

Printed Pages: 4

ECS-602/NCS-602

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

Paper ID : 110602

Roll No.

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B.TECH.**Theory Examination (Semester-VI) 2015-16****SOFTWARE ENGINEERING****Time : 3 Hours****Max. Marks : 100****Note: Attempt questions from all Sections as per directions.****Section-A****Attempt all parts of this section. Answer in brief. (2×10=20)**

- Q1.** (a) What do you mean by Reverse Engineering?
- (b) Define a software process.
- (c) What is testability?
- (d) Differentiate between cohesion and coupling.
- (e) Write down the objectives of Software Engineering.
- (f) What do you mean by SRS?

(1)

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- (g) Define the term Software Crisis.
- (h) Give any two reasons for increase in the software costs.
- (i) Differentiate between a Software measure and a Software metric.
- (j) What do you understand by the clean room strategy?

Section-B

2. Attempt any five questions from this section. (10×5=50)

- (a) Write short notes on the following:
 - i) Coding standards.
 - ii) Verification and validation test.
- (b) Explain the decision table. Discuss the difference between decision table and decision tree.
- (c) What are drivers and stub modules in the context of integration and unit testing of a software product? Why are stubs and drivers modules required?

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- (d) What do you mean functional independence? Why functional independence is the key factor for a good software design? Explain.
- (e) Explain the following statement: "Software Engineering is a layered technology".
- (f) In a software development organization, identify the persons responsible for carrying out the quality assurance activities. Explain the principal tasks they perform to meet this responsibility.
- (g) Why is software maintenance required? Discuss with examples.
- (h) What is software quality? What are three dimensions of software quality? Explain briefly.

Section-C

Attempt any two questions from this section. (15×2=30)

- 3. Explain why a software system that is used in a real world environment must change or become progressively less useful.
- 4. Draw a flow graph, arrive at the cyclomatic complexity and find the set linearly independent paths for the following program:

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```
void F(int key , int T[], int size , boolean found , int L)
```

```
{
    int bot, top , mid;
    bot=0;
    top=size-1;
    L=(top+bot)/2;
    If(T[L]==key) found=true;
    else
    found=false;
    while(bot<=top && ! found)
    {
        Mid=(top+bot)/2;
        If(T[mid]==key)
        {
            Found=true; L=mid;
        }
        else if (T[mid]<key)
            bot=mid+1;
        else
            top=mid-1;
    }
}
```

5. Define the term software design. Also discuss the coupling in the context of software design. For a good design, the modules should have low coupling. Why?

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