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RV COLLEGE OF ENGINEERING®

(An Autonomous Institution affiliated to VTU)

V Semester B. E. Examinations March / April-2023

Computer Science and Engineering

SOFTWARE ENGINEERING

Time: 03 Hours ***Maximum Marks: 100***

Instructions to candidates:

1. Answer all questions from Part A. Part A questions should be answered in first three pages of the answer book only.
2. Answer FIVE full questions from Part B. In Part B question number 2, 7 and 8 are compulsory. Answer any one full question from 3 and 4 & one full question from 5 and 6

PART-A

1	1.1	_____ establishes the basis for agreement between the client and the supplier on what the software product will do.	01
	1.2	Study of the existing system is referred as _____.	01
	1.3	What does the directed arc or line signify?	01
	1.4	List the parameters which are used in estimating the software cost.	02
	1.5	_____ risks threaten the quality and timeliness of the produced software.	01
	1.6	The agile software development model is built based on _____ and _____ developments.	02
	1.7	On what basis is plan-driven development different from that of the software development process?	02
	1.8	The _____ model helps in representing the system's dynamic behavior.	02
	1.9	An erroneous system state that results in an unexpected system behavior is acknowledged as _____.	02
	1.10	Process decomposition is applied in the _____ phase of software engineering.	02
	1.11	_____ is the test the software product is able to communicate with other components or devices without any compatibility issues.	02
	1.12	In *UML*, the two types of interaction diagrams are _____ and _____ diagrams.	02

PART-B

2	a	Discuss the various process models used in software engineering. Also discuss advantages of prototyping model over waterfall model.	08
	b	Illustrate Rational Unified Process (*RUP*) employed in software engineering with a neat sketch. Also discuss how it is going to benefit in implementing agile features.	08
3	a	Name the two popular rapid software development methods. Discuss in detail the process involved in each.	08

	b	Illustrate the following system modeling processes with suitable examples: i) Context model ii) Behavioral model iii) Data model iv) Object model.	08
		OR	
4	a	"Cohesion and coupling are two modularization criteria". Justify the statement.	08
	b	Identify different types of cohesion levels employed in the design of software and give their salient features.	08
5	a	Design collaboration diagram for withdrawal from an ATM example with necessary assumptions.	08
	b	Draw sequence diagram for an ATM example (withdrawal from an ATM system) and discuss how it contributes to effective UML design.	08
		OR	
6	a	With necessary schematics, illustrate object oriented design process with 4 layers.	08
	b	Discuss the various performance metrics used in object oriented design process in detail.	08
7	a	Compare verification and validation process in software engineering giving atleast 8 differences with relevant examples.	04
	b	Compare system testing and component testing process in detail with examples.	08
	c	Compare black box testing and white box testing.	04
8	a	Indicate with necessary examples, the risk identification parameters used in software engineering with risk management processes.	08
	b	Justify "agile method is far better than the traditional approaches in software engineering".	08