June – 2008

Roll No. .....

Subject Code—9689-X

M.C.A. (Third Year) EXAMINATION

(5 Years Integrated Course)

MCA-303

SOFTWARE ENGINEERING

Time : 3 *Hours* *Maximum Marks :* 100

Note : Attempt any *Five* questions. All questions carry equal marks.

1. (a) What is Software Crisis ? What are the causes of software crisis ? How can it be overcome ? Illustrate.

   (b) What do you mean by software metrics ? How do these help in software development ? Illustrate.

P.T.O.

2. (a) What is software project planning ? Outline the goals of software project planning as well as the activities involved in software project planning.

(b) What is spiral life-cycle model ? Illustrate about its acceptability in present software practitioners.

3. (a) What are CASE tools ? Discuss various types of CASE tools indicating their respective usefulness.

(b) How are software faults and failures inter-related ? What are different types of software failure ? Also outline the characteristics of fault-free software.

4. (a) What is Software Design ? Discuss the design principles in detail.

(b) Differentiate between the following :

(i) Unit testing and Integration Testing

(ii) Black-box and White-box testing.

5. Differentiate between the following :

(a) Module coupling and Cohesion

(b) Good design and Bad design

(c) McCabe's Cyclomatic and Knots metrics.

6. (a) What is Software Testing ? How is testing important in software life-cycle ? Discuss the objectives of software testing.

(b) What is Software Quality ? What are important software quality attributes ? Explain.

7. (a) What is Software Reliability ? What characteristics of software make software reliability different from hardware reliability ? Discuss.

(b) What is Coding ? Discuss various coding conventions followed while writing programs.

8. Explain the following :

(a) Reverse Engineering

(b) Risk Management.