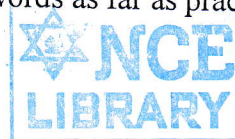


TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2080 Chaitra

Exam.	Regular		
Level	BE	Full Marks	80
Programme	BEI	Pass Marks	32
Year / Part	III / II	Time	3 hrs.

Subject: - Objected Oriented Software Engineering (CT 659)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.



1. Define Software Process. Explain the general activities involved in software process. Justify this statement "Walking on water and developing software from specification are easy if both are frozen". [1+2+5]
2. Why we need to identify the requirement while developing object-oriented software engineering? Explain Requirement engineering process in detail. [3+5]
3. Briefly outline the fundamental phases of the Unified Process and pinpoint one advantage and one potential challenge associated with its application. [5]
4. How is object element is identified and constructed in object-oriented software development? [6]
5. Explain the basic building blocks of the UML. "The UML is a language for Visualizing, Specifying, Constructing and Documenting the artifacts of a software-intensive system." Justify the statement. [4+4]
6. Develop UML use case diagram and activity diagram for the following scenario. Sajha Yatayat owns a number of busses. Each bus is allocated to a particular route, although some routes may have several buses. Each route passes through a number of towns. One or more drivers are allocated to each stage of a route, which corresponds to a journey through some or all of the towns on a route. Some of the towns have- a garage where busses are kept and each of the busses are identified by the registration number and can carry different numbers of passengers, since the vehicles vary in size and can be single or double-decked. Each route is identified by a route number and information is available on the average number of passengers carried per day for each route. Drivers have an employee number, name, address, and sometimes a telephone number. [5+5]
7. As the Team Lead of a software development team employing iterative development for a project, provide a concise overview of how the iterative process works. Identify its key benefit and a potential drawback. [5]
8. Explain the different types of strategies is used in the different level of testing in object-oriented testing. [6]
9. Explain about risk management in object-oriented software development. [6]
10. Define Software Quality Assurance (SQA). What are the various activities and tasks involved in SQA? Explain in brief. [1+5]
11. Write Short notes on: [3×4]
 - a) Advance Class
 - b) System design process in OOD
 - c) COCOMO Model

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2079 Chaitra

Exam.	Regular		
Level	BE	Full Marks	80
Programme	BEI	Pass Marks	32
Year / Part	III / II	Time	3 hrs.

Subject: - Object Oriented Software Engineering (CT 659)

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- ✓ Attempt **All** questions.
- ✓ The figures in the margin indicate **Full Marks**.
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1. a) Explain the Spiral Life cycle Model with its advantages and disadvantages. [6]
b) Explain requirement engineering process in software development. [6]
2. Explain how OOA, OOD and OOP are related. How can we identify objects in a system? Explain with appropriate examples. [3+5]
3. What are the elements of the Conceptual Model of UML? Explain. [4]
4. Assume following scenario and draw use case diagram, Activity diagram and sequence diagram. [5+5+5]
Customer request for the Menu. Menu is provided to the customer from the database of food ordering system. Customer select the dishes from the list. Customer can add the dishes if required. Manager confirm the order and send invoice to customer. Customer pays the bill that is generated from the system and manager process the order for delivery.
5. Briefly explain Iterative development in OOSE. What are the different disciplines of Unified Process? Explain. [4+4]
6. Define the basic component of Object-oriented design model. Explain about system design process with its basic activities involved in the object-oriented design. [4+4]
7. Why testing is necessary in system development? Differentiate between thread -based testing and use-based testing. [3+4]
8. What are the factors to be considered while selecting a project? List any two examples of potential risk areas involved in OOSE projects and how can we manage them? [2+4]
9. What are the steps to generate multiple class random test curves? Explain. [4]
10. Write short notes on: [2×4]
 - a) Class relationships
 - b) Multiple class testing

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Year / Part	III / II	Time	3 hrs.

Subject: - Object Oriented Software Engineering (CT 659)

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1. a) Elaborate the meaning and need of Software Engineering? How do you differentiate Classical and Modified Waterfall Lifecycle model? [2+2]
b) What is Requirement Engineering? Differentiate between Functional and Non-Functional Requirements. [1+3]
2. a) What are the differences between function/data methods and object-oriented methods for system development? [3]
b) How can we identify potential classes and object of an object model? Explain with an example. [5]
3. a) Prepare a Use Case diagram for Online Movie Ticket booking System with necessary assumptions. [6]
b) "The UML is a language for Visualizing, Specifying, Constructing and Documenting the artifacts of a software-intensive system." Elaborate this statement. [4]
4. Draw a class diagram for the Flight Management System with necessary assumptions. [6]
5. Briefly explain Iterative development in OOSE. What are the different phases of Unified Process (UP)? Explain. [4+4]
6. a) Briefly explain partitioning the analysis model in system design process. [4]
b) Explain the different layers of objected-oriented design pyramid. [4]
7. a) What are the basic OO testing strategies? [4]
b) List out the overall approaches for designing Object Oriented Test Case. [4]
8. What are the factors to be considered while selecting a project? How can we calculate the effort and duration of a project using COCOMO model? Explain with an example of your own. [2+6]
9. Write short note on :
 - i) Agile Software Development
 - ii) Software Quality Assurance
 - iii) Class Relationships
 - iv) Multiple class testing
[4×4]