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Sixth Semester B.E. Degree Examination, Dec.2024/Jan.2025
Software Testing

Time: 3 hrs.

Max. Marks: 100

Note: *Answer any FIVE full questions, choosing ONE full question from each module.*

Module-1

1   a.   What is the necessity of software Testing? Which are the two fundamental approaches used to identify test cases. **(10 Marks)**

   b.   Define the terms : i) Error   ii) Fault   iii) Failure   iv) Incident   v) Test case. **(10 Marks)**

OR

2   a.   Explain structured implementation of a triangle problem with a neat dataflow diagrams. **(10 Marks)**

   b.   With a neat diagram, explain currency converter system and Saturn windshield wiper. **(10 Marks)**

Module-2

3   a.   Explain Boundary value Analysis, what are the limitations of BVA. Derive testcases for triangle problem using BVA. **(10 Marks)**

   b.   Describe Weak Normal, Strong Normal, Weak Robust and Strong Robust equivalence class testing in detail. **(10 Marks)**

OR

4   a.   Write a note on : i) Fault – Based Testing   ii) Mutation analysis. **(10 Marks)**

   b.   Briefly explain decision table approach. Derive the testcases for triangle problem using decision table approach. **(10 Marks)**

Module-3

5   a.   Explain the following :
i) Data flow testing   ii) Scaffolding   iii) Define use testing   iv) Path testing
v) Test oracles. **(10 Marks)**

   b.   Define program graph? Draw program graph for the commission program and discuss the same in detail. **(10 Marks)**

OR

6   a.   What is DD – Path? Explain basis-path testing with suitable example. **(10 Marks)**

   b.   Write a note on : i) Statement Testing   ii) Slice based Testing. **(10 Marks)**

Module-4

7   a.   Explain any five principles of software testing. **(10 Marks)**

   b.   Discuss on dependability properties. **(10 Marks)**

OR

8   a.   Write a note on :   i) Risk planning   ii) Planning and Monitoring the process
iii) Analysis Testing   iv) Improving the process. **(10 Marks)**

b. With a neat diagram, explain clean room process model and software reliability engineered testing (SRET). **(10 Marks)**

Module-5

9 a. Explain integration testing strategies along with different integration faults. **(10 Marks)**

b. Write a note on :
   i) system testing   ii) Usability   iii) Acceptance testing   iv) Regression testing **(10 Marks)**

OR

10 a. Explain code based regression test selection and control flow and data flow regression test selection. **(10 Marks)**

b. Discuss traditional view of testing levels and alternative life cyclemodels. **(10 Marks)**

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