

Duration: 3 hrs

[Max Marks: 80]

- N.B. : (1) Question No 1 is Compulsory.
(2) Attempt any three questions out of the remaining five.
(3) All questions carry equal marks.
(4) Assume suitable data, if required and state it clearly.

- 1 Attempt any FOUR **[20]**
- a Explain Bottom up Integration Testing with one example
 - b How to test simple loop in a program?
 - c Explain Logic Coverage Criteria for Statement Coverage.
 - d Explain State Table Based testing with example.
 - e Discuss the features and use of Bugzilla Testing Tool.
- 2 a Consider the program for calculating the factorial of a number. **[10]**
- ```
main()
{
 int number;
 int fact();
 1. clrscr();
 2. printf("Enter the number whose factorial is to be found out");
 3. scanf("%d", &number);
 4. if(number < 0)
 5. printf("Factorial cannot be defined for this number);
 6. else
 7. printf("Factorial is %d", fact(number));
 8. }
 int fact(int number)
 {
 int index;
 1. int product = 1;
 2. for(index=1; index<=number; index++)
 3. product = product * index;
 4. return(product);
 5. }
```
- (A) Draw the DD graph for the program.  
(B) Calculate the individual cyclomatic complexity number for main() and fact() and then, the cyclomatic complexity for the whole program.
- b What is Agile testing? Explain challenges in Agile Testing **[10]**

- 3 a Explain the process of test suite prioritization with its type in detail with example. [10]  
b What are the Key elements of Test Management? Explain the structure of testing group. [10]
- 4 a What are graph metrics? Explain with an example how to calculate cyclomatic complexity using graph metrics. [10]  
b Why is automation important in testing? What are the guidelines for selecting testing tools? [10]
- 5 a What is Mutation Testing? Explain primary mutant with an example [10]  
b Classify different types of bugs based on the Software development lifecycle with example [10]
- 6 a Explain ISO 9000:2000 standard. [10]  
b What is performance testing? Why is performance testing important? [10]
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