USN |_|_|_|_|_|_|_|_|_|_| **15CS42**

Fourth Semester B.E. Degree Examination, June/July 2018
Software Engineering

Time: 3 hrs.   Max. Marks: 80

Note: Answer any FIVE full questions, choosing one full question from each module.

Module-1

1   a. What are the essential attributes of good software? Explain the key challenger facing in software engineering. **(08 Marks)**

    b. Explain four steps in spiral model of requirements elicitation and analysis process. And why the understanding of requirements from stake holders is difficult task? Explain. **(08 Marks)**

OR

2   a. What is a software process model? Explain the types of software process models. **(05 Marks)**

    b. What is requirement specification? Explain various ways of writing system requirements. **(06 Marks)**

    c. Explain the different checks to be carried during requirement validation process. **(05 Marks)**

Module-2

3   a. Draw and explain use case modeling and sequence diagram for patient information system. **(10 Marks)**

    b. With a diagram, explain the phases in the Rational Unified Process (RUP). **(06 Marks)**

OR

4   a. Draw and explain state diagram of a microwave oven. **(07 Marks)**

    b. What is design pattern? Explain four essential elements of design pattern. **(05 Marks)**

    c. Explain the general models of open source licenses. **(04 Marks)**

Module-3

5   a. What is test driven development? With neat diagram, explain test driven development process. **(08 Marks)**

    b. With neat diagram, explain six stages of acceptance testing process. **(08 Marks)**

OR

6   a. With neat diagram, explain the software evolution process. **(05 Marks)**

    b. Explain three different types of software maintenance. **(03 Marks)**

    c. Draw a chart showing relative business value and system quality of legacy system management and explain four clusters of systems. **(08 Marks)**

Module-4

7 a. For the set of tasks shown below draw the project scheduling using,
   i)   Activity bar chart
   ii) Staff allocation chart   (10 Marks)

Task	Duration (Days)	Dependencies
T_1	10	-
T_2	15	-
T_3	15	T_1 (M1)
T_4	10	-
T_5	10	T_2, T_4 (M3)
T_6	5	T_1, T_2 (M4)
T_7	20	T_1 (M1)
T_8	25	T_4 (M2)
T_9	15	T_3, T_6 (M5)
T_{10}	15	T_7, T_8 (M6)
T_{11}	10	T_9 (M7)
T_{12}	10	T_{10}, T_{11} (M8)

   b. Explain briefly the algorithmic cost modeling and write the difficulties.   (06 Marks)

OR

8 a. Write any four product and process standards.   (04 Marks)
   b. Explain briefly the software review process.   (06 Marks)
   c. Explain briefly the process of product measurement.   (06 Marks)

Module-5

9 a. State and explain the principles of agile methods.   (05 Marks)
   b. Write a note on pair programming.   (06 Marks)
   c. List the advantages of SCRUM used in a telecommunication software development
      environment.   (05 Marks)

OR

10 a. Explain the practices involved in the extreme programming.   (10 Marks)
   b. How the agile methods are scaled? State the coping of agile methods for large system
      engineering.   (06 Marks)

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