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.

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?

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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 sottware 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-l:
   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+l:
else
top=mid-l;
}
}
```

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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