

[4959] - 1162
B.E. (Computer Engineering)
SOFTWARE DESIGN METHODOLOGIES & TESTING
(2012 Pattern)

Time : 2 $\frac{1}{2}$ Hours]

Instructions to the candidates:

[Max. Marks : 70

- 1) Q.1 and Q.2 are compulsory. Solve Q.3 or Q.4, Q.5 or Q.6 and Q.7 or Q.8.
- 2) Assume suitable data if required.
- 3) Figures to the right indicate full marks.

- Q1) a) Why is a class diagram important in static modeling? How is it different from an object diagram? [5]
- b) Draw a sequence diagram for ATM system. [5]
- Q2) a) Explain synchronous communication pattern in client-server architecture with help of a diagram. [5]
- b) Explain intent, motivation, structure and consequence of observer pattern. [5]
- Q3) a) Explain different software testing strategies. [6]
- b) Is complete testing possible. When to stop testing? What are the test resumption criteria? [6]
- c) Explain the difference between software verification & validation with an example. [6]

OR

P.T.O.

- Q4) a) What is defect severity? How is it different from defect priority? Explain with an example. [6]
 b) Explain different stages of V test model with neat diagram. [6]
 c) State and explain different software testing principles. [6]

- Q5) a) Why system testing is required? Explain its type & significance of each. [8]
 b) State and explain different phases of testing. [8]
 OR

- Q6) a) Consider the following program segment. [10]
 Main()

```
{
    Int number, index;
        Printf("Enter a number");
        Scanf("%d",&number);
        Index=2;
        While (index<=number-1)
        {
            If(number%index==0)
            {
                Printf("Not a prime number");
                Break;
            }
            Index++;
        }

        If (index==number)
        Printf("prime number");
    }
```

- i) Draw the control flow graph for the program.
 ii) Calculate the cyclomatic complexity of the program.
 iii) List all the independent paths.
 iv) Design the test cases for the independent path.
 b) Explain the Equivalence class method of testing with one suitable example. [6]

- Q7 a) Differentiate between Manual Testing & Automated testing. [8]
- b) Explain the features of Selenium & Junit. [8]

OR

- Q8 a) Explain GUI and Web based application testing. [8]
- b) Write a short note on Monkey Talk and highlight its features. [8]

