

MCA (Revised)
Term-End Examination
December, 2007

MCS-034 : SOFTWARE ENGINEERING

Time : 3 hours

Maximum Marks : 100

Note : Question number 1 is **compulsory**. Attempt any **three** questions from the rest.

1. (a) Explain the various phases of Waterfall Model with a neat diagram. 10
- (b) What is Software Prototyping and Specification ? Explain the sequence of prototyping within a neat diagram. 10
- (c) What is Software Design ? Briefly describe involvement of any three Software Designs used for Software Development. 10
- (d) What are the various types of Coupling in Software Engineering ? Explain the relation between Coupling and Cohesion. 10
2. (a) What is the need of testing in Software Development ? Differentiate between Black Box and White Box testing. 5

- (b) Describe the COCOMO model in detail for software cost estimation. 10
- (c) Briefly describe the term Software Project Plan. Describe the steps involved in project plan. 5
3. (a) Draw a context level model (level 0 DFD) for **one** of the two systems that are listed below : 5
- A network-based course registration system for your university.
- OR**
- A web-based processing system for a computer store.
- (b) List out the characteristics of bugs. 5
- (c) Write short notes on (any **two**) : 5
- (i) Case Repository
 - (ii) Software Quality
 - (iii) Software Re-Engineering
- (d) Draw a Control Flow Graph (CFG) for the following triangle problem : 5

```
read x,y,z;
type="scalene",
if (x==y or x==z or y==z)
    type="isosceles";
if (x==y and x==z)
    type="equilateral";
if (x>=y+z or y>=x+z or z>=x+y)
    type="not a triangle";
if (x<=0 or y<=0 or z<=0)
    type="invalid input";
print type;
```

4. (a) Explain the process of developing wireless application using J2ME. 10
- (b) Describe the term Software Risk. What are the bases for different types of Software Risks ? 5
- (c) Distinguish between Version control and Change control in SCM. 5
5. (a) Discuss about the architecture of GSM. 5
- (b) Explain how the CASE tools help in effective Project Management. 5
- (c) Describe CBSE (Component Based Software Engineering). What are the challenges for CBSE ? 10