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By K B Hemanth Raj

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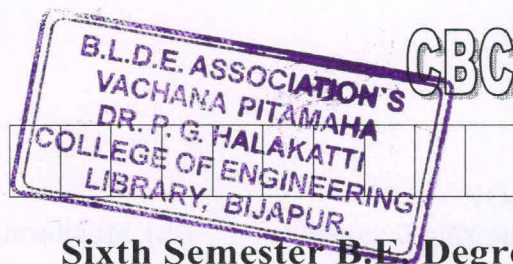## ECE - Electronics and Communication Engineering
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Sixth Semester B.E. Degree Examination, Dec.2019/Jan.2020
Software Testing

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 testing? Differentiate between functional testing and structural testing.
                                                                                    (06 Marks)
   b. Explain the triangle problem statement along with flowchart for traditional implementation.
                                                                                    (07 Marks)
   c. Explain several measures of software quality.   **(03 Marks)**

OR

2 a. Define the terms : (i) error (ii) fault (iii) failure (iv) incident (v) test case **(05 Marks)**
   b. With a neat diagram, explain the currency converter system.   **(05 Marks)**
   c. With a neat diagram, summarise several strategies for test generation.   **(06 Marks)**

Module-2

3 a. Explain boundary value analysis and write the test cases using boundary value analysis testing for triangle problem.   **(07 Marks)**
   b. Write a short note on decision table with an example.   **(05 Marks)**
   c. Explain overview of assumptions in fault-based testing.   **(04 Marks)**

OR

4 a. Explain weak normal, weak robust and strong robust equivalence class testing with next-date problem as an example.   **(08 Marks)**
   b. What are the limitations of boundary value analysis?   **(04 Marks)**
   c. Explain variations on mutation analysis.   **(04 Marks)**

Module-3

5 a. Define DD-path. Draw DD-graph for triangle problem.   **(04 Marks)**
   b. Explain metric based testing.   **(08 Marks)**
   c. What is scaffolding? Explain.   **(04 Marks)**

OR

6 a. What is cyclomatic complexity? Explain McCale's basis path method.   **(06 Marks)**
   b. Write a note on define/use testing.   **(05 Marks)**
   c. Explain: (i) Test oracles (ii) Capture and Replay   **(05 Marks)**

Module-4

7 a. Write six principles which constitute the core of software testing.   **(06 Marks)**
   b. What are processed quality and analysis strategies in a brief note?   **(06 Marks)**
   c. Explain the features of test design specification documents.   **(04 Marks)**

OR

8 a. Explain: (i) Risk planning   (ii) Organizing documents   (iii) Monitoring the process (iv) Test and analysis - Report.   **(10 Marks)**
   b. Briefly discuss the dependability properties in process framework.   **(06 Marks)**

Module-5

9 a. Explain integration testing strategies.   **(08 Marks)**
   b. Draw the context diagram of the SATM system and explain the same.   **(08 Marks)**

OR

10 a. Briefly describe about : (i) System testing   (ii) Acceptance testing.   **(06 Marks)**
    b. Explain traditional view of testing levels, alternatives life-cycle models.   **(10 Marks)**

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