



SE-7443

BE. IV (Sem. VII) (Information Technology)

Examination

April / May – 2011

Software Engineering

Time : 3 Hours]

[Total Marks : 100

Instructions :

(1)

नीचे दृष्टावेक निशानीवाणी विगतो उत्तरवही पर अवश्य लखवी. Fillup strictly the details of signs on your answer book.	Seat No. :
Name of the Examination :	<input type="text"/>
← B. E. - 4 (Sem. 7) (Information Technology)	<input type="text"/>
Name of the Subject :	<input type="text"/>
← Software Engineering	<input type="text"/>
← Subject Code No. : <input type="text"/> 7 <input type="text"/> 4 <input type="text"/> 4 <input type="text"/> 3 ← Section No. (1, 2,.....) : <input type="text"/> 1&2	<input type="text"/>
	Student's Signature

- (2) Answer briefly and to the point.
- (3) Draw diagrams wherever required.
- (4) Make suitable assumptions wherever necessary.

SECTION - I

- 1 (a) Define the following terms : 10
 - (1) Code review
 - (2) Baseline
 - (3) CMM Level 5
 - (4) SDLC
 - (5) Test Case
- (b) Answer the following in brief : 10
 - (1) What is “regression testing” ?
 - (2) Give only names of the qualitative metrics for software.
 - (3) What is “reverse engineering” of software ?
 - (4) What is recorded in a “Risk Table” ?
 - (5) What is an “FP” metric ?

- 2 (a) With the help of a neat diagram explain the different phases of the “Extreme Programming” Model. 5

OR

- (a) With the help of a neat diagram explain the phases of the “RAD Model”. 10
- (b) Enlist features of the Cleanroom Approach which makes it different from conventional approach to software development. 5
- 3 (a) Discuss good “Planning Principles” of software engineering practice. 7

OR

- (a) Write a detailed note on “Software Quality Assurance”. 7
- (b) Develop the following UML diagrams : 8
- (1) USe case diagram for a “Hospital Management System.”
- (2) Sequence diagram for “registering a new patient” in the hospital management system.

SECTION - II

- 4 (a) State whether the following statements are TRUE or FALSE and justify your answer : 10
- (1) The only stake-holders in a software development process are the end-users and programmers.
- (2) Beta testing is done at developer’s site in a controlled environment.
- (3) Boundary value analysis is a white-box testing technique.
- (4) If I decide to outsource the software project to a third party, I can just relax and let that firm built it.
- (5) Test cases can be developed in a an ad-hoc manner and need not be planned in advance.

- (b) For the following piece of code (i) draw the flow-graph ; (ii) find the number of predicate nodes ; (iii) find the basic set of linearly independent paths ; (iv) calculate the cyclomatic complexity
- ```
void main () {
 int i, num, largest;
 printf("/n Enter number");
 scanf ("%d", & largest)l
 for (i=1; i<10; I++){
 printf ("/n Enter next number");
 scanf("%d", &num);
 if (num>largest) {
 largest=num;
 }
 }
 printf("/n the largest number is %d", largest);
}
```

- 5 Answer the following : (any **three**) 15
- (1) Explain the terms “Agility” and “Agile Process”.
  - (2) Explain business process re-engineering.
  - (3) Explain “Graph Based” testing.
  - (4) Discuss verification and validation of software.
  - (5) Briefly explain “Version Control”. Name two version control tools.
- 6 Write differences between : (any **three**) 15
- (1) Testing *v/s* Debugging.
  - (2) Proactive *v/s* Reactive risk strategies.
  - (3) Big-bang approach *v/s* Incremental integration.
  - (4) Spiral model *v/s* Waterfall model.
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