CBCS Scheme

USN | | | | | | | | | | 15CS42

Fourth Semester B.E. Degree Examination, Dec.2017/Jan.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 is software? List the fundamental software engineering activities. Mention and explain the key challenges or the general issues facing software engineering.   **(05 Marks)**
   b. List and explain any five software engineering code of ethics.   **(05 Marks)**
   c. Write block diagram for illustrating incremental development model. State at least two benefits and the problems in incremental development.   **(06 Marks)**

OR

2 a. Explain functional, non-functional and domain requirements with at least one example for each.   **(03 Marks)**
   b. Write the structure of the requirement document as suggested by IEEE standards.   **(10 Marks)**
   c. List out all the stake-holders in Mental Health Cone Patient Management System (MHC-PMS). Write a note on interviewing stake-holders for requirements discovery.   **(03 Marks)**

Module-2

3   Write short notes on:
   a. Context models with context diagram for MHC-PMS.   **(06 Marks)**
   b. Interaction models   **(05 Marks)**
   c. Behavioral models   **(05 Marks)**

OR

4 a. Write a neat block diagram and explain the phases of Rational Unified Process (RUP).   **(06 Marks)**
   b. List out all the activities in an object oriented design process.   **(02 Marks)**
   c. What is a sequence model? Write the diagram for sequence model of operations in collecting data from a weather station and explain.   **(08 Marks)**

Module-3

5 a. State and explain development testing and its three levels - unit testing, component testing and system testing.   **(04 Marks)**
   b. List out all the guidelines for testing.   **(04 Marks)**
   c. Explain test-driven development (TDD), with a block diagram. Explain TDD activities and benefits of TDD.   **(08 Marks)**

OR

6 a. With appropriate block diagram, explain the software evolution process.   **(06 Marks)**
   b. Define "program evolution dynamics". Discuss Lehman laws for program evolution dynamics.   **(10 Marks)**

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Module-4

7   a.   Explain software pricing. List and briefly explain the factors affecting software pricing.
         (06 Marks)
    b.   List and explain various COCOMO cost estimation models.   **(10 Marks)**

OR

8   a.   List out the questions to be answered by the quality management team to divide whether or not the software is fit for its intended purpose.   **(06 Marks)**
    b.   Explain the various inspection checklists for software inspection process.   **(06 Marks)**
    c.   What are product metrics? Explain its two classes of metrics.   **(04 Marks)**

Module-5

9   a.   Draw the block diagram and explain the process of prototype development. What are the benefits of a prototype? Write briefly about throw away prototypes.   **(10 Marks)**
    b.   List and explain any six extreme programming practices.   **(06 Marks)**

OR

10 a.   List all the four key features of testing in XP.   **(02 Marks)**
    b.   What is pair programming? List the advantages of pair programming.   **(04 Marks)**
    c.   Explain SCRUM. Draw and explain block diagram for the SCRUM process. List all the key characteristics of this process. Mention the advantages of SCRUM.   **(10 Marks)**

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