

**Code No: 5405AC****JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****M. Tech I Semester Examinations, June/July - 2019****SOFTWARE ENGINEERING****(Computer Science)****Time: 3hrs****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****5 × 5 Marks = 25**

- 1.a) What is software process pattern? Write the template for process pattern. [5]
- b) Write the structure of the software requirements document. [5]
- c) What is design quality? What are the different ways to achieve design quality? [5]
- d) Write the metrics used for software maintenance. [5]
- e) Explain why formal technical reviews are to be conducted? [5]

**PART - B****5 × 10 Marks = 50**

- 2.a) With a neat sketch, explain Capability Maturity Model Integration. [5]
  - b) Describe about different software myths and their consequences. [5+5]
- OR**
- 3.a) Explain the personal and team process models in brief. [5]
  - b) With a neat sketch, explain about Unified Process approach. [5+5]
- 4.a) What are the different techniques used for requirements elicitation? Discuss. [5]
  - b) Differentiate between functional and non-functional requirements with examples. [5+5]
- OR**
5. What is a behavioral model? Discuss various types of behavioral models with examples for each. [10]
6. What is software architecture? List different architectural styles and explain any three popular software architectural styles. [10]
- OR**
7. What is Unified Modeling Language? List and explain all the UML diagrams with examples. [10]
- 8.a) What are the metrics used for source code? Discuss. [5]
  - b) What is cyclomatic complexity? How it is used in test case generation? Explain with an example. [5+5]
- OR**
9. Explain about unit testing, system testing and integration testing. How they can be used with black box and white box testing? Explain. [10]
- 10.a) What is the significance of statistical software quality assurance? Discuss. [5]
  - b) Write short notes on Risk projection. [5+5]
- OR**
- 11.a) Define software reliability and explain the metrics used for it. [5]
  - b) Write about different ways to decrease the risk of cost and schedule overruns. [5+5]