

**R16**

Code No: 135BM

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]

AG AG AG AG AG AG AG A

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.

AG 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] A

OR

7. What is system modeling? Explain the process of creating models and the factors that should be considered when building models. [10]

AG 8. Show using a small example, why it is practically impossible to exhaustively test a program? [10] A

OR

9.a) Distinguish between error and failure. Which of the two is detected by testing? Justify. [5+5]  
b) Explain how black box testing differs from white box testing.

AG 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? [5+5] A  
b) Explain about formal technical reviews.

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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