

(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 1st 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.

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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