

C 14809

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Name

Reg. No.

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

IT 2K 603 – DATA MODELLING AND DESIGN



Time : Three Hours

Maximum : 100 Marks

Answer all questions.

1. (a) Explain message passing with examples.
(b) What is encapsulation? Explain.
(c) Draw the class/object diagram for Library class and Library class. Also define the relationship between them.
(d) Define nested states and transient states.
(e) Compare and contrast pre-conditions and post-conditions.
(f) Give principles of type conformance.
(g) What is mix-in class? Where is it useful? Discuss.
(h) List out the types of components with brief specifications.

(8 × 5 = 40 marks)

2. (a) (i) Explain how operators can be overloaded with example.
(ii) What is attributes? Explain with an example.

(8 + 7 = 15 marks)

Or

- (b) (i) Specify five demerits of procedure oriented programming with examples.
(ii) Compare generalization with specialization.

(8 + 7 = 15 marks)

3. (a) (i) What is concurrent states and synchronization? Explain.
(ii) Explain Window Layout and Window Navigation diagram.

(8 + 7 = 15 marks)

Or

- (b) (i) With suitable diagrams, differentiate aggregation and association.
(ii) Explain architecture and interface diagram packages.

(8 + 7 = 15 marks)

Turn over

4. (a) (i) Explain in detail about state spaces, behaviour of classes and subclasses.
 (ii) Explain domain of object classes and connasence. Give example.

(8 + 7 = 15 marks)

Or

- (b) (i) Discuss the feature of private, public, protected in detail.
 (ii) Explain openness and closedness of classes in detail.

(8 + 7 = 15 marks)

5. (a) (i) Compare and contrast heavy weight and light weight components.
 (ii) Explain class cohesion, support of states and behaviour.

(8 + 7 = 15 marks)

Or

- (b) (i) Explain design of components.
 (ii) Explain problems due to inheritance.

(8 + 7 = 15 marks)

[4 × 15 = 60 marks]

(8 × 5 = 40 marks)

(8 + 7 = 15 marks)

(8 + 7 = 15 marks)

(8 + 7 = 15 marks)

(8 + 7 = 15 marks)

Turn over