

Code: 20IT3302

**II B.Tech - I Semester –Regular / Supplementary Examinations
DECEMBER 2023**

**SOFTWARE ENGINEERING
(INFORMATION TECHNOLOGY)**

Duration: 3 hours

Max. Marks: 70

Note: 1. This paper contains questions from 5 units of Syllabus. Each unit carries 14 marks and have an internal choice of Questions.

2. All parts of Question must be answered in one place.

BL – Blooms Level

CO – Course Outcome

| | | | BL | CO | Max. Marks |
|----------------|----|---|----|-----|------------|
| UNIT-I | | | | | |
| 1 | a) | Explain the importance of software engineering in the development of computer programs. | L2 | CO1 | 7 M |
| | b) | What are the advantages of web apps in terms of accessibility and usability? | L1 | CO1 | 7 M |
| OR | | | | | |
| 2 | a) | How does software testing contribute to the quality of a software product? | L1 | CO1 | 7 M |
| | b) | Discuss the myth of "adding more programmers to a late project makes it finish faster." | L2 | CO1 | 7 M |
| UNIT-II | | | | | |
| 3 | a) | What is the purpose of requirements gathering in software development? | L1 | CO2 | 7 M |

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|-----------------|----|---|----|-----|-----|
| | b) | Describe the importance of functional requirements in software development. | L2 | CO2 | 7 M |
| OR | | | | | |
| 4 | a) | What is the purpose of the software design phase in the software development life cycle? Explain. | L1 | CO3 | 7 M |
| | b) | Why is it important to achieve high cohesion and low coupling in software modules? Explain with examples. | L2 | CO3 | 7 M |
| UNIT-III | | | | | |
| 5 | a) | What is SA/SD (Structured Analysis/Structured Design) methodology, and how does it contribute to software design? | L1 | CO1 | 7 M |
| | b) | What is structured design, and how does it build upon the insights gained from structured analysis? | L1 | CO3 | 7 M |
| OR | | | | | |
| 6 | a) | Describe the purpose and benefits of a Design Review in the context of software development. What are some common practices during a Design Review? | L2 | CO1 | 7 M |
| | b) | What is the significance of following a User Interface Design Methodology when creating software applications? Describe the steps involved in such a methodology. | L2 | CO3 | 7 M |

| UNIT-IV | | | | | |
|----------------|----|--|----|-----|-----|
| 7 | a) | What is the role of coding in the software development process, and why is it considered a crucial phase? | L1 | CO1 | 7 M |
| | b) | What is integration testing, and how does it help in identifying issues in the interaction between different software components or modules? | L1 | CO4 | 7 M |
| OR | | | | | |
| 8 | a) | Describe the concept of black-box testing and provide examples of situations where it is particularly useful. | L2 | CO4 | 7 M |
| | b) | Discuss the challenges and considerations involved in creating a comprehensive test plan for a software project. | L2 | CO4 | 7 M |
| UNIT-V | | | | | |
| 9 | a) | What is statistical testing, and how can it be used to assess the reliability of software systems? | L1 | CO4 | 7 M |
| | b) | Describe the concept of software maintenance and its significance in the software development lifecycle. | L2 | CO4 | 7 M |
| OR | | | | | |
| 10 | a) | Explain the concept of software quality. What are the key factors that contribute to high-quality software? | L2 | CO4 | 7 M |

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|--|----|---|----|-----|-----|
| | b) | Compare and contrast different software maintenance process models (e.g., corrective, adaptive, perfective, and preventive maintenance). When is each model most appropriate. | L3 | CO4 | 7 M |
|--|----|---|----|-----|-----|