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V 4130

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2008.

Seventh Semester

(Regulation 2004)

Computer Science and Engineering

CS 1402 — OBJECT ORIENTED ANALYSIS AND DESIGN

(Common to B.E. (Part-Time) Sixth Semester Regulation 2005)

Time : Three hours

Maximum : 100 marks

Answer ALL the questions.

PART A — (10 × 2 = 20 marks)

1. "Object Orientation supports abstraction at a higher level when compared to the top down approach." Do you agree? Justify your answer.
2. Differentiate between messages and function / subroutine calls.
3. What is an antipattern? Should a pattern or antipattern be analyzed?
4. What are the models described in OMT approach?
5. What is the need for micro-levels in Booch methodology?
6. Differentiate between the following in use case diagrams.
 - (a) uses and extends relationships
 - (b) Actor and user.
7. Why is CRC useful?
8. Differentiate between
 - (a) stamp and data coupling
 - (b) cooperative and distributed processing.

9. How can metaphors be used in the design of user interface?

10. What is usability?

PART B — (5 × 16 = 80 marks)

11. (a) (i) Draw the class hierarchy for the following items
Man, cat, lion, tricycle, table, jeep, crow, computer hardware,
computer software. (6)
- (ii) Explain in detail the various types of object relationships and class relationships. Illustrate by giving suitable examples. (10)

Or

- (b) Explain in detail the processes in systems development using object oriented approach. Illustrate with an example.
12. (a) Explain in detail the different processes and components of the unified approach with a block diagram.

Or

- (b) Consider a digital library system. Draw the following UML diagrams for the above mentioned system and explain :
- (i) Use case diagram (4)
- (ii) Activity diagram (4)
- (iii) Sequence diagrams (4)
- (iv) State chart diagram. (4)
13. (a) Construct a sample class diagram for the following is a list of requirements. Identify the objects, attributes, methods and their relationships by using an iterative approach and explain.
- Two or more Parts make up a product. The Product class can access the Parts class, but not the other way around.
 - The three types of parts (Flywheel, Cog and Afterburner) do not comprise the complete list of parts of the inventory system.
 - A Flywheel can have two distinct layouts – a tooth flywheel and a gear flywheel. They do not share any similarities.
 - An Afterburner can be classified into either a turbo or a hydro afterburner. Both of these types can be broken down into ballistic type.
 - A ballistic hydro or turbo afterburner is made up of Plutonium marbles that should be arranged in right order to make them work.

Or

- (b) Explain in detail the Noun phrase approach to identify classes. Illustrate the process with an example.

14. (a) Explain in detail the axioms and corollaries in object oriented design.

Or

(b) What is the purpose of an access layer? Explain the steps in design of access layer classes with an example.

15. (a) What is the task of view layer? Explain in detail the process of designing view layer classes with an example.

Or

(b) (i) How can you test user satisfaction? Illustrate with an example. (8)

(ii) What is Quality assurance? How is it tested? (8)
