B.E. (Information Technology) Semester Seventh (C.B.S.)
Elective - II : Software Testing & Quality Assurance

P. Pages : 2 **KNT/KW/16/7505**

Time : Three Hours

0878

Max. Marks : 80

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Notes :
1. All questions carry marks as indicated.
2. Solve Question 1 OR Questions No. 2.
3. Solve Question 3 OR Questions No. 4.
4. Solve Question 5 OR Questions No. 6.
5. Solve Question 7 OR Questions No. 8.
6. Solve Question 9 OR Questions No. 10.
7. Solve Question 11 OR Questions No. 12.
8. Assume suitable data whenever necessary.
9. Illustrate your answers whenever necessary with the help of neat sketches.

1. a) Explain the characteristics of a good software. Explain the most common software errors in software execution. **7**

   b) Explain the need for a software along with its advantages. **6**

OR

2. a) Explain the following. **7**
      i) Lifecycle of defect.
      ii) Metrics for monitoring the test execution.

   b) What are the objectives of software testing Also explain the objectives of a software tester. **6**

3. a) What is defect prevention? What are the Kinds of checks that are to be performed routinely to avoid the defect. **7**

   b) Explain Dynamic unit testing in detail. **6**

OR

4. a) Explain mutation testing with examples. **8**

   b) What is debugging & the three approaches to debugging. **5**

5. a) Explain the concept of control flow testing giving proper examples. **6**

   b) Explain control flow graph with example. **8**

OR

6. a) Explain the paths in the control flow graph. **6**

   b) Explain the path selection criteria's in detail giving proper examples. **8**

| 7. | a) | Explain the data flow anomalies in the data flow testing. | 8 |
| | b) | Explain the dynamic data flow testing with example. | 5 |

OR

| 8. | a) | Describe global C- use, global definition, clear paths, loop free path and du-path of a variable in data flow testing. | 7 |
| | b) | Write short notes on McCabe's complexity measure. | 6 |

| 9. | a) | Give and explain examples of test data selection. | 6 |
| | b) | Explain the various types of functionality test. | 7 |

OR

| 10. | a) | Explain the Robustness test in detail. | 6 |
| | b) | Explain the load and stability tests in detail. | 7 |

| 11. | a) | Explain ISO 9001:2000 Software Quality standard and its requirements. | 8 |
| | b) | Draw the data flow graph for the Binary Search routine and explain the same. | 6 |

OR

| 12. | a) | Explain the acceptance test criteria in detail. | 8 |
| | b) | Explain why the presence of data flow anomaly does not imply that execution of the program will definitely produce incorrect results. | 6 |

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