

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
SIXTH SEMESTER B.TECH DEGREE EXAMINATION(S), DECEMBER 2019

Course Code: CS308

Course Name: SOFTWARE ENGINEERING AND PROJECT MANAGEMENT

Max. Marks: 100

Duration: 3 Hours

PART A

Answer all questions, each carries 3 marks.

Marks

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|---|------------------------------------------------------------------------|-----|
| 1 | Explain software engineering as a layered technology | (3) |
| 2 | Write characteristics of Waterfall model for software development | (3) |
| 3 | How prototyping helps in software development | (3) |
| 4 | Write the significance of Requirement analysis in software engineering | (3) |

PART B

Answer any two full questions, each carries 9 marks.

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|---|-------------------------------------------------------------------------------------------------------------------|-----|
| 5 | a) Explain Spiral Model for software development with a neat diagram. | (3) |
| | b) Describe any three methods of Requirement elicitation process | (3) |
| | c) Describe the different levels of Capability Maturity Model | (3) |
| 6 | a) Write the elements of requirements engineering process | (2) |
| | b) Discuss the prototyping model. What is the effect of designing a prototype on the overall cost of the project? | (4) |
| | c) What is the scope of software engineering | (3) |
| 7 | a) Discuss the maintenance aspects of software engineering. | (3) |
| | b) Explain the importance of requirements. How many types of requirements are possible ? | (3) |
| | c) Differentiate between Waterfall model and incremental model for software development? | (3) |

PART C

Answer all questions, each carries 3 marks.

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|----|---------------------------------------------------------------------------|-----|
| 8 | Describe any two software size estimation techniques. | (3) |
| 9 | Explain all the levels of COCOMO model. | (3) |
| 10 | Differentiate between code walk through and code inspection | (3) |
| 11 | Draw the Rayleigh manpower loading curve and state PNR model for staffing | (3) |

PART D

Answer any two full questions, each carries 9 marks.

- 12 a) Explain two types of Black box testing strategies. (3)
- b) Differentiate between top down and bottom up design strategies. (3)
- c) A simple stand – alone software utility is to be developed in 'C' programming by a team of software experts for a computer running Linux and the overall size of this software is estimated to be 20,000 lines of code. Considering (a, b) = (2.4, 1.05) as multiplicative and exponential factor for the basic COCOMO effort estimation equation and (c, d) = (2.5, 0.38) as multiplicative and exponential factor for the basic COCOMO development time estimation equation, approximately how long does the software project take to complete ? (3)
- 13 a) Define any four types of System testing (4)
- b) Differentiate between stamp coupling and content coupling. (2)
- c) Explain basis path testing with example (3)
- 14 a) Define Cohesion. Explain different types of cohesion (5)
- b) Explain stepwise refinement (2)
- c) How Black box testing differ from White box testing (2)

PART E

Answer any four full questions, each carries 10 marks.

- 15 a) Write the need for software maintenance. Explain different categories of maintenance (5)
- b) Discuss the building blocks of CASE. (5)
- 16 a) Discuss Risk management activities in detail. (5)
- b) Write any four rules for user interface design. (5)
- 17 a) Describe the need for software configuration management. (5)
- b) Discuss 4 p's of software management concepts. (5)
- 18 a) Describe different categories of risk. (5)
- b) Explain different project scheduling techniques (5)
- 19 a) Write the different activities of software project management. (5)
- b) Explain architecture of CASE environment. (5)
- 20 a) Discuss how to define a task set for the software project. (5)
- b) Explain software configuration management activities. (5)