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RV COLLEGE OF ENGINEERING®

(An Autonomous Institution affiliated to VTU)

V Semester B. E. Examinations Jan/Feb-21

Common for IS / CS

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	What are the key challenges facing software engineering?	02
	1.2	Finding and fixing program defects is called _____.	01
	1.3	Define CASE.	01
	1.4	Write any two advantages of Incremental delivery model.	02
	1.5	List any four metrics for specifying non-functional requirements.	02
	1.6	_____ diagrams show the interactions between a system and its environment.	01
	1.7	What are the benefits of designing and documenting software architecture?	01
	1.8	Draw the system context diagram for the weather station in a weather mapping system.	02
	1.9	Write the primary goal of the release testing process.	01
	1.10	Define Refactoring.	01
	1.11	"Dependability is the most important property of a critical system". Give reasons.	02
	1.12	Name three metrics used to specify reliability and availability.	02
	1.13	Identify four critical factors that influence the relationship between a manager and the people in a software industry.	02

PART-B

2	a	List and explain the IEEE standard code of ethics and professional practice for software engineer.	06
	b	Illustrate how both waterfall model and the prototyping model can be accommodated in the Incremental delivery model of the software process.	06
	c	With neat diagram, explain the Scrum process.	04
3	a	Suggest who might be stakeholders in a Hospitality management system. Explain why it is almost inevitable that the requirements of different stakeholders will conflict in some way.	08
	b	The department of Public works for a large city has decided to develop a web-based Pothole Tracking and Repair system (PTRS). Assume suitable places, persons and attributes involved in PTRS. Draw a UML Use Case diagram for PTRS. Also develop an activity diagram for any one aspect of PTRS.	08

		OR	
4	a	Suggest various functional and non-functional requirements for a Digital Advertisement Agency.	06
	b	With a suitable example, describe pipe and filter architecture.	06
	c	With a neat diagram, explain the process model of equipment procurement process in an organization.	04
5	a	Explain various implementation issues important to software engineering in detail.	08
	b	What is meant by software reengineering? Identify the important advantages of reengineering over replacement. Also explain the reengineering process with a neat diagram.	08
		OR	
6	a	With a neat diagram, explain the acceptance testing process.	06
	b	Identify and write any 10 object classes for university management system.	05
	c	Design a general model of the software evolution process. Briefly describe the attributes involved in software evolution.	05
7	a	Write the sociotechnical systems stack. Explain various layers involved in the sociotechnical systems stack.	06
	b	Identify the four stages in the statistical testing for reliability measurement. Also explain the principal difficulties faced during reliability measurement.	06
	c	Summarize basic elements of a component model.	04
8	a	Draw and explain a UML activity diagram or a typical workflow for project planning process.	06
	b	Briefly explain any two COCOMO cost models.	06
	c	Recommend various strategies to help manage risks.	04