17CS45

USN

Fourth Semester B.E. Degree Examination, Jan./Feb. 2023
Software Engineering

Time: 3 hrs.   Max. Marks: 100

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 a neat diagram, explain the waterfall model of software development process. (06 Marks)
    c. List and explain any five software engineering code of ethics. (10 Marks)

OR

2   a. Explain a general model of the design process with block diagram. (06 Marks)
    b. Explain the structure of requirement document. (08 Marks)
    c. Explain requirement elicitation and analysis process. (06 Marks)

Module-2

3   a. Explain context models with an example. (08 Marks)
    b. What is a state diagram? Explain the working of microwave oven with a neat diagram. (06 Marks)
    c. Explain: i) Generalization ii) Aggregation. (06 Marks)

OR

4   a. Explain Rational Unified Process (RUP). (08 Marks)
    b. What is design pattern? Explain four elements of design pattern. (06 Marks)
    c. Explain three implementation issues. (06 Marks)

Module-3

5   a. Define testing. Explain interface testing. (08 Marks)
    b. What is component testing list and explain the different type of interface errors. (06 Marks)
    c. Explain scenario and performance testing. (06 Marks)

OR

6   a. With a neat diagram, briefly discuss the software re-engineering process. (08 Marks)
    b. What is Software maintenance? Explain the three different types of software maintenance. (06 Marks)
    c. Explain the Lehman's law concern to the system changes. (06 Marks)

Module-4

7   a. Discuss factors affecting software pricing. (10 Marks)
    b. List and explain various COCOMO cost estimation model. (10 Marks)

OR

8 a. Discuss software quality attributes. (08 Marks)
   b. What is program Inspection? Explain inspection check list. (06 Marks)
   c. What are product metrics? Discuss two classes of product metric. (06 Marks)

Module-5

9 a. Explain extreme programming practices. (10 Marks)
   b. With a neat diagram, explain the process of prototype development what are the benefits of a prototype. (10 Marks)

OR

10   Write short notes on the following:
   a. Agile methods
   b. Testing in XP
   c. Pair programming
   d. Incremental delivery. (20 Marks)

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