Software Engineering VTU CBCS Question Paper Set 2018

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)**

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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Fourth Semester B.E. Degree Examination, June/July 2017
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 fundamental activities of software engineering? **(04 Marks)**
b. With neat diagram, explain the water-fall model of software development process. **(06 Marks)**
c. With a diagram, explain the rational unified process. **(06 Marks)**

OR

2 a. What is requirement specification? Explain various ways of writing system requirements. **(06 Marks)**
b. Why the understanding of requirements from stake holders is difficult task? Explain. **(05 Marks)**
c. Explain the different checks to be carried out during requirement validation process. **(05 Marks)**

Module-2

3 a. Draw a context model for patient information system. How the interactions are modeled? **(06 Marks)**
b. Explain the terms class diagram, generalization and aggregation. **(06 Marks)**
c. What is model Driven engineering? State the three types of abstract system models produced. **(04 Marks)**

OR

4 a. What are the things to be done for a design of object oriented system? How the objects are identified? **(05 Marks)**
b. What is design pattern? Explain four elements of design pattern. **(06 Marks)**
c. What is software reuse? State the general models of open source licenses. **(05 Marks)**

Module-3

5 a. State the two goals and three levels of granularity of software testing process. **(05 Marks)**
b. What is test driven development? State the benefits of test driven developments. **(05 Marks)**
c. Explain the six stages of acceptance testing process. **(06 Marks)**

OR

6 a. With neat diagram, show the software evolution process and explain the 'Lehman's Law' concern to system change. **(10 Marks)**
b. What is software maintenance? State the activities of re-engineering process. **(06 Marks)**

Module-4

7 a. Explain the factors to be considered for approval of change. **(05 Marks)**

b. Explain the features provided by version management systems. **(05 Marks)**

c. What is configuration management? State the four activities of configuration management. **(06 Marks)**

OR

8 a. What is system building? State the features available in the system building tools. **(10 Marks)**

b. Explain the factors to be considered for release planning of system. **(06 Marks)**

Module-5

9 a. Explain the ways of coping with change and reduction of rework cost. **(06 Marks)**

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

OR

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

b. How the agile methods are scaled? State the coping of agile methods for large system engineering. **(05 Marks)**

c. Write a note on pair programming. **(06 Marks)**

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