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Code No. : 16212

VASAVI COLLEGE OF ENGINEERING (Autonomous), HYDERABAD**B.E. (C.S.E: CBCS) VI-Semester Main Examinations, January-2021****Software Engineering**

Time: 2 hours

Max. Marks: 60

*Note: Answer any NINE questions in Part-A and any THREE from Part-B***Part-A (9 × 2 = 18 Marks)**

Q. No.	Stem of the question	M	L	CO	PO
1.	What are the characteristics of a software?	2	2	1	1,2
2.	Define the terms: product and process.	2	2	1	1,2
3.	How does functional requirements differ from non-functional requirements?	2	3	2	1,2
4.	What is meant by cohesion and coupling?	2	2	2	1,3
5.	What are the principles of modeling?	2	2	3	1,3
6.	How is a class differ from an interface?	2	3	3	1,3
7.	Draw the use case diagram for student management system	2	3	4	1,2
8.	Mention the advantages of rendering Interaction diagrams.	2	2	4	1,2
9.	How testing differs from debugging?	2	3	5	1,3
10.	Why do we need validation testing?	2	2	5	1,3
11.	What do you mean by determinate software?	2	2	1	1,2
12.	Write any three user requirements and system requirements for an automated course registration system.	2	3	2	1,2
Part-B (3 × 14 = 42 Marks)					
13. a)	Distinguish between personal process model and team process model.	4	2	1	1,2
b)	What type of changes are made to legacy systems if it exhibits poor quality? Answer with justification.	4	3	1	1,2
c)	Describe the scrum process model in your own words.	6	2	1	1,2
14. a)	Draw a distinction between a requirements definition and a requirements specification and describe various phases in requirements engineering process.	7	3	2	1,2
b)	How to manage and plan a project? Discuss project management in brief.	7	2	2	1,2

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15. a)	State the properties and common characteristics of a well-structured class diagram.	6	2	3	1,2
b)	Depict a class diagram for an online transaction management system and justify your answer for various entities included in the diagram.	8	3	3	1,2
16. a)	Enumerate the steps to model the work flow in an activity diagram.	5	3	4	1,2
b)	Describe the contents, characteristics and common modeling techniques of a state-chart diagram in UML.	9	2	4	1,2
17. a)	What is Black-Box testing? How is it different from White-Box testing?	3	2	5	1,2
b)	What the test strategies are for object oriented software?	5	2	5	1,2
c)	Explain the metrics used for software design model.	6	2	5	1,3
18. a)	“Software system requirements may be derived or constrained by social and organizational context”, Justify the answer.	8	3	1	1,3
b)	Discuss the advantages and disadvantages of water-fall process model.	6	2	2	1,3
19.	Answer any <i>two</i> of the following:				
a)	How to render various relationships in UML? Give examples for each.	7	2	3	1,3
b)	Draw a use case diagram that depicts the context of a credit card validation system and justify your answer.	7	3	4	1,2
c)	Explain the strategic approach to software testing in brief.	7	2	5	1,3

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

S. No.	Criteria for questions	Percentage
1	Fundamental knowledge (Level-1 & 2)	60
2	Knowledge on application and analysis (Level-3 & 4)	40
3	*Critical thinking and ability to design (Level-5 & 6) (*wherever applicable, subject to a maximum of 10%)	--
