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Total Number of Pages: 02

B.TECH
PCCS4402

7th Semester Regular / Back Examination 2015-16
PRINCIPLES AND PRACTICES IN SOFTWARE ENGINEERING

BRANCH: CSE

Time: 3 Hours

Max Marks: 70

Q.CODE: T645

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) What do you mean by legacy software product?
 - b) Write any four competencies of project management skills.
 - c) Write two disadvantages of using LOC.
 - d) What are the main advantages of using CASE tools?
 - e) State five symptoms of the present software crisis.
 - f) What is sliding window planning?
 - g) What is the difference between process metrics and product metrics?
 - h) What is the difference between ISO9000 and ISO9001?
 - i) What are the metrics are widely used to estimate project size?
 - j) What are the different levels of SEC CMM Model?
- Q2** a) Draw the architecture of a CASE environment and explain how the different tools are integrated? **(5)**
- b) What is the difference between a sequence diagram and a collaboration diagram? **(5)**
- Q3** a) What do you understand by a metaphor in a user interface design? Is a metaphor based user interface design advantageous? Justify it. **(5)**
- b) What are the drivers and stub modules in the context of integration and unit testing of a software product? **(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 GCD of two numbers */
int compute-gcd (x,y)
Intx,y;
{
    While (x!=y)
        If(x>y) then x=x-y;
    else y=y-x;
    return x ;
}
```

Q5 a) Discuss how SCCS and RCS can be used to efficiently manage the configuration of source code?. **(5)**

b) What do you mean by software reliability and explain the six metrics to measure software reliability? **(5)**

Q6 a) Why is it important for a software development organization to obtained ISO 9001 certification? **(5)**

b) What are design patterns? What are the advantages of using design patterns? Name some popular design patterns. **(5)**

Q7 a) Draw the schematic diagram to represent the Classical waterfall model in software development life cycle. **(5)**

b) What is a stereotype in UML? Explain with some example situations where as stereotype can be used. **(5)**

Q8 Write short notes on any two: **(5 x 2)**

a) Cohesion and coupling

b) Object oriented design Vs function oriented design.

c) Black-box testing Vs white box testing

d) Personal software process(PSP)