

C 28816

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Name.....

Reg. No.....

**SIXTH SEMESTER B.TECH. (ENGINEERING) DEGREE
EXAMINATION, JUNE 2012**

IT2K 603—DATA MODELLING AND DESIGN

Time : Three Hours

Maximum : 100 Marks



Answer all questions.

1. (a) Explain how object differs from variable.
(b) Give example for function over loading and also specify the rules.
(c) What are attributes ? How are they represented in UML ?
(d) Explain window navigation diagram.
(e) Describe the structure of encapsulation.
(f) What are class invariants ? Explain.
(g) Explain mix-in class.
(h) What is compile time polymorphism ? Explain.

(8 × 5 = 40 marks)
2. (a) (i) Highlight the salient features of OO programming. (8 marks)
(ii) Discuss the significance of message passing with 2 distinct examples. (7 marks)

Or

 - (b) (i) What is runtime polymorphism ? Explain. (8 marks)
 - (ii) With simple example, differentiate the benefits of inheritance over non-inheritance based applications. (7 marks)
3. (a) (i) Explain nested states, concurrent states and transient states. (8 marks)
(ii) Compare composition with aggregation. (7 marks)

Or

 - (b) (i) Explain collaboration diagram in detail. (8 marks)
 - (ii) With suitable example, explain state diagram. (7 marks)
4. (a) Explain class cohesion and the principles of type conformance.

Or

 - (b) Draw the class diagram and state transition diagram for an ATM application.

Turn over

5. (a) (i) Highlight the characteristics of polymorphism. (8 marks)
(ii) Are components different from objects ? How ? (7 marks)

Or

- (b) (i) Explain the template concept with an example. (8 marks)
(ii) Why and how maximum classes are useful for OO applications. (7 marks)

[4 × 15 = 60 marks]