Code No.: CS743PE | R20 | H.T.No. | | | 8 | R | | | | | |

CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
IV–B.TECH–I–Semester End Examinations (Regular) - November- 2023
SOFTWARE TESTING METHODOLOGIES
(CSE)

[Time: 3 Hours] **[Max. Marks: 70]**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 20 marks. Answer all questions in Part A.
Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART-A **(20 Marks)**

1. a)	Define Testing and Debugging.	[2M]
b)	Define path testing.	[2M]
c)	What is ugly domain?	[2M]
d)	What is interface testing?	[2M]
e)	Define path, path product and path sum.	[2M]
f)	Define dataflow anomalies.	[2M]
g)	Explain state-transition table with example.	[2M]
h)	Define State graph.	[2M]
i)	Write short notes on Jmeter.	[2M]
j)	Define the matrix of a graph.	[2M]

PART-B **(50 Marks)**

2. a)	Explain the model for testing.	[5M]
b)	Explain the basic concepts of path testing.	[5M]
	OR	
3. a)	Write short notes on predicates, path predicates and achievable paths.	[6M]
b)	Explain Path sensitizing and path instrumentation.	[4M]
4. a)	What are the transaction flows? Explain their complications.	[5M]
b)	Discuss the following strategies of data flow testing with suitable examples i) All-predicate-uses (APU) strategy. ii) All-computational (ACU) strategy.	[5M]
	OR	
5. a)	What is meant by Data-flow testing? Compare the path flow and data-flow testing strategies.	[5M]
b)	What is meant by a Nice domain? Give an example for Nice two-dimensional domains.	[5M]
6.	Explain the reduction procedure along with example.	[10M]
	OR	
7. a)	Discuss about decision tables and structure with example.	[5M]
b)	Write motivational overview of logic-based testing.	[5M]
8. a)	What are principles of state testing? Explain its advantages and disadvantages.	[5M]
b)	What are some situations in which state testing may prove useful? Explain.	[5M]
	OR	
9.	Explain good state and bad state graphs.	[10M]

10. Write about Graph matrices and its applications. [10M]

OR

11. Write short notes on [10M]
    a) Power of a matrix.
    b) Relations.

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