# B.E.(Computer Engineering)
# SOFTWARE TESTING AND QUALITY ASSURANCE
## (2008 Pattern) (Semester - I) (Elective-II ) (410445D)

*Time : 3 Hours]*                                                                 *[Max. Marks : 100*
*Instructions to the candidates:*
   *1)  Answers to the two sections should be written in separate answer books.*
   *2)  Answer three questions from Section-I and three questions from Section-II.*
   *3)  Neat diagrams must be drawn wherever necessary.*
   *4)  Figures to the right side indicate full marks.*
   *5)  Assume suitable data if necessary.*

## SECTION-I

*Q1)* a)   What is verification and validation? Explain the testing lifecycle.   **[10]**

   b)   Explain the defect report with an example.                                **[6]**

                                        OR

*Q2)* a)   Explain the importance of testing with different types of testing.    **[8]**

   b)   Explain the different testing strategies.                                 **[8]**

*Q3)* a)   Explain the need of black box testing with positive and negative testing.   **[10]**

   b)   Explain boundary value analysis and domain testing.                       **[8]**

                                        OR

**Q4)** a)   Differentiate between black box and white box testing. Explain equivalence partitioning testing.   **[10]**

   b)   Explain the graph based testing methods.                                  **[8]**

*Q5)* a)   How do you derive test cases using loop testing?                       **[8]**

   b)   Explain the testing of object oriented system with example.              **[8]**

                                        OR

*Q6)* a) Explain mutation and data flow testing. **[8]**

    b) What is the need of white box testing? How it is applied in statement coverage? **[8]**

## SECTION-II

*Q7)* a) Describe the types of testing metrics. **[8]**

    b) Explain the following in brief. **[10]**

        i) Goal question metric

        ii) Sanity testing

        iii) Smoke testing

<div align="center">OR</div>

*Q8)* a) Explain the regression and validation testing. **[10]**

    b) Explain GUI testing with example. **[8]**

*Q9)* a) Explain quality assurance and quality control. **[8]**

    b) State and explain the quality factors. **[8]**

<div align="center">OR</div>

*Q10)* Explain the following in brief **[16]**

    a) TQM

    b) SQA model

    c) Quality attributes

    d) Scenario testing

*Q11)* a) Explain the automated testing with an example. **[8]**

    b) How GUI testing is carried out with a testing tool? **[8]**

<div align="center">OR</div>

*Q12)* a) Compare automated testing with manual testing. Give the design of test cases for an authentication system. **[8]**

    b) Explain how functional testing can be done with a tool. **[8]**

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