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KAMALA INSTITUTE OF TECHNOLOGY & SCIENCE, SINGAPUR
23AM28PE621

III.B. Tech. II. Semester Regular Examinations, April/May- 2026
SOFTWARE TESTING METHODOLOGIES
(AIML)

Time: 3 Hours

Max. Marks: 60

Note: Question paper consists of Part-A & Part-B.

i) **Part-A** for 10M, ii) **Part-B** for 50marks

- Part A** is compulsory, consisting of 10 sub questions from all units carrying equal marks.
- Part-B** consists of **10 questions** (numbered from 2 to 11) carrying **10marks** each. From each unit there are 2 questions and the students should answer one of them. Hence the student should answer **5 questions** from **Part-B**.

PART-A (10Marks)			
Q. No	Questions	Marks	BTL
1.a)	What is software testing?	1M	1
1.b)	Define Bug.	1M	1
1.c)	What is domain testing?	1M	1
1.d)	What is the significance of data flow testing?	1M	1
1.e)	What is regular expression?	1M	1
1.f)	What are identity elements rules?	1M	1
1.g)	What is good state graph?	1M	1
1.h)	Define dead state.	1M	1
1.i)	Define a connection matrix.	1M	1
1.j)	List the applications of graph matrices.	1M	1
PART-B (50Marks)			
Q.No	Questions	Marks	BTL
2. a)	Differentiate between testing and debugging.	5M	4
b)	Explain about a model for testing with a neat diagram.	5M	4
OR			
3. a)	What is path testing? Explain about path instrumentation.	5M	3
b)	Discuss about predicates, path predicates and achievable paths.	5M	4
OR			
4. a)	What are dataflow testing strategies? Explain.	5M	2
b)	Explain about inspections, reviews, walkthroughs in transaction-flow testing	5M	2
OR			
5. a)	Compare Nice Vs Ugly domains.	5M	4
b)	Explain strategies for data flow testing	5M	4
6. a)	What is reduction theorem and explain its applications.	5M	4

b)	Define path product, path expression and path sum. Give examples for these.	5M	3
OR			
7. a)	Discuss about decision tables and structures with an example.	5M	3
b)	Reduce $f(A,B,C,D)=\sum(0,1,2,4,5,6,8,9,12,13,14)$ using kv charts	5M	3
8. a)	What are principles of state testing? Explain its advantages and disadvantages.	5M	3
b)	Differentiate between good state graphs and bad state graphs.	5M	4
OR			
9. a)	Discuss about software implementation of state graph	5M	3
b)	Discuss about transition bugs in state graphs with suitable example.	5M	4
10.a)	Write an algorithm for node reduction using matrix operations and explain.	5M	3
b)	Give a note on power of matrix in detail.	5M	4
OR			
11.a)	Explain Properties of relations.	5M	2
b)	Explain Partitioning algorithm with example.	5M	3

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