

K. J. Somaiya College of Engineering, Mumbai-77
(Autonomous College Affiliated to University of Mumbai)

End Semester Exam
NOV-DEC 2021

Max. Marks: 50

Duration: 1 Hr. 45 Min.

Class: TY B.Tech

Name of the Course: Software Engineering

Course Code: 2UCC501

Semester: V

Branch: Computer Engineering

Instructions:

- (1) **All questions are compulsory**
- (2) **Draw neat diagrams**
- (3) **Assume suitable data if necessary**

Question No.		Max Marks										
Q1 (A)	Objectives	10 M										
1	<p>With reference to Agile methodology, cross functional development team will include:</p> <p>a) Developer should be able to create test cases and execute them</p> <p>b) The development team may have all the skills necessary to deliver the competed increment</p> <p>c) The development team should have all the skills necessary to deliver the competed increment</p> <p>d) Each of the development team members should be cross functional.</p>	01 M										
2	<p>Match the appropriate answers:</p> <table><tr><th>List I</th><th>List II</th></tr><tr><td>(P) Condition coverage</td><td>(i) Black-box testing</td></tr><tr><td>(Q) Equivalence class partitioning</td><td>(ii) System testing</td></tr><tr><td>(R) Volume testing</td><td>(iii) White-box testing</td></tr><tr><td>(S) Alpha testing</td><td>(iv) Performance testing</td></tr></table> <p>a) P: ii, Q:iii, R:i, S:iv</p> <p>b) P: iii, Q:iv, R:ii, S:i</p> <p>c) P:iii, Q:i, R:iv, S:ii</p> <p>d) P:iii, Q:i, R:ii, S:iv</p>	List I	List II	(P) Condition coverage	(i) Black-box testing	(Q) Equivalence class partitioning	(ii) System testing	(R) Volume testing	(iii) White-box testing	(S) Alpha testing	(iv) Performance testing	02 M
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3	<p>A major flaw in the _____ is that when a program is in the testing phase, then changes in the software’s core functions and features are possible to implement.</p> <p>a) Waterfall model</p> <p>b) Spiral model</p> <p>c) RAD model</p>	01 M										

	d) All of these	
4	Which of the following is a non-functional requirement? a) Maintainability b) Portability c) Robustness d) all of the above	01 M
5	A recommended distributions of efforts across software process for analysis & design phase, coding and testing will be : a) 30-40-30 b) 40-20-40 c) 50-30-20 d) 30-20-50	01M
6	Which of following is not Unified Modeling Language a) Profile Diagram b) Data Flow Diagram c) Communication Diagram d) Interaction overview diagram	01 M
7	Which one of the following is TRUE? a) The requirements document also describe how the requirements listed in document are implemented efficiently b) Consistency and completeness of functional requirements are always achieved in practice c) Prototyping is a method of requirement validation d) Requirement review is carried out to find the errors in system design	01 M
8	In the context of modular software design, which one of the following combinations is desirable? a) High Cohesion and High Coupling b) High Cohesion and Low Coupling c) Low Coupling and High Cohesion d) Low Cohesion and Low Coupling	01M
9	While estimating the cost of software, Lines of Code (LOC) and Function Points (FP) are used to measure which one of the following? a) Length of code b) Size of software c) Functionality of software d) Efficiency of software	01 M
Q1 (B)	Attempt any FIVE questions out of the following (any 5 out of 7)	10 M
1	Illustrate different ways of product and process cost estimation	
2	Explain significance of COCOMO Model	
3	List different types of risk	
4	What is meant by unit testing	
5	Explain briefly various approaches of Integration Testing	
6	Explain FTR	
7	List different types of maintenance	

Q. 2	<p>Attempt any two :</p> <p>a) What do you understand by Verification & Validation with reference to software testing? Explain</p> <p>b) Why is it suggested to develop a system which has strong cohesion but weak coupling of components?</p> <p>c) Compare Booch, Rumbaugh and Jacobson methodologies for development of object-oriented software.</p>	10 M
Q. 3	<p>You are appointed by a Government authority to develop a software for keeping track of various types of vaccination done. Multiple types of vaccine can be administered depending upon the recipient. The reports could be generated classifying as a child or adult, any age group or gender, type of vaccine etc.</p> <p>Write clearly the assumptions & constraints of software and draw Class Diagram or Activity diagram.</p>	10 M
Q. 4	<p>Attempt any one :</p> <p>a) The triangle problem accepts three integers (a, b and c) as its input, each of which are taken to be sides of a triangle. The values of these inputs are used to determine the type of the triangle (Equilateral, Isosceles, Scalene or not a triangle). Using BVA write test cases which satisfy following conditions. For triangle sides, one side range is [1, 200] while for other two sides range is [1,100].</p> <p>b) What are the quality guidelines for designing software? Explain in the same in brief.</p>	10 M