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RV COLLEGE OF ENGINEERING®

(An Autonomous Institution affiliated to VTU)

V Semester B. E. Examinations Nov/Dec-19

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	List the key challenges faced in software engineering.	01
	1.2	Give any two essential attributes of good software.	01
	1.3	When requirements are written in natural language gives rise to ambiguity, justify.	02
	1.4	List any two challenges in software maintenance.	01
	1.5	List any two fundamental characteristics of rapid software development.	01
	1.6	Write the principle of Agile method.	02
	1.7	What are the advantages of explicitly designing and documenting a software architecture?	01
	1.8	Write any two disadvantages of shared repository.	01
	1.9	Differentiate between static and dynamic inspection process.	01
	1.10	List any two types of interface errors.	02
	1.11	List the dimensions of dependability in critical systems.	02
	1.12	Mention the different types of productivity measures.	01
	1.13	Give the factors influencing the group working.	02
	1.14	Who is responsible for sprint meeting?	01
	1.15	Which metric provides a quantitative measure of the logical complexity of a program?	01

PART-B

2	a	Discuss the waterfall model for software development. What are the draw backs of this model?	04
	b	What are *CASE* tools? Give any two specific activities that can be automated using *CASE* tools.	04
	c	With suitable notations, draw a *DFD* for an order processing system.	04
	d	Explain. Why it is difficult to produce a complete and consistent set of requirements?	04
3	a	Describe the various activities in risk management.	05
	b	Explain how project scheduling and tracking are done for a software development project?	05
	c	Explain in detail the basic form of *COCOMO* model.	06

		OR	
4	a	Explain in detail the different approaches for software project estimation.	05
	b	Define software project planning. Discuss the objectives of software project planning.	05
	c	Explain the following in detail: i) Project monitoring ii) Project evolution.	06
5	a	Briefly explain the various design concepts.	05
	b	What is cohesion? How to classify cohesion into different types? Explain the communication cohesion.	05
	c	Based on your experience with a bank ATM, draw a sequence and collaboration diagram which shows the cash withdrawal operation from the machine.	06
		OR	
6	a	What is object oriented design? Explain in detail which shows four important software design concepts and four layers of object oriented design.	04
	b	Describe four metrics for quantifying complexity of an object oriented design.	04
	c	Explain some of the good programming practices which make code is easier to read as well as avoid some of the errors.	04
	d	Explain the following processes that developer uses for incrementally developing code: i) An incrementally coding process ii) Test driven code development.	04
7	a	With a neat diagram explain the program inspection process.	04
	b	Explain the different phases of system testing.	04
	c	With a neat diagram explain clean room software development process and its $FIVE$ key strategies.	08
8	a	Briefly explain the principles of Agile methods.	04
	b	With a neat block diagram explain the release cycle of extreme programming.	04
	c	Write a note on pair programming.	04
	d	Explain the process of software prototyping with a neat block diagram.	04