Question Paper Code : 30140

M.C.A. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2022.

First Semester

MC 4102 — OBJECT ORIENTED SOFTWARE ENGINEERING

(Regulations 2021)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Identify the important stakeholders involved in software projects.
2. What are the classifications of requirements in software development?
3. What is an object? Give example.
4. How does a sequence diagram differ from a state diagram?
5. Mention two principles of good design.
6. List the types of coupling.
7. Define verification and validation.
8. Differentiate between Alpha and Beta testing.
9. What are the challenges of software maintenance?
10. Why do we need metrics in software?

PART B — (5 × 13 = 65 marks)

11. (a) Compare the following life cycle models based on their distinguishing factors, strengths and weakness : waterfall, spiral and prototype model.

Or

(b) Company XYZ executes projects in an Agile way and follows the practices of 'Extreme Programming'. As a Project Manager, how will you emphasize the XP practices to your team?

12. (a) Compare and contrast various requirements elicitation methods.

Or

(b) Discuss the characteristics of a good Software Requirement Specification (SRS) document.

13. (a) Explain the use and purpose of dynamic modeling in Object-Oriented design.

Or

(b) Present an outline of GRASP and GoF design patterns.

14. (a) Prepare a comparison chart on software verification techniques.

Or

(b) Describe the software testing strategies.

15. (a) Present a framework for managing risks.

Or

(b) Discuss the need for Object Oriented software estimation. Explain how Lorenz and Kidd method is used to calculate the estimation of size and effort.

PART C — ($1 \times 15 = 15$ marks)

16. (a) (i) Elaborate equivalence partitioning specifying the rules used to define valid and invalid equivalence classes. (8)

(ii) What steps are needed to develop and run software test? Outline. (7)

Or

(b) Create a use case description for Cash withdrawal from an ATM machine.