Reg. No.												

Question Paper Code	12494

B.E. / B.Tech. / M.Tech. - DEGREE EXAMINATIONS, NOV / DEC 2023

Third Semester

Computer Science and Business Systems

(Common to M.Tech. - Computer Science and Engineering)

20CBPC303 - SOFTWARE ENGINEERING

(Regulations 2020)

Duration: 3 Hours Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

		Marks, K-Level, CO
1.	Differentiate software development life cycle model and a process model.	*2,K2,CO1*
2.	List four examples for software defects.	*2,K1,CO1*
3.	What are the types of metrics?	*2,K1,CO3*
4.	Write short note on the various estimation techniques.	*2,K1,CO3*
5.	Define a petri net.	*2,K1,CO4*
6.	Classify the user interface design steps.	*2,K2,CO4*
7.	Define boundary value analysis.	*2,K1,CO5*
8.	Differentiate verification and validation.	*2,K2,CO5*
9.	Write a note on FURPS model of design quality.	*2,K1,CO6*
10.	Differentiate product and process.	*2,K2,CO6*

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11.	a)	Explain iterative waterfall model and spiral model for software life cycle and discuss various activities in each phase.	*13,K2,CO1*
		OR	
	b)	(i) Outline the steps how the software development project is going to fail and find ways to prevent failure.	*7,K2,CO1*
		(ii) Infer the steps how programming in the large differs from programming in the small.	*6,K2,CO1*
12.	a)	Identify the types of risk you may encounter. Analyze the risk mitigation strategies.	*13,K3,CO3*
		OR	

b) Make use of COCOMO model for software cost estimation and use it to estimate the effort required to build software for a simple ATM that produces 12 screens, 10 reports and has 80 software components. Assume average complexity and average developer maturity. Use application composition model with object points. *13,K3,CO3*

13. a) Summarize the various requirements elicitation techniques. *13,K2,CO4*

OR

b) Explain the following software design concepts in detail. *13,K2,CO4*

a. Abstraction
b. Modularity
c. Information hiding

14. a) Demonstrate an overview of black box testing, detailing various black boxes testing strategies and illustrating each with relevant examples. *13,K2,CO5*

OR

b) (i) Classify the different types of functional testing with example. *7,K2,CO5*

(ii) Infer the concept of Non Functional Requirements With suitable scenario. *6,K2,CO5*

15. a) (i) Explain how ISO – 9126 is used to improve the standards for assuring the quality of your products. *7,K2,CO6*

(ii) Compare the relationship between FURPS and FURPS+ software quality models. *6,K2,CO6*

OR

b) Illustrate in detail the hierarchical models of Boehm and McCall that support the software development process. *13,K2,CO6*

PART - C (1 × 15 = 15 Marks)

16. a) Develop an online railway reservation system, which allows the user to select route, book/cancel tickets using net banking/credit/debit cards. The site also maintains the history of the passengers. For the above system, list and draw the use case scenario and model the above specification. *15,K3,CO2*

OR

b) Develop a software requirement specification (SRS) document online banking system. *15,K3,CO2*