

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

PAPER ID : 1298 Roll No.

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MCA

(SEM. III) ODD SEMESTER THEORY
EXAMINATION 2013-14
SOFTWARE ENGINEERING

Time : 3 Hours

Total Marks : 100

Note :- Attempt all Sections.

SECTION-A

1. Attempt all parts : (2×10=20)
- (a) Define the term 'Software'. Describe its various characteristics.
 - (b) Discuss the difference between Functional and Non-functional Requirements.
 - (c) What do you mean by Feasibility Study ?
 - (d) What is Software Quality Assurance (SQA) ?
 - (e) What is the difference between flow chart and structure chart ?
 - (f) What is the difference between Alpha testing and Beta testing ?

- (g) Compare top-down and bottom-up testing. Give an example.
- (h) Define data dictionary with example.
- (i) What is re-engineering ?
- (j) Differentiate between software version and software revision.

SECTION-B

2. Attempt any three parts : (3×10=30)
- (a) Discuss the Prototype Model. What is the effect of designing a prototype on the overall cost of the Software Project ?
 - (b) Discuss the objective of modular software design. What do you mean by term cohesion and coupling in context of software design ? How are the concepts of cohesion and coupling useful in arriving at good software design ?
 - (c) What do you understand by requirement elicitation ? Write various techniques of requirement elicitation and explain any two.
 - (d) What is Integration Testing ? Discuss the different types of integration testing with suitable examples.
 - (e) Uncontrolled change in process during software development may lead to confusion. Discuss.

SECTION-C

Note :— Attempt any five questions in this Section : (5×10=50)

3. Consider a program given below for the selection of the largest of numbers.

```
main()
{
float A,B,C;
printf("enter three values");
scanf("%f %f %f", & A,&B,&C);
if(A>B)
{
    if(A>C)
        printf("%f",A);
    else
        printf("%f",C);
}
else
{
    if(C>B)
        printf("%f",C);
    else
        printf("%f",B);
}
}
```

- (i) Design the set of test cases using boundary value analysis technique and equivalence class testing technique.
- (ii) Select a set of test cases that will provide 100% statement coverage so find independent paths.

4. Using a schematic diagram and example show the order in which the following are estimated in COCOMO estimation technique : cost, effort, duration, size.
5. Explain software development life cycle. Discuss various stages of the waterfall model in detail.
6. Discuss the following :
 - (a) Software Quality Attributes
 - (b) Software Crisis.
7. Write the relative advantages of object oriented design over function oriented design.
8. (a) What is Software Maintenance ? Discuss the different types of software maintenance.
(b) Discuss Reverse Engineering in brief.
9. Write a short note on Software Risk Analysis.