Printed Pages : 3

EIT-402

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

PAPER ID : 113402

Roll No.

B. Tech.

(SEM. IV) THEORY EXAMINATION, 2014-15

SOFTWARE ENGINEERING

Time : **3** Hours] [Total Marks : **100**

Note: 1. Attempt all question.
2. All question carry equal marks.

1 Attempt any FOUR question 5×4=20

a. Define software. Give the various application areas of the software.

b. Define the software crisis. What are possible solutions to the present software crisis?

c. Define the following:
   I. Water fall Model
   II. Spiral Model

d. What are three essential qualities of software? Explain each.

e. What are the characteristics to be considered for the selection of the life cycle model?

f. Explain software development life cycle. Discuss various activities during SDLC.

2 Attempt any FOUR questions 5×4=20

a. Define functional and non-functional requirements.

b. Software requirement analysis is unquestionably the most communication- intensive step in the software engineering process. Why does the communication frequently break-down?

c. Define DFD. What are the different levels of DFD?

d. Compare ISO and SEI-CMM models.

e. How do you define Reliability? Discuss various models for reliability allocation.

f. Describe the difference between Verification and Validation and explain why validation is particularly difficult process?

3 Attempt any TWO questions, 10×2=20

a. Define software architecture. Explain why it may be necessary to design the system architecture before the specifications written with examples.

b. What are the main difference between coupling and cohesion? Explain various type of cohesion and coupling. What are problems likely to arise if two modules have high coupling?

c. Explain Halestead's software science of software measurement and metrices. Calculate Halestead's basic measure on factorial code given below:

```
int fact (int n)
    { if (n= =0)
      return 1;
    else
      return n*fact (n-1)
    }
```

4 Attempt any TWO questiong . 10×2=20

a. Discuss the differences between black-box and structural testing and suggest how they can be used together in the defect testing processes.

b. What should be the criteria for designing test cases ? Derive a set of test cases for the following : A sort routine which sort arrays of integers.

c. Explain regression and acceptance and acceptance testing in detail.

5 Attempt any TWO question. 10×2=20

a. Write notes on Constructive Cost Models (COCOMO).

b. What do you understand by the term CASE tools? Discuss the benefits of using CASE tools.

c. Discuss the following:

i. Reverse Engineering

ii. Software Risk Analysis

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