

Reg. No.

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B.E. / B.TECH. DEGREE EXAMINATIONS, MAY 2023

Fourth Semester

CS18404 – SOFTWARE ENGINEERING*(Computer Science and Engineering & Information Technology)***(Regulation 2018/2018A)****TIME: 3 HOURS****MAX. MARKS: 100**

COURSE OUTCOMES	STATEMENT	RBT LEVEL
CO 1	Student will be to identify the key activities in managing a software project	1
CO 2	Student will be able to compare different process models. Concepts of requirements engineering and Analysis Modeling.	2
CO 3	Student will be able to apply systematic procedure for software design and deployment	3
CO 4	Student will be able to compare and contrast the various testing and quality assurance techniques	4
CO 5	Student will be able to recognize the concepts of Software Quality Assurance and Reverse Engineering	4

PART- A (10 x 2 = 20 Marks)

(Answer all Questions)

	QUESTION	CO	RBT LEVEL
1.	List the set of activities required to develop the software.	1	1
2.	What are the available project scheduling methods? How is it useful in scheduling?	1	2
3.	Distinguish between functional and non-functional requirements.	2	2
4.	Brief the importance of a data dictionary.	2	2
5.	Describe the quality guidelines.	3	2
6.	What are the golden rules for user interface design? Justify its importance.	3	3
7.	Write the characteristics of testable software.	4	2
8.	What is the purpose of refactoring ?	4	3
9.	Compare the software reliability and software safety.	5	3
10.	Write the merits of CASE tools.	5	2

PART- B (5 x 14 = 70 Marks)

	QUESTION	Marks	CO	RBT LEVEL
11. (a)	Consider the software firm receiving the development order for flight simulation systems from the Defense department. The requirements are given clear and the duration of the project is around 2 years. Choose the appropriate software process model which is suitable to develop the above system and explain all the phases of the process in detail.	(14)	1	3
	(OR)			
(b)	(i) Discuss the software estimation through Constructive Cost Model.	(8)	1	3
	(ii) How are the risk components and categories helpful to risk projection? Explain.	(6)	1	3
12. (a)	Assume the software application requirement gathering activity is assigned to a team of software engineers and then analyze the requirements of the customer to prepare the concrete requirements for further development activities. Narrate the software requirement elicitation and analysis process of the software engineers with neat diagram	(14)	2	3
	(OR)			
(b)	Illustrate the use of Petri nets to model the software application. Design the Petri net for customers ordering milk packets in AAVIN milk shop for the following scenarios. - The shopkeeper takes order from customer 1; Serves customer 1; takes order from customer 2; Serves customer 2.	(14)	2	3
13. (a)	Discuss the importance of design concepts. Implement the various design concepts with suitable examples.	(14)	3	3
	(OR)			
(b)	(i) Justify the iterative nature of the user interface design process with diagrams.	(8)	3	3
	(ii) How do you apply component level design to the safe home device search problem? Suggest the patterns for the search problem.	(6)	3	3

14. (a) (i) How does the flowchart vary from flow graph? Explain with suitable examples. (4) 4 4
- (ii) Assume the order management software has been developed. Identify the modules developed in the software system. Demonstrate the integration testing to ensure the proper functioning of software. (10) 4 4
- (OR)**
- (b) (i) Discuss the system testing strategies which are suitable for software based systems. (8) 4 4
- (ii) Narrate the debugging activities during the software testing and its advantages. (6) 4 4
15. (a) (i) Analyze McCall's categorization of factors which affect software quality. Write the benefits of McCall's quality factors. (7) 5 4
- (ii) Discuss the involvement of statistical software quality assurance in industry to maintain quality. (7) 5 4
- (OR)**
- (b) Compare and contrast: SCM repository and SCM Process. (7+7) 5 4

PART- C (1 x 10 = 10 Marks)

(Q.No.16 is compulsory)

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LEVEL |
|-----|--|-------|----|--------------|
| 16. | (i) Prepare the software requirement specification document for the Online Course Registration System. Select and include important sections in SRS to evaluate requirements with the user and designer of the system. | (5) | 2 | 5 |
| | (ii) Discuss the software maintenance activities to be followed by legacy software applications. | (5) | 5 | 4 |
