**Paper / Subject Code: 56305 / Software Testing and Quality Assurance**

Thursday, May 30, 201902:30 pm - 05:30 pm    1T00143 - M.C.A. (Sem. III)(Choice Based) / 56305 - Software Testing & Quality Assurance.    58805

**(3 Hours)**                                             **Total Marks: 80**

N.B. :  1) Question No.1 is **compulsory.**
      2) Attempt any **three** from the remaining five questions.
      3) Answer to sub-questions should be grouped together.

1.  (a)   Explain the difference between black box and white box testing?                 **(05)**

    (b)   Differentiate between functional testing and non-functional testing             **(05)**

    (c)   Compare and contrast V model and VV model                                       **(05)**

    (d)   What is testing? How is debugging different from testing?                        **(05)**


2.  (a)   How are reviews useful tool for static analysis. Explain role and responsibilities   **(10)**
          of people involved in reviews
    (b)   What is incident reporting? Explain incident status model                        **(10)**


3.  (a)   Explain data flow anomalies used to reveal defects. Identify the data            **(10)**
           anomalies  in following code

```
double Sqrt(double X)
{ double returnValue;
  if (X > 0.0)
   { double W;
   while (ABS(W*W-X) > 0.01)
   {
W = W - ((W*W-X) / (2.0 * W));
   }
   returnValue = W;
   } else
   {
   returnValue = 0.0;
   }
   return (returnValue);
   }
```

    (b)   Explain the SQA plan in detail?                                                  **(10)**


4.  (a)   Draw CFG and calculate statement coverage, branch coverage and path coverage     **(10)**
          for the given code

```
main()
{ int P,Q;
Cin>>P;
Cin>> Q;
IF P+Q > 100
cou<< "Large";
If P > 50
Cout<< "P Large";
}
```

    (b)   Explain the Principles of testing?                                               **(10)**


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5.  (a)  Draw and Explain the Architecture for test Automation?  **(10)**

    (b)  What are the different test tool selection criteria? Give steps required to select a **(10)** tool.

6.  **Write short notes on (any four)**  **(20)**
    (a)  Steps in Measurement
    (b)  Software Maintenance Activities
    (c)  Five Views of Software Quality
    (d)  Testing Object Oriented System
    (e)  ISO 9126 characteristics

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