10]
- Q.7** Write short notes on **ANY TWO** of the following: [10]  
a) Interpreter  
b) Singleton  
c) Package diagram

**SECTION – II**

- Q.8** Draw use case diagram and class diagram for online railway reservation system. Write scope and assumptions. [15]
- Q.9** What is role of activity diagram in software engineering? Draw activity diagram for withdrawing money from ATM. [15]
- Q.10** What is sequence diagram? Draw sequence diagram for buying product from online shopping system. Write scope and assumptions. [15]

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