

Code No: 115EM**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech III Year I Semester Examinations, November/December - 2018****SOFTWARE ENGINEERING****(Common to CSE, IT)****Time: 3 hours****Max. Marks: 75****Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 25 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**(25 Marks)**

- 1.a) What are the merits of incremental model? [2]
- b) List the task regions in the spiral model. [3]
- c) What is feasibility study? [2]
- d) What are the differences between functional requirements and non-functional requirements? [3]
- e) List the guidelines for data design. [2]
- f) Name the commonly used architectural styles. [3]
- g) Write a short note on black box testing. [2]
- h) How to compute the cyclomatic complexity? [3]
- i) Differentiate between reactive risk and proactive risk strategies. [2]
- j) What is software reliability and how this parameter helps in managing software quality? [3]

PART - B**(50 Marks)**

- 2.a) What is legacy software? Explain briefly its impact in software engineering.
- b) Explain the following:
 - i) Water fall model
 - ii) Spiral Model. [5+5]

OR

- 3.a) Give an overview of unified process model.
- b) Write detailed notes on CMMI. [5+5]
- 4.a) Describe five desirable characteristics of a good software requirement specification document.
- b) Draw the complete DFD at least up to 2-levels for a library management system. [5+5]

OR

- 5.a) Compare ISO and SEI-CMM models.
- b) Who should be involved in a requirement review? Draw a process model showing how a requirements review might be organized. [5+5]

- 6.a) Define Software architecture. Explain why it may be necessary to design the system architecture before the specifications. Compare function oriented and object oriented designs.
- b) What do you mean by the terms cohesion and coupling in the context of software engineering? How are these concepts useful in arriving at a good design of a system? [5+5]

OR

7. What is system modeling? Explain the process of creating models and the factors that should be considered when building models. [10]
8. Show using a small example, why it is practically impossible to exhaustively test a program? [10]

OR

- 9.a) Distinguish between error and failure. Which of the two is detected by testing? Justify.
- b) Explain how black box testing differs from white box testing. [5+5]
- 10.a) What do you mean by risk management? Explain how to select the best risk reduction technique when there are many ways of reducing a risk?
- b) Explain about formal technical reviews. [5+5]

OR

11. Using a schematic diagram and suitable example to show the order in which the following are estimated in the COCOMO estimate technique: Cost, Effort, Duration, and Size. [10]

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