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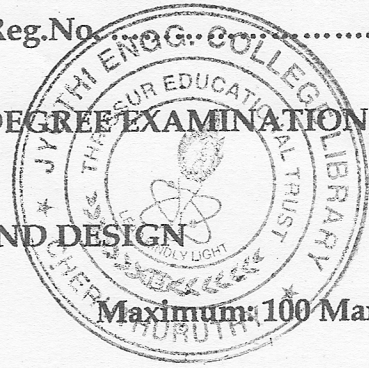Name: ....

Reg.No. ....

FIFTH SEMESTER B.TECH (ENGINEERING) DEGREE EXAMINATION, DECEMBER 2010

IT 04 506 – DATA MODELLING AND DESIGN
(2004 ADMISSIONS)

Time: 3 Hours

Maximum: 100 Marks

Answer all questions

1. (a) Differentiate composition with aggregation.
   (b) Define class cohesion-with examples.
   (c) Discuss the problems of inheritance.
   (d) What are the various components of a class? Explain.
   (e) What are heavy weight and light weight components? Explain.
   (f) Specify the need for object orientation.
   (g) What is UML? What is the importance of UML ?
   (h) Explain the danger of Polymorphism.

   $(8 \times 5 = 40)$

2. (a) Discuss in detail the features of object oriented programming paradigm.
   OR
   (b) (i) Consider the class for complex number objects. Perform addition and multiplication of complex number objects through a program.
   (ii) Explain message passing with examples.

3. (a) (i) Explain function overloading and over-riding.
   (ii) Highlight the features of components.
   OR
   (b) (i) Write note on Encapsulation structure
   (ii) Explain pre conditions and post conditions with their significance and examples.

4. (a) (i) Explain State Transmission diagram with examples.
   (ii) What is Interface diagram? Explain.
   OR
   (b) Describe the features of collaboration and navigation diagrams.

5. (a) (i) Describe class invariants with example.
   (ii) Discuss the preconditions and post conditions.
   OR
   (b) Write short notes on:
   (i) Classes and subclasses.
   (ii) Connascene.

   $(4 \times 15 = 60)$

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