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

CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
IV–B.TECH–I–Semester End Examinations (Supply) – April – 2025
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)	Explain the following concepts (i) Predicate Expression (ii) Predicate Coverage.	[2M]
	b)	Differentiate between flowchart and control flow graph.	[2M]
	c)	Define path selection and illustrate path sensitization.	[2M]
	d)	Describe different complications in transaction flows.	[2M]
	e)	Define Path testing with an example.	[2M]
	f)	Explain the methods of regular expressions and flow anomaly detection.	[2M]
	g)	Recall the term graph. Explain about state Graphs.	[2M]
	h)	Explain State transition in testing.	[2M]
	i)	Define graph matrix.	[2M]
	j)	How can a node reduction optimization be done?	[2M]

PART-B **(50 Marks)**

2. Discuss about requirements, features and functionality of bugs. [10M]

OR

3. Explain white-box testing and behavioral testing in briefly and their significance in testing. [10M]

4. What is meant by transaction flow testing? Discuss its significance. [10M]

OR

5. What are data - flow anomalies? How data flow testing can explore them? [10M]

6. Explain Regular Expressions and Flow Anomaly detection. [10M]

OR

7. Discuss in brief about applications of paths. [10M]

8. The behavior of a finite state machine is invariant under all encodings. Justify. [10M]

OR

9. Write short notes on: [10M]
   i. Transition Bugs.
   ii. Dead States.
   iii. State Bugs.
   iv. Encoding Bugs.

10. What are the matrix operations in tool building? [10M]

OR

11. Write about equivalence relation and partial ordering relation. [10M]

****