Code No.: R22CS405PC | R22 | H.T.No. | | | 8 | R | | | | | | |

**CMR ENGINEERING COLLEGE: : HYDERABAD**
**UGC AUTONOMOUS**
**II–B.TECH–II–Semester End Examinations (Supply) -December- 2025**
**SOFTWARE ENGINEERING**
**(Common for IT, CSM, CSE, CSD, CSC)**

**[Time: 3 Hours]** **[Max. Marks: 60]**

**Note:** This question paper contains two parts A and B.
Part A is compulsory which carries 10 marks. Answer all questions in Part A.
Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

**PART-A** **(10 Marks)**

| | | |
|---|---|---|
| 1. a) | What are the merits of incremental model? | [1M] |
| b) | What are the advantages of unified process? | [1M] |
| c) | Write the purpose of context model. | [1M] |
| d) | What is the significance of feasibility study? | [1M] |
| e) | What is the use of interface analysis? | [1M] |
| f) | List the guidelines for data design. | [1M] |
| g) | Differentiate between verification and validation. | [1M] |
| h) | What is meant by debugging? | [1M] |
| i) | What is meant by software reliability? | [1M] |
| j) | What is the importance of software reviews? | [1M] |

**PART-B** **(50 Marks)**

| | | |
|---|---|---|
| 2.a) | What is legacy software? Explain briefly its impact in software engineering. | [5M] |
| b) | Explain the following:<br>i) Water fall model.<br>ii) Spiral Model. | [5M] |
| | **OR** | |
| 3. | Explain in detail about Capability Maturity Model Integration (CMMI) with process patterns, process assessment. | [10M] |
| 4.a) | Compare functional requirements with non-functional requirements. | [5M] |
| b) | Discuss briefly how requirement validation is done? | [5M] |
| | **OR** | |
| 5.a) | Describe five desirable characteristics of a good software requirement specification document. | [5M] |
| b) | Draw the complete DFD at least up to 2-levels for a library management system. | [5M] |
| 6. | What is design model? Explain the process of design concepts that should be considered when building models. | [10M] |
| | **OR** | |
| 7.a) | Explain the process of mapping dataflow into software architecture. | [5M] |
| b) | List the golden rules of architectural design. | [5M] |
| 8.a) | Describe the framework for software product metrics. | [5M] |
| b) | Differentiate between Black box and White box testing. | [5M] |
| | **OR** | |
| 9. | Discuss about metrics for design model and source code. | [10M] |

10.a) Explain about Software Reviews and formal technical reviews. [5M]

b) Discuss software risk. [5M]

**OR**

11. Explain the concept of software quality assurance. [10M]

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