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Total Number of Pages: 02

MCA  
MCC403

**4<sup>th</sup> Semester Regular/Back Examination 2016-17**

**SOFTWARE ENGINEERING**

**BRANCH:MCA**

**Time: 3 Hours**

**Max Marks: 70**

**Q.CODE:Z583**

**Answer Question No.1 which is compulsory and any five from the rest.**

**The figures in the right hand margin indicate marks.**

- Q1 **Answer the following questions:** (2 x 10)
- a) Write down at least two advantages of algebraic specification.
  - b) State five symptoms of the present software crisis.
  - c) What is the necessity for developing use case diagram ?
  - d) What are the main advantages of using CASE tools ?
  - e) Difference between Verification and validation of a software process ?
  - f) Distinguish between error and failure.
  - g) What is architectural Design and how it is differ from detailed design ?
  - h) What is the difference between ISO9000 and ISO9001?
  - i) What do you mean by phase containment error ?
  - j) What are the different levels of SEC CMM Model ?
- Q2 a) Suppose you are developing a software product in the organic mode. You have estimated the size of the product to be about 100,000 lines of code. compute the nominal effort and the development time. (5)
- b) Difference among basic COCOMO model, intermediate COCOMO model and complete COCOMO model . (5)
- Q3 a) Briefly explain about Humphrey's Capability Maturity Model and its different levels ? (5)
- b) What do you mean by balancing a DFD? Illustrate your answer with suitable example (5)
- Q4 For the following c program estimate the Halstead's length and volume measures. compare Halstead's length and volume measures of size with the LOC measure. (10)
- /\* program to calculate the Average of three numbers \*/
- ```
Main()
{
int a,b,c, avg;
Scanf(" %d %d %d ", &a, &b, &c ) ;
Avg =(a+b+c)/3 ;
Printf(" avg=%d", avg);
}
```
- Q5 a) Why is it important for a software development organization to obtained ISO 9001 certification ? (5)
- b) How the Agile software development is different from Extreme programming(XP) , Explain ? (5)

- Q6 a) Discuss how the reliability changes over the lifetime of a software product and a hardware product ? (5)
- b) .What do you mean by software reliability and explain the six metrics to measure software reliability ? (5)
- Q7 a) Draw the schematic diagram to represent the Spiral model in software development life cycle. (5)
- b) Discuss the stages through which the quality system paradigm and the quality assurance methods have evolved the years ? (5)
- Q8 **Write short note on any two** (5 x 2)
- a) Cohesion and coupling.
- b) Expert judgment technic and Delphi cost estimation technic.
- c) Integration testing vs System testing.
- d) Object oriented design vs function oriented design.