Internal Assessment Question Paper – 2

Ramaiah Institute of Technology
(Autonomous Institute, Affiliated to VTU)
Department of CSE

		Date:15/7/2021
Programme: B.E		**Term:** Feb-May 2021
Course: Software Engineering		**Course Code:** CS46
CIE:II	**Sem:** IV	**Section:** A,B&C
Max Marks: 30	**Time:** 1Hr	**Portions for Test:**Unit 3,4 and 5

Instructions to Candidates:
1. Question 1 is Compulsory and answersany one from Q2 and Q3. Each Question carries 15M.
2. You must write the answer on paper using good quality pen. Please retain your written sheets/paper that should be submitted once you come to college.
3. To avoid that any of your solutions get lost, make sure to write your name and USN on eachsheet of paper that you submit in order.
4. Write clearly. Answers that are illegible cannot be counted as correct answers. Read carefullybefore you answer and observe instructions carefully!

Sl#	Question	Marks	Bloom's Level	CO Mapping
1	a) Explain the Software Reengineering Process Model that defines six activities.	5	L2	CO3
	b) Read the following statement of requirements: An automated ticket-issuing system sells rail tickets. Users select their destination and input a credit card and a personal identification number. The rail ticket is issued and their credit card account charged. When the user presses the start button, a menu display of potential destinations is activated, along with a message to the user to select a destination. Once a destination has been selected, users are requested to input their credit card. Its validity is checked and the user is then requested to input a personal identifier. When the credit transaction has been validated, the ticket is issued. i. Determine the suitable sub-systems. Using the appropriate architectural style, draw the architectural model that shows the organizational structure of the given system. ii. Give at least TWO reasons why do you choose the architectural style of your choice	5	L3	CO2 and CO5

	c) Discuss the cyclomatic complexity in Basis path testing for deriving tests cases. Draw a flowgraph for the following section of code. Hence compute the cyclomatic complexity for the code. Include all calculations.
	 int a =1, b=2, c;
	 if (a > b) c = 23;
	 else c = 25;
	 while (b < c)
	  b = b + 1;
		5	L4	CO4 and CO5

		System.print.outline("answer = " + b); return(0);			
2	a)	Discuss the different incremental integration strategies.	4	L2	CO4
	b)	Compare characteristics of LOC and FP estimation.	5	L3	CO3
	c)	List the design principles that allow the user to maintain control. Following is the Overall architectural structure for SafeHome with top-level components. Refine the SafeHome architecture for the security system. 	6	L4	CO2 and CO5
3	a)	Discus a set of characteristics that achieve the goal of finding the most errors with a minimum of effort. Compare Black-Box testing and White-Box testing.	5	L3	CO4
	b)	Explain the role of modularity and functional independence in the context of software design. Justify modularity is desirable.	5	L4	CO2
	c)	Compare risk components and risk drivers.	5	L3	CO3

Course Outcomes meant to be assessed by the IA Test1:

CO2: Understand the analysis and design methods using object-oriented techniques and UML modeling, focusing on web/mobile applications.

CO3: Decide all aspects of quality assurance, formal verification techniques, and software maintenance.

CO4: Compare the testing strategies required at each phase of software development for a particular case study.

CO5: Apply the concepts of software engineering principles on the real-world problems of software development using appropriate tools.