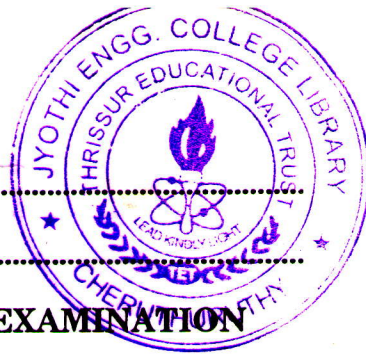


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Name.....

Reg. No.....



**FIFTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION
DECEMBER 2008**

IT 04 506—DATA MODELLING AND DESIGN

(2004 admissions)

Time : Three Hours

Maximum : 100 Marks

Answer all questions.

- I. (a) Define : class and object with examples.
(b) What is meant by 'class hierarchy' ? Explain.
(c) Define association. Also, explain various cardinalities present in association.
(d) Explain interface diagram with example.
(e) Describe the structure of Encapsulation.
(f) What are class invariants ? Explain.
(g) Explain over-riding with examples.
(h) Differentiate light weight and heavy weight components.

(8 × 5 = 40 marks)

- II. (a) Compare object oriented programming with procedure oriented programming with examples. (15 marks)

Or

- (b) Define :
Abstraction ; Encapsulation ; Message passing ; Dynamic Binding ; Reusability.

(15 marks)

- III. (a) (i) Explain collaboration diagram with an example.
(ii) Explain the concept of 'package'.

(8 marks)

(7 marks)

Or

- (b) Discuss the significance of :
Deployment diagram ;
Navigation diagram
with proper examples.

(15 marks)

- IV. (a) Explain :

Class cohesion ; Principles of Type conformance ; Principles of closed behaviour.

(15 marks)

Or

- (b) Consider ATM example. Provide class diagram and state transition diagram with neat diagram.

(15 marks)

Turn over

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- (a) (i) Compare components with objects.
- (ii) Explain polymorphism with example.

(8 marks)

(7 marks)

Or

- (b) (i) Write note on various types of inheritances.

(8 marks)

- (ii) Consider reservation of tickets in a railway station. Provide use case diagram and also various classes with their definitions.

(7 marks)

[4 × 15 = 60 marks]