CBCS Scheme

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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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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15CS42

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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