Code No.: AI621PE | R20 | H.T.No. | | | 8 | R | | | | | |

CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
III–B.TECH–II–Semester End Examinations (Regular) - May- 2023
SOFTWARE TESTING METHODOLOGIES
(CSM)

[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)	What is software testing and write its purpose.	[2M]
b)	What are feature bugs?	[2M]
c)	Compare data flow Vs Transaction flow.	[2M]
d)	What is Petri net?	[2M]
e)	Discuss about domain dimensionality.	[2M]
f)	Write about linear vector space.	[2M]
g)	Define cross and parallel term in path testing.	[2M]
h)	Define silicon compilers.	[2M]
i)	Describe encoding bugs and give examples.	[2M]
j)	Distinguish between manual testing and automated testing.	[2M]

PART-B **(50 Marks)**

2.a)	Explain about life cycle of Bug.	[5M]
b)	What are control and sequence bugs? How they can be caught?	[5M]
	OR	
3.a)	What are structural bugs? Explain.	[5M]
b)	Describe notational evolution of control flow graph with example.	[5M]
4.a)	Explain transaction-flow graph implementation with example.	[5M]
b)	What is the structural test strategies based on the program's control flow graph and explain it?	[5M]
	OR	
5.a)	What is program slicing? Explain Dynamic program slicing.	[5M]
b)	Explain different data object states in data flow graphs.	[5M]
6.a)	Explain various bugs encountered at systematic and domain boundaries.	[5M]
b)	Explain predicates of domain testing with examples.	[5M]
	OR	
7.	Define domain testing. Explain about nice domains in detail.	[10M]
8.a)	What is KV-Chart? Draw KV-chart for 4 variables.	[5M]
b)	Describe push/pop and get/return models in path testing.	[5M]
	OR	
9.a)	Write rules of Boolean algebra.	[5M]
b)	Write the procedure for specification validation.	[5M]
10.a)	Elaborate node reduction algorithm with an example.	[5M]
b)	Write the guidelines to design state machines.	[5M]
	OR	
11.a)	Explain software implementation of state graphs.	[5M]
b)	Discuss about matrix representation software.	[5M]

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