CBCS SCHEME

USN | | | | | | | | | | |

17CS45

Fourth Semester B.E. Degree Examination, July/August 2021
Software Engineering

Time: 3 hrs. Max. Marks: 100

Note: ***Answer any FIVE full questions.***

1 a. What are the essential attributes of good software? **(05 Marks)**
b. Discuss spiral model with its block diagram. **(08 Marks)**
c. With a diagram, explain the Rational Unified Process. **(07 Marks)**

2 a. Why the understanding of requirements from stake holder is difficult task? Explain the requirements elicitation and analysis process. **(10 Marks)**
b. Explain the IEEE standard structure of Software Requirement Document. **(05 Marks)**
c. Explain the different checks to be carried out during requirement validation process. **(05 Marks)**

3 a. With a neat diagram, explain the 2 approaches to interaction modeling. **(10 Marks)**
b. Explain class diagram and generalization. **(05 Marks)**
c. Explain data driven modeling with example. **(05 Marks)**

4 a. What are the things to be done for a design of Object Oriented System? Discuss how the objects are identified and design models. **(10 Marks)**
b. What is design pattern? Explain 4 elements of design pattern. **(05 Marks)**
c. Explain 3 general models of Open Source Licensing. **(05 Marks)**

5 a. Explain development testing, with 3 levels of granularity in testing. **(10 Marks)**
b. Explain the benefits of test driven development process. **(05 Marks)**
c. Explain the stages of acceptance testing process. **(05 Marks)**

6 a. List and explain Lehman's law. **(06 Marks)**
b. Explain the software reengineering process with suitable diagram. **(10 Marks)**
c. Explain the legacy system assessment with example. **(04 Marks)**

7 a. Draw the activity bar chart and staff allocation chart for the following set of tasks shown below.

Task	Duration (days)	Dependencies
T_1	10	–
T_2	15	–
T_3	15	$T_1(M_1)$
T_4	10	–
T_5	10	$T_2, T_4(M_3)$
T_6	5	$T_1, T_2(M_4)$
T_7	20	$T_1(M_1)$
T_8	25	$T_4(M_2)$
T_9	15	$T_3, T_6(M_5)$
T_{10}	15	$T_7, T_8(M_6)$
T_{11}	10	$T_9(M_7)$
T_{12}	10	$T_{10}, T_{11}(M_8)$

(10 Marks)

b. Explain the COCOMO – II estimation model. **(06 Marks)**

c. List and explain the factors affecting software pricing. **(04 Marks)**

8 a. Explain how reviews and inspections are used to check the quality of project delivery. **(10 Marks)**

b. List and mention the importance of product and process standards. **(06 Marks)**

c. Explain the process of product measurement. **(04 Marks)**

9 a. Explain the practices involved in the extreme programming. **(10 Marks)**

b. State the principles of agile methods. **(05 Marks)**

c. Write a note on pair programming. **(05 Marks)**

10 a. How the agile methods are scaled. How they cope with large systems engineering and the difficulties to introduce agile methods into large companies. **(10 Marks)**

b. Explain plan-driven and agile development approach for software development. **(05 Marks)**

c. Explain the scrum process. **(05 Marks)**

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