(Following Paper ID and Roll No. to be filled in your Answer Book)

Paper ID : 214502   Roll No.

MCA

(SEM. V) THEORY EXAMINATION, 2015-16

SOFTWARE ENGINEERING

[Time : 3 hours]   [Maximum Marks : 100]

SECTION-A

Note : Attempt questions from all sections as per directions.

1.   Attempt **all** parts. Write answer in brief :   (2x10=20)

   (a)   Define the term "Program" and "Software".

   (b)   List the advantage of waterfall model.

   (c)   What do you mean by feasibility study ?

   (d)   What are the differences between flow chart and structure chart ?

   (e)   List the important properties of modular system.

   (f)   Write the advantage and disadvantage of function point measurement.

   (g)   What is the data design at architectural level ?

(h) Write the difference between black box testing and White box testing.

(i) Define RMMM plan.

(j) What is Software Reverse Engineering?

SECTION-B

Attempt any **five** questions from this section. (10x5=50)

2. Discuss the prototype model. What is the effect of designing a prototype on the overall cost of the software project ?

3. Define software characteristic. Explain why a software system that is used in a real world environment must or become progressively less useful.

4. What is the significance and use of requirement engineering ? What is requirement validation technique?

5. What do you mean by good software design ? Discuss the criteria for a software design to enhance the quality of software.

6. What is software maintenance ? Discuss different types of maintenance of that a software product might need.

7. Explain various types debugging techniques used in software testing.

8. Define software testing. Explain various level of testing.

9. What do you mean by software risk ? Discuss the risk management activities during software development.

SECTION-C

Attempt any **two** questions from this section.   (15x2=30)

10. Draw DFD and ER diagram for the following problem:

"For each court case, the name of the defendant's address, type of the crime and the date of the crime committed, where committed, the name of the arresting officer and date of arrest are entered by the court registrar. The unique number identifies each case. Each case arrest are entered by the court registrar. The unique number identifies each case. Each case has to maintain the name of the presiding judge, public prosecutor, the starting date and array of hearing dates and next trial date. On completion, it should maintain the judgement of the summary.

11. (a) Write a data dictionary definition of the information contained on your driver's license.

    (b) Find Halstead's length and volume measure for following function.

    void swap(int x[], int y[])

    {

```
    int temp;

     temp=x[i]

      a[i]=x[i+1]

       x[i+1]=temp;

  }
```

12. (a) A program reads three integer values. The three values are interpreted as representing the lenghts of the sides of a triangle. The program prints a message that states whether the triangle is scalene, isosceles or equilateral. Develop a set of test cses that will adequately test this program.

(b) Consider a program which computes the square root of an input integer between 0 and 5000. Determine the equivalence class test cses. Determine the test cses using boudary value analysis also.

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