

Code No: 115EM**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech III Year I Semester Examinations, September - 2021****SOFTWARE ENGINEERING****(Common to CSE, IT)****Time: 3 Hours****Max. Marks: 75**

Answer any five questions
All questions carry equal marks

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- 1.a) Compare and contrast waterfall model and spiral model.
- b) Explain the Unified process. Defend importance of the unified process. [7+8]
2. What is software process? Appraise the need of software process improvement? Discuss capability maturity models. [15]
- 3.a) What are the various tasks in requirements engineering? Illustrate with an example the task of collecting requirements at various steps.
- b) How a data flow model is created? Illustrate with an example. [8+7]
- 4.a) Illustrate on SRD (Software Requirements Document).
- b) Explain Requirements elicitation and management. [7+8]
- 5.a) What is Software architecture? Analyse various architectural styles and patterns.
- b) Illustrate with neat diagrams the process of mapping data – flow into a software architecture. [7+8]
- 6.a) Explain design process and various design quality guidelines.
- b) Explain various types of cohesion and coupling. List in the order of level of cohesion and coupling preferred for component level design. [7+8]
- 7.a) Explain the strategic approaches to software testing. Why testing is difficult? Elaborate on how to overcome.
- b) Give an overview of black-box testing strategy. Explain Equivalence partitioning and boundary value analysis. [7+8]
- 8.a) What is software quality? Explain various steps for software quality assurance.
- b) What are various risks associated with software? Explain steps to mitigate monitor and manage risks. [7+8]

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