

**P.E.S. College of Engineering, Mandya - 571 401***(An Autonomous Institution affiliated to VTU, Belagavi)***Fourth Semester, B. E. - Information Science and Engineering****Semester End Examination; July / August - 2022****Software Engineering**

Time: 3 hrs

Max. Marks: 100

**Course Outcome***The Students will be able to:**CO1: Demonstrate an understanding of the principles and techniques of Software Engineering**CO2: Analyze the various steps involved in the design process and the different design approaches which include function-oriented design and object-oriented design**CO3: Understand the activities in project management, requirement engineering process and to identify the different types of system models**CO4: Apply the knowledge of design engineering in software development**CO5: Provide an understanding of the principles of software engineering in a broader system context and the notions of software engineering process and management.***Note:** i) PART-A is compulsory. One question from each unit for maximum of 2 marks.ii) PART-B: Answer any **TWO** sub questions (from a, b, c) from each unit for a Maximum of 18 marks.

Q. No.	Questions	Marks
<b>I: PART - A</b>		
1. a.	Define software Engineering.	2
b.	Define Object and classes.	2
c.	What is release testing?	2
d.	Differentiate between Testing and Inspection.	2
e.	Define program Evolution dynamics.	2
<b>PART - B</b>		<b>90</b>
<b>UNIT - I</b>		<b>18</b>
1 a.	What are the attributes of good software? Explain the key challenges facing software engineering.	9
b.	Explain professional and ethical responsibility of software engineer.	9
c.	Mention and explain the complete structure of SRS.	9
<b>UNIT- II</b>		<b>18</b>
2 a.	Explain in brief class model; state model and Interaction model.	9
b.	What is object oriented development? Explain different stages of Object oriented development.	9
c.	Design a DFD for Library management system.	9
<b>UNIT - III</b>		<b>18</b>
3 a.	Explain the different levels of development testing.	9
b.	Mention and explain the different types of software testing.	9
c.	Explain Clean room software development process.	9

**UNIT - IV**

**18**

- 4 a. Mention the two approaches used for estimation techniques and explain algorithmic cost modeling. 9
- b. List and explain factors affecting software pricing. 9
- c. Compare Quality planning and Quality control. 9

**UNIT - V**

**18**

- 5 a. State Lehman's law for program evolution process. 9
- b. Explain the activities involved in Reengineering process with illustrative figures. 9
- c. Explain software maintenance process. 9

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