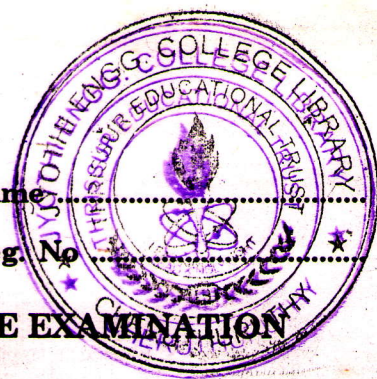


C 20538

Name

Reg. No



**SIXTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION
JUNE 2006**

IT 2K 603—DATA MODELLING AND DESIGN

Time : Three Hours

Maximum : 100 Marks

Answer all questions.

- I. (a) Differentiate classes and objects with examples.
(b) Explain class hierarchy.
(c) What is the purpose of class diagram ? Give examples.
(d) Are aggregation and association same ? Explain.
(e) Explain Encapsulation structure.
(f) Discuss the principles of closed behaviour and type conformance.
(g) Compare overloading with overriding.
(h) What are components ? Explain.
- (8 × 5 = 40 marks)
- II. (a) (i) What are the benefits of object oriented approach ? (8 marks)
(ii) Write a note on operator overloading. (7 marks)
- Or*
- (b) (i) Compare methods, messaging and states of object. (8 marks)
(ii) Write a note on Runtime polymorphism. (7 marks)
- III. (a) (i) Explain collaboration diagrams with examples. (8 marks)
(ii) For the Banking application, provide state diagrams. (7 marks)
- Or*
- (b) (i) How synchronization can be achieved in object programming ? (8 marks)
(ii) Explain Packages with examples. (7 marks)
- IV. (a) (i) Explain cohesion in detail. (8 marks)
(ii) For the vehicle class, provide state spaces, behaviour of classes and subclasses. (7 marks)
- Or*
- (b) (i) Discuss visibility in detail. (8 marks)
(ii) Explain the problems of multiple inheritance in detail. (7 marks)
- V. (a) (i) Compare objects with components. (8 marks)
(ii) Explain abstract class, concrete class, mix in class with examples. (7 marks)
- Or*
- (b) (i) Explain "Rings of Operations". (7 marks)
(ii) How design of a component is done ? What are the factors involved ? Explain in detail. (8 marks)