MCA/IIS/COS-204/12

M.Sc. 2nd Semester Examination, 2012

COMPUTER SCIENCE

PAPER – COS-204 (M1/M2)

Full Marks : 50

Time : 2 hours

The figures in the right hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

Illustrate the answers wherever necessary

MODULE – 1

(*System Analysis & Design*)

[*Marks* : 25]

Answer any *two* questions

1. (*a*) What is JAD ? Mention the role of different participants in JAD. 2 + 3

(*b*) What do you mean by the term Documentation? Mention the stepwise process of Documentation. 2 + 3

2. (*a*) What is Data Flow diagram? Draw a DFD along with the context diagram of "Library Management System". 2 + 4

(*b*) What is decomposition? What is balancing? How can you determine if DFDs are balanced or not. 1 + 1 + 2

3. (*a*) What are structure charts? Discuss their components. What role do structure charts play in the design of system?

(*b*) Design the structure chart for given module

```
main ( ) {
    inf x, y ; x = 0 ; y = 0 ; a ( ); b ( ); }
a ( ) { x = x + y ; y = y + 5 ; }
b ( ) { x = x + 5 ; y = y + x ; a ( ) ; }
```

(2 + 3 + 1) + 4

4. Write a short notes on (any *four*): $2\frac{1}{2} \times 4$

(*i*) Expert System

(*ii*) Periodic and Demand report

(*iii*) Test Manual

(*iv*) Office Automation System

(*v*) Types of Information

(*vi*) Process modelling

(*vii*) Decision tree and Decision Tabel.

[*Internal Assessment* – 5 Marks]

MODULE – 2

(*Software Engineering*)

[*Marks* : 25]

Answer any *two* questions

1. (*a*) What is Prototype ? Draw the schematic diagram of the prototyping model of software development ? Also discuss its phases in brief. 2 + 4

   (*b*) What is Software Crisis ? Discuss the problems of software crisis. 2 + 2

2. (*a*) What is LOC ? How cyclometric complexity is measured ? 2 + 3

(*b*) What do you mean by reusability of a software component. Explain using an example 3

(*c*) How information hiding can be achieved ? 2

3. (*a*) What do you mean by the term cohesion and coupling in reference to software design ? How are these concepts useful in arriving at a good design of a system. 2 + 4

(*b*) Explain the term design specification ? 4

4. (*a*) What do you mean by "Problem partioning" ? 2

(*b*) When do we use "stubs" and when do we use " drivers". 3

(*c*) What do you mean by alpha testing and beta testing ? 5

[*Internal Assessment* – 5 Marks]