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Code No. : 14646

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS), HYDERABAD*Accredited by NAAC with A++ Grade***B.E. (I.T.) IV-Semester Main Examinations, July-2022****Software Engineering**

Time: 3 hours

Max. Marks: 60

*Note: Answer all questions from Part-A and any FIVE from Part-B***Part-A (10 × 2 = 20 Marks)**

Q. No.	Stem of the question	M	L	CO	PO
1.	Define Software Engineering.	2	1	1	1
2.	What are the Umbrella activities in a Process Framework?	2	1	1	1
3.	Give any two examples of Non-functional requirements?	2	1	2	1
4.	“Software requirements specification formally captures the requirements of the software to be developed. Hence it is important that requirements are free from defects like incorrect or conflicting requirements”. Justify the above statement.	2	3	2	2
5.	What is the purpose of an architecture?	2	1	3	1
6.	“Several un-related functionalities/tasks are carried out by a single module” Which Design Principle has been violated in the above scenario?	2	3	3	2
7.	State the goals of Testing.	2	1	4	1
8.	“A university uses its web-based portal for publishing the results of the students. When the results of an examination were announced on the website recently on a pre-planned date, the web site crashed”. Which type of performance testing should have been done during web-site development to avoid this unpleasant situation?	2	1	4	2
9.	Why do we need metrics?	2	1	5	1
10.	List out the metrics for design.	2	1	5	1
Part-B (5 × 8 = 40 Marks)					
11. a)	Describe the Generic Process Framework in detail.	4	2	1	1
b)	How does Spiral model overcome the disadvantages of the Waterfall Model?	4	3	1	1
12. a)	What are the characteristics of a good SRS document? Analyze the impact of a good SRS in Software development process.	4	3	2	1
b)	Draw the Usecase diagram for an online shopping system. Write down the specifications of each Actor and Usecase.	4	4	2	3

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13. a)	For a general Retail shop application, identify the relationships between a) Customer and Regular Customer b) Item and Apparels c) Customer and Address d) PurchaseBill and Line Item e) Tax and PurchaseBill f) Retail Outlet and Item	4	4	3	3
b)	Explain briefly the Component based Development.	4	2	3	1
14. a)	Differentiate between Blackbox testing and Whitebox testing methods.	4	2	4	1
b)	Design the test cases for a simple calculator application.	4	4	4	3
15. a)	Discuss the need of Requirements metrics. List the various requirement metrics and their uses.	4	2	5	1
b)	Differentiate between Proactive and Reactive Risk strategies.	4	2	5	1
16. a)	What are the advantages of Agile process Models. Describe Scrum model in detail.	4	2	1	1
b)	Identify and List the functional and non- functional requirements for an Online Banking System. Also arrange them in the order of decreasing priority.	4	4	2	2
17.	Answer any <i>two</i> of the following:				
a)	A security light system has a switch and a motion sensor attached. It can be either armed or unarmed. If the switch is in the off position the light is off and the system is unarmed. When the switch is turned on, the light stays off but the system is armed. If the system is armed and the motion sensor detects movement, the light comes on. If no movement is detected for 5 seconds, the light goes off. Draw the UML-State Chart diagram describing the states of security light system.	4	4	3	3
b)	List elements of SQA and state the purpose of each of the element.	4	2	4	1
c)	Explain RMMM plan.	4	2	5	1

M : Marks; L: Bloom's Taxonomy Level; CO; Course Outcome; PO: Programme Outcome

i)	Blooms Taxonomy Level – 1	20%
ii)	Blooms Taxonomy Level – 2	40%
iii)	Blooms Taxonomy Level – 3 & 4	40%
