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SOMAIYA VIDYAVIHAR UNIVERSITY

29-11-2023 (E)

Semester: August 2023 – December 2023		
Maximum Marks: 100 **Examination: ESE Examination**		**Duration:3 Hrs.**
Programme code:01 **Programme: UG**	**Class:** TY	**Semester:_V_(SVU 2020)**
Name of the Constituent College: **K. J. Somaiya College of Engineering**	**Name of the department: Computers**	
Course Code: 116U01C501	**Name of the Course: Software Engineering**	
Instructions: 1)Draw neat diagrams 2) All questions are compulsory **3) Assume suitable data wherever necessary**		

Que. No.	Question	Max. Marks
Q1	Solve any **Four**	**20**
i)	Distinguish between RAD and Waterfall Model	5
ii)	List different types of Agile Process Models	5
iii)	State advantages and disadvantages of Spiral Model	5
iv)	Describe EVA in brief.	5
v)	State various SDLC phases.	5
vi)	List types of risks.	5

Que. No.	Question	Max. Marks
Q2 A	Solve the following	**10**
i)	Describe different techniques for requirement elicitation.	5
ii)	State and explain any 5 non-functional requirements.	5
	OR	
Q2 A	Draw a state chart diagram to graphically represent the following system: Consider a bulb with a push down switch. The bulb initially remains off. When the switch is pushed down, the bulb is on. Again when the switch is pushed up, the bulb turns off. The lifecycle of the bulb continues in this way until it gets damaged.	10
Q 2 B	Solve any **One**	**10**
i)	Explain the following relationships of use case diagram with an example: a) Association between actor and use case b) Generalization of an actor c) Extend between two use cases d) Include between two use cases e) Generalization of a use case	10
ii)	Draw sequence diagram for login procedure of a system. Include all possible scenarios and also draw activity diagram.	10

Que. No.	Question	Max. Marks
Q3	Solve any **Two**	**20**

i)	Determine Cyclomatic complexity by all the 3 methods for the following code, also draw the flow graph for the same.
	if (month == 1)
	{
	if (day == 1)
	{
	print('HAPPY NEW YEAR');
	}
	else
	{
	print('HAVE A NICE DAY');
	}
	}
	print('END');
		10

ii)	Explain Pattern-Based Software Design.	10
iii)	State and explain any 5 design concepts in detail	10

Que. No.	Question	Max. Marks
Q4	Solve any **Two**	**20**
i)	How to map following associations to code? a) Realization of unidirectional one to one association b) Bidirectional one to one association	10
ii)	Explain Risk Planning and Control in detail.	10
iii)	Design test case with 5 variations using BVA technique for the following problem definition. The testing of Date field will be done with the given specifications: 1<= mm<= 12 1<= dd <= 31 2009<= yyyy <= 2099	10

Que. No.	Question	Max. Marks
Q5	Write notes on any **four**	**20**
i)	Software Maintenance	5
ii)	Object Oriented Testing Strategies	5
iii)	Formal Technical Review	5
iv)	Open Source Model.	5
v)	Cyclomatic Complexity	5
vi)	Extreme Programming	5