



PRESIDENCY UNIVERSITY

BENGALURU

Roll No.																			
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End Term Examinations - December 2025

Date: 18 - 12- 2025

Time: 09.30am to 12.30pm

School: SOIS	Program: BCA/ BCA DS/ BCA AIML		
Course Code: CSA1202	Course Name: Software Engineering		
Semester: III	Max Marks: 100	Weightage: 50%	

CO - Levels	C01	C02	C03	C04	C05
Marks	24	24	26	26	-

Instructions:

- (i) Read all questions carefully and answer accordingly.
- (ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks.

10Q x 2M=20M

1.	List myths associated with Software Engineering.	2 Marks	L1	C01
2.	Explain user story in Agile methodology.	2 Marks	L2	C01
3.	List any two functional requirements of Online food delivery system.	2 Marks	L1	C02
4.	List the characteristics of a Software Requirement Specification.	2 Marks	L1	C02
5.	Discuss different Test Strategies for conventional Software.	2 Marks	L2	C03
6.	Differentiate between manual and automated testing.	2 Marks	L2	C03
7.	Mention any two techniques used in black box testing.	2 Marks	L1	C03
8.	Discuss reverse engineering.	2 Marks	L2	C04
9.	Discuss the main goals of CMMI model	2 Marks	L2	C04
10.	A university's student portal is being upgraded to include an online exam module for remote assessments. Mention two potential risks associated with this update.	2 Marks	L2	C04

Part B

Answer the Questions.

Total Marks 80M

11.	a.	<p>The first version allows users to track their daily steps and calorie intake. Future updates will include features like workout recommendations, sleep tracking, and AI-based health insights.</p> <ol style="list-style-type: none"> 1. Which software process model would be most appropriate for this approach? 2. Explain how this model enables adaptive and incremental development. 	10 Marks	L3	CO1
	b.	Explain Scrum roles, responsibilities and activities in Agile Methodology.	10 Marks	L2	CO1
Or					
12.	a.	Choose an appropriate SDLC model for a large, complex project which requires risk management and frequent releases. Give reasons for your choice.	10 Marks	L3	CO1
	b.	Describe the ethical responsibilities of software engineers when working with sensitive user data. How can they make sure that privacy and security are maintained during development?	10 Marks	L2	CO1
13.	a.	Discuss the role of encapsulation and abstraction in software design. How do these principles enhance the reliability, reusability, and ease of maintenance in large-scale software systems? Support your answer with suitable examples.	10 Marks	L2	CO2
	b.	<p>Consider an Online Examination System where students can register for exams, take tests, and view their results online. Teachers can create question papers, evaluate answers, and upload results. The admin manages user accounts, exam schedules, and overall system maintenance.</p> <p>(i) Draw a use case diagram for the Online Examination System. (ii) Identify two actors and describe their key use cases.</p>	10 Marks	L3	CO2
Or					
14.	a.	Explain the various stages of the Requirements Engineering Process in Software Engineering.	10 Marks	L2	CO2
	b.	As a project manager, create a Software Requirements Specification (SRS) document for an online travel booking system. The system should manage user registrations, flight and hotel bookings, itinerary generation, payment processing, and booking history management.	10 Marks	L3	CO2

15.	a.	A password input field must accept passwords that are between 6 and 12 characters long (inclusive). Write test cases using Boundary Value Analysis to validate this field.	10 Marks	L3	CO3
	b.	Explain the major elements of a Software Quality Assurance framework.	10 Marks	L2	CO3
Or					
16.	a.	<pre> begin int x, y; input(x); if(x < 100) if(x % 2 == 0) y = x * 2; else y = x + 10; else y = 0; output(y); end </pre> <p>a. Draw the CFG for the given code. b. Calculate cyclomatic complexity c. Find the independent paths d. Write the Test cases.</p>	10 Marks	L3	CO3
	b.	Discuss the main activities involved in the Software Configuration Management (SCM) process	10 Marks	L2	CO3
17.	a.	Explain the different phases of maintenance in the context of software Engineering. How do these phases contribute to the overall efficiency of the system?	10 Marks	L2	CO4
	b.	Describe all five levels of the Capability Maturity Model (CMM). Discuss how organizations improve their software processes as they move from one level to the next.	10 Marks	L2	CO4
Or					
18.	a.	Explain various methods used for software cost estimation.	10 Marks	L2	CO4
	b.	Explain the COCOMO (Constructive Cost Model) in detail. Describe its different types and how they are used to estimate effort and cost in software projects. Support your answer with suitable equations and examples.	10 Marks	L2	CO4