



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

PAPER ID : 110602

Roll No.

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B. Tech.

(SEM. VI) THEORY EXAMINATION, 2014-15
SOFTWARE ENGINEERING

Time : 3 Hours]

[Total Marks : 100

Note: Attempt all questions

- 1 Answer any four parts : (4×5=20)
- (a) Define the term "Software engineering". Explain the major differences between software engineering and other traditional engineering disciplines.
 - (b) What is a flow chart? How is the flow charting techniques useful for software development?
 - (c) What is software metric? How is it different from software measurement?
 - (d) Explain why programs which are developed using evolutionary development are likely to be difficult to maintain?
 - (e) Explain software development life cycle. Discuss various activities during SDLC.

- (f) Define the following
- (i) Water fall model
 - (ii) Spiral Model

2 Answer any four parts : (4×5=20)

- (a) List five desirable characteristics of good SRS document. Discuss the relative advantages of formal and informal requirements specifications.
- (b) Compare ISO and SEI-CMM model.
- (c) Define the following terms: Objects, Message, Abstraction, Class, Inheritance and Polymorphism.
- (d) Discuss the signification and use of requirement engineering. What are problems in formulation of requirement?
- (e) What is meant by "Formal Technical Review"? Should it access both programming style as well as correctness of software? Give reasons.
- (f) Define the decision table. Discuss the difference between decision table and decision tree.

3 Answer any two parts. (2×10=20)

- (a) Define software architecture. Explain why it may be necessary to design the system architecture before the specifications written with example. Compare functional oriented and object oriented designs.
- (b) What do you mean by the terms cohesion and coupling in the context of software design? How are these concepts useful in arriving at a good design of a system?

- (c) For the following 'C' program estimate the Halstead's length and volume measures. Compare Halstead's length and volume measures of size with LOC measure.

//Program to calculate GCD of two numbers

```
int compute-gcd(x,y)
{
    int x,y;
    while(x!=y)
        if(x>y) then x=x-y;
        else y=y-x;
    return x;
}
```

4 Answer any two parts : (2×10=20)

- (a) Given software product and its requirement specification document, explain how would you design the system test suit for this software product?
- (b) Short notes on :
 - i. Walkthrough
 - ii. code inspection technique
 - iii. Debugging.
- (c) What is difference between coding standards and coding guidelines? Why are these considered important in software development organization? Write down five important coding standards and guidelines that you would recommend.

5 Answer any two parts : (2×10=20)

(a) Using schematic diagram and suitable example show the order in which the following are estimated in the COCOMO estimation technique:

cost, effort, duration, size

(b) What do you mean by risk management? Explain how to select the best risk reduction technique when there are many ways of reducing a risk?

(c) Define the following:-

(i) Software Maintenance

(ii) Structure of CASE Tools.
