Roll No: | | | | | | | | | | | |

PRESIDENCY UNIVERSITY

GAIN MORE KNOWLEDGE
REACH GREATER HEIGHTS

Presidency University Act, 2013 of the Karnataka Act No. 41 of 2013 | Established under Section 2(f) of UGC Act, 1956
Approved by AICTE, New Delhi | Approved By BCI
Bengaluru

Mid Term Examinations - October 2026

Date: 05/10/2026 **Time:** 09:30 AM - 11:00 AM

Course Code: ISE2500 **Course Name:** Software Testing and Quality Assurance

Semester: Fifth Semester **Max. Marks:** 50 **Weightage:** 50%

CO - Levels	CO1	CO2
Marks	66	24

PART A: Answer Following Questions. 10 M

Q.N.	Questions	M	CO	BT
1	Define software testing. State its primary objective.	2	CO1	BT1
2	What is Alpha Testing, and how does it differ from Beta Testing?	2	CO1	BT2
3	A course registration field accepts age . List the valid and invalid equivalence classes using ECP. Specify the exact boundary test values using BVA.	2	CO1	BT3
4	Define a Control Flow Graph (CFG). What do the nodes and directed edges represent in a program's CFG?	2	CO2	BT1
5	How does Smoke Testing differ from Sanity Testing?	2	CO2	BT2

PART B : Answer Any 1 Following Questions. 10 M

Q.N.	Questions	M	CO	BT
6	Illustrate the Defect Life Cycle with a neat state transition diagram. Describe the role of each state from New to Closed.	10	CO1	BT2
7	State and explain the Seven Principles of Software Testing with suitable examples.	10	CO1	BT2

PART C: Answer Any 1 Following Questions. 10 M

Q.N.	Questions	M	CO	BT
8	Compare Black-box and White-box testing in detail.	10	CO1	BT2
9	Explain the Top-Down and Bottom-Up integration approaches with the role of stubs and drivers.	10	CO1	BT1

PART D: Answer Any 1 Following Questions. 10 M

Q.N.	Questions	M	CO	BT

10	A shipping module defines input parameter: shipping package weight from >0 kg to 25 kg. i. State the valid input interval along with its explicit lower and upper boundary limits. ii. Design the 2-point Boundary Value Analysis (BVA) test set, identifying each test point as valid or invalid. iii. Design the 3-point Boundary Value Analysis (BVA) test set, specifying values at, just inside, and just outside the boundaries. iv. Tabulate the expected system outcomes (Accept/Reject) for all derived test points. v. Identify and explain the specific off-by-one errors or relational operator mistakes	10	CO1	BT3
11	Create a State Transition Diagram for the following authentication system and derive suitable test cases from it: An authentication system allows a user a maximum of three login attempts. If the credentials are correct, the user is logged in. If the credentials are incorrect, the user is allowed another attempt. After three consecutive incorrect attempts, the account is blocked.	10	CO1	BT3

PART E: Answer Any 1 Following Questions. 10 M				
Q.N.	**Questions**	**M**	**CO**	**BT**
12	Define Code Coverage in white-box testing. Explain the four major code coverage metrics, clearly stating what each metric evaluates and its corresponding mathematical formula.	10	CO2	BT2

13	Given the following pseudo-code:
	Read A, B, C
	If (A > 10) then
	If (B > C) then
	A = B
	Else
	A = C
	End If
	End If
	Print A, B, C
	i. Draw the corresponding Control Flow Graph (CFG).
	ii. Calculate the Cyclomatic Complexity using three distinct methods.
	iii. Enumerate all linearly independent paths and determine the test inputs required to traverse each path.
		10	CO2	BT3