

 **ST. JOSEPH’S COLLEGE (AUTONOMOUS), BANGALORE -27**

**BCA VI SEMESTER**

**SEMESTER EXAMINATION: April 2023**

**(Examination conducted in May 2023)**

**CA 6318 – Software Testing and Quality Assurance**

**This paper contains two printed pages and three parts**

**Time – 2.5 hours Max Marks-70**

**Part – A**

**I.** **Answer all the following 2\*10= 20**

#### Is Regression testing done either manually or automated? Justify your answer.

1. What do you understand by the term: Software Quality?
2. Describe Sandwich testing.
3. What is a test Oracle?
4. Difference between Black box and White Box Testing.
5. Define: Data flow anomaly.
6. Mention any 2 drawbacks of testing.
7. Give the syntax and example for a test case.
8. Compare the concepts of computational and Domain errors?
9. Mention the elements of ISO 9000:2000.

**Part – B**

II. **Answer any Five of the following 6\*5= 30**

1. Describe the Weyuker and Ostrand Testing theory in Software Testing.
2. Evaluate Dynamic Unit testing and its uses.
3. Explain the 5 Maturity levels of the CMM Architecture.
4. List the characteristics of control flow graph and construct a suitable control flow graph for the following source code:

int binsearch (int x, int v[], int n)  
{  
 int low, high, mid;  
 low = 0;   
 high n - 1;  
 while (low <= high)   
 {  
 mid = (low high)/2;  
 if (x < v[mid])   
 high mid 1; 4  
 else if (x > v[mid])   
 low mid + 1;  
 else return mid;  
 }  
} return – 1;

1. Briefly explain:
2. Verification
3. Validation
4. Error
5. Fault
6. Defect
7. Draw and explain the state chart diagram for data flow anomaly flow graph.
8. Illustrate the Concept of Mutation Testing. What are the assumptions made in mutation testing?

**Part C**

**III Answer any two of the following 10\*2=20**

1. A. Demonstrate the ISO 9126 Quality characteristics.

B. Analyse the incremental integration testing in terms of bottom up approach.

1. Write short notes on:
2. McCall’s Quality factors
3. Differences between UAT and BAT.
4. Prove Goodenough and Gerhart Theory for ideal test.