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Question Paper Code : 75603

5 Year M.Sc. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2013.

Seventh Semester

Software Engineering

XSE 472/10677 SW 704 — OBJECT ORIENTED SOFTWARE ENGINEERING

(Regulation 2003/2010)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Why system development should be an integrated part of an enterprise?
2. List advantages of incremental development.
3. On what criteria an object model can be evaluated.
4. What are the merits of viewing a test as an object?
5. Define traceability with regards to model building.
6. List the different types of objects and their purposes under analysis model.
7. What are the most common changes in the design model? What are the usual causes for these changes?
8. How do service packages help in building system configuration during construction?
9. Compare and contrast Relational and Object DBMS systems.
10. What is equivalence partitioning?

PART B — (5 × 16 = 80 marks)

11. (a) Highlight important activities during Object-Oriented analysis, including how to effectively carry out them. Show the relevance of each activity to the target object oriented system.

Or

- (b) Consider the following scenario, Create classes, class hierarchy and other relationships to describe the system in object orientation. Provide few example objects for the classes. Show how polymorphism can be employed in your design to improve code reuse.

A company consists of two types of employees: **generalEmployee** and **hourlyEmployee**. All employees have name, salary rate and employee ID number. Employees work hours in a week are entered into the system through console. A common method **ComputeWeeklySalary** should be able to compute salary of the employee by using the salary rate and the work hours. For the **HourlyEmployee** if the number of hours worked in a week exceeds 40 hours then the excess hours are paid at one and a half time of the normal salary rate. For the **generalEmployee** the weekly salary is $40 \times \text{salary rate}$, regardless of the number of actual hours worked. The system designed should be able to compute the weekly salary of all employees.

12. (a) Describe requirements model in detail, using an airlines ticket booking system as the example.

Or

- (b) Create a design model considering a social network website based system allowing users to share their reviews about songs. Illustrate the important parts of the design.

13. (a) Using an appropriate example, highlight characteristics and usage of Requirements model with use cases.

Or

- (b) With an example, explain how entity and control objects are utilized in Analysis model.

14. (a) What are the needs of construction phase? What is done in construction phase? Show the relationship of construction phase with various models which constitute for input and output of construction phase.

Or

- (b) What are the technical constraints and features affect adapting the design model to the implementation environment? How do they affect this adaptation? Highlight the technical aspects and factors included in the implementation environment with suitable diagrams.

15. (a) Describe construction and documentation of components.

Or

- (b) Illustrate Integration Testing in detail with an example. Compare integration testing with unit testing.