

(i) Printed Pages : 3

Roll No. ....

(ii) Questions : 9

Sub. Code :

2	6	0	3	5
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Exam. Code :

0	4	5	9
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M.Sc. Information Technology 1<sup>st</sup> Semester  
(2125)

**SOFTWARE ENGINEERING**

**Paper—MS—61**

**Time Allowed : Three Hours]**

**[Maximum Marks : 80**

**Note :—** The students are required to attempt **one** question from each unit including the entire compulsory question (Unit I).

**UNIT—I**

1. All parts are compulsory:

- (i) Enlist Software Engineering goals.
- (ii) What is SDLC?
- (iii) State any two characteristics of good Software Requirements.
- (iv) What is a *Work Breakdown Structure* (WBS) and why is it used?
- (v) Define *Process Metric* with one example.
- (vi) Define *Test Case* and *Test Data*.
- (vii) Define *Integration Testing* and mention one of its advantages.
- (viii) List any two advantages of modular design. 16

## UNIT—II

2. (a) Explain the role of Data Flow Diagrams (DFDs) in system analysis. Draw and explain a Level 1 DFD for a Library Management System. 8
- (b) What is a software process model? Explain the need for a software process model. With the help of a diagram, explain the spiral model. 8
3. (a) What is SRS? Explain the structure of SRS. 8
- (b) Describe the use and structure of an Entity-Relationship (E-R) Diagram. Design an E-R diagram for a Hospital Management System. 8

## UNIT—III

4. (a) Explain different design tools. 8
- (b) Discuss the various elements and characteristics of an effective User Interface Design with examples. 8
5. (a) What is software project scheduling? Describe the importance and creation of GANTT and PERT charts in scheduling. 8
- (b) Discuss the cost estimation model (COCOMO). Differentiate between its Basic, Intermediate, and Detailed models. 8

## UNIT—IV

6. (a) Explain different types of software maintenance with the help of example. 8
- (b) Define software metrics and discuss their importance in software engineering. 8
7. (a) Describe LOC and Function Point metrics. Compare their effectiveness and limitations. 8
- (b) Define software reliability. Discuss factors affecting software reliability. 8

## UNIT—V

8. (a) What do you mean by Object Oriented Testing? Differentiate between OO testing and Traditional Testing. 8
- (b) Explain the features of Equivalence Class Testing. 8
9. (a) Define software testing and explain its objectives. 8
- (b) What is White Box testing? Explain basic path testing and Structural testing techniques. 8