Roll No. ....

Total Pages : 2

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BT-7/M-23

SOFTWARE VERIFICATION & VALIDATION AND TESTING

Paper : PE-CS-D-403-A

Time : Three Hours]   [Maximum Marks : 75

Note: Attempt *five* questions in all, selecting at least *one* question from each unit. All questions carry equal marks.

UNIT–I

1. (a) What does the term 'Software Evolution' refer to? What reasons make software evolution necessary?

  (b) Describe the steps included in the SDLC framework.

2. Answer the following questions in brief:

  (a) How is Software Testing defined?

  (b) What is the difference between verification and validation?

  (c) What is the significance of test cases and test oracles in software testing?

UNIT–II

3. What is the goal of functional testing and what steps are followed in functional testing? List the different types of Functional testing and describe in brief any *two* of them.

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4. What are the advantages and disadvantages of structural testing? Bring out the distinction between Mutation testing and Data Flow testing. Also, describe the steps that should be followed in calculating cyclomatic complexity.

UNIT–III

5. Why is test case reduction important? Does regression testing reduce the number of test cases? Bring out the difference between regression testing and Slice-based testing.

6. Describe and highlight the distinction between Unit Testing, System Testing, and Integration Testing.

UNIT–IV

7. (a) What is Software Quality and why is it important? How do we assess the quality of a software design using software quality guidelines and attributes?

   (b) Describe Boehm's Software Quality Model and explain its levels of quality attributes.

8. Answer the following questions in brief:
   (a) What is Capability Maturity Model (CMM) used for?
   (b) Distinguish between Stress testing and Ad hoc testing.
   (c) What is the aim of Agile testing?