Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Sixth semester B.Tech degree examinations (S), September 2020

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

1 Define the term "software Engineering". Explain the major differences between software engineering and other traditional engineering disciplines. (3)

2 Why do we feel that characteristics of requirements play a very significant role in the selection of a life cycle model? (3)

3 Name the umbrella activities in software process. (3)

4 Write a short note on ISO 9000 quality standards. (3)

PART B

Answer any two full questions, each carries 9 marks.

5 a) Illustrate the layered architecture of software engineering with a neat sketch. (3)

b) If you have to develop a word processing software product, which process model will you choose? Justify your answer and examine. (3)

c) List out the major shortcomings that we might face, if we use the classical waterfall model for developing software? (3)

6 a) Define "requirements elicitation"? Explain any *two* elicitation techniques in detail. (6)

b) Compare ISO and SEI-CMM models. (3)

7 a) Explain Boehm's spiral model of software process with a neat diagram. (6)

b) Distinguish between functional and non-functional requirements with example. (3)

PART C

Answer all questions, each carries3 marks.

8 Suppose you are developing a software product in the organic mode. You have estimated the size of the product to be about 100,000 lines of code. Determine the effort required to develop the software product and the nominal development time. (3)

9 List the important shortcomings of LOC for use as a software size metric for carrying out project estimations. (3)

10 Outline equivalence class partitioning? Explain with an example how equivalence class partitioning helps in testing (3)

11 What is meant by a code walkthrough? What are some of the important types of errors checked during code walkthrough? (3)

PART D

Answer any two full questions, each carries9 marks.

12 a) Explain the different types of coupling that might exist between two software modules. What problems are likely to arise if two modules have high coupling? (6)

b) When does software project planning activity start and end in a software life cycle? List the important activities software project managers perform during project planning. (3)

13 a) How can you compute the cyclomatic complexity of a program? How is cyclomatic complexity useful in program testing? (6)

b) One way to measure the design quality of a structure chart is to explore its coupling and cohesion. Differentiate between the two. (3)

14 a) Consider the following Function Point components and their complexity. If the total degree of influence is 52, find the estimated function points. (3)

Function type	Estimated count	Complexity
External Interface Files	2	7
Internal Logical Files	4	10
External Inquiries	22	4
External Outputs	16	5
External Inputs	24	4

b) What is black box testing? Explain the different types of black box testing strategies. For a software that computes the square root of an input integer that can assume values in the range of 0 and 1000. Determine the equivalence class test suite. (6)

PART E

Answer any four full questions, each carries 10 marks.

15 a) Explain in detail about the risk management in a software development life cycle. (5)

	b)	What is a task set? Write the various steps involved in selecting appropriate task set for a project.	(5)
16	a)	Explain the software maintenance steps with the help of a diagram.	(5)
	b)	Describe the golden rules for User Interface Design.	(5)
17	a)	Explain the Boehm's maintenance model with the help of a diagram.	(5)
	b)	Draw the architecture of a CASE environment and explain how the different tools are integrated.	(5)
18	a)	What is software maintenance? Describe in brief various categories of maintenance.	(5)
	b)	Explain change control in detail along with software configuration items and baseline.	(5)
19	a)	What are the various problems during software maintenance? Describe some solutions to these problems.	(5)
	b)	Write a short note on taxonomy of CASE tools.	(5)
20	a)	Explain four P's with respect to Software Project Management.	(5)
	b)	What is meant by Software Configuration Management(SCM)? Discuss the process of SCM in detail.	(5)

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