

--	--	--	--	--	--	--	--

***B.Tech. Degree V Semester Special Supplementary Examination
August 2015***

**IT 1505 OBJECT ORIENTED MODELLING AND DESIGN
(2012 Scheme)**

Time : 3 Hours

Maximum Marks : 100

**PART A
(Answer ALL questions)**

(8 × 5 = 40)

- I. (a) What is the relevance of UML in design process?
 (b) What is unified process? List the different phases in it.
 (c) What is a package? Is it a useful concept in design? Justify.
 (d) Why do we use models in SE process?
 (e) What are the building blocks of sequence diagrams?
 (f) What is use case generalization? Show an example indicating its advantages.
 (g) What is OCL? Why do we need them in design?
 (h) How do you differentiate design from architecture of a system?

PART B

(4 × 15 = 60)

- II. Explain the classification of UML diagrams, with a neat diagram. Why do we need multiple diagrams for a single system? Justify your answer with an example. (15)

OR

- III. (a) Draw an undirected graph and identify its objects and classes. Prepare a class diagram and object diagram of it. [Hint: An undirected graph consists of a set of vertices and edges]. (8)

- (b) Consider a coffee vending machine. Identify the actors and use cases in it. Then draw a use case diagram. (7)

- IV. Analyse an online railway ticket reservation system to identify the objects, events, activities etc. Then draw a sequence diagram and an activity diagram for the system. Explain each diagram. (15)

OR

- V. (a) Draw the UML notations for the following items: (10)

- (i) Abstract class
 (ii) Object
 (iii) Inheritance
 (iv) Aggregation
 (v) Package
 (vi) Visibility modes
 (vii) State
 (viii) Object creation and destruction
 (ix) Return message
 (x) Decision mode

- (b) What is the purpose of communication diagrams? Show an example. (5)

(P.T.O.)

VI. (a) How design classes are different from analysis classes? What are the characteristics of a well-formed design class? (7)

(b) With suitable examples, differentiate composition and aggregation. (8)

OR

VII. Consider an ATM system with the following transactions. (15)

(i) Withdrawal (ii) Deposit (iii) Money transfer (iv) Query

Draw elaborated state diagram for each one.

VIII. (a) Explain component diagrams and deployment diagrams with an example. (8)

(b) Write the OCL expression syntax and describe its parts. (7)

OR

IX. (a) Explain the different types of OCL expressions. (8)

(b) What is ADL? Explain different architectural styles. (7)
