END TERM EXAMINATION

MAY-JUNE 2016

SECOND SEMESTER [MCA]

Subject: Software Engineering

Time: 3 Hrs **MM**: 75

Note: Attempt any six questions from the following. Q1 is compulsory.

Question 1:

(a) What is software crisis? List the reasons for software crisis. [2.5 × 10 = 25]

(b) What do you understand by SDLC? What are the advantages of developing prototype of a system?

(c) Explain the concept of function points. Why function points are becoming acceptable in industry?

(d) Discuss the objective of software design. How do we transform an informal design to detailed design?

(e) What are the various categories of software metrics? Discuss with the help of suitable example.

(f) What is software reliability? List the names of some of the models for software reliability estimation.

(g) Discuss the significance and use of requirement engineering.

(h) Discuss the problem during the software maintenance. How maintenance cost can be reduced.

(i) What is reverse engineering? Discuss reverse engineering and re-engineering.

(j) Why does software testing need extensive planning? Explain.

Question 2:

What is the importance of software life cycle model? Discuss the selection process

parameter for a life cycle model. Which model is the most widely used in software industry now-a-days? [10]

Question 3:
A university has decided to engage a software company for the automation of students results management system for its UG program. What documents are needed by the company to build the software? Draw a context diagram for university student result management system. [10]

Question 4:
What are the objectives of software design? How do we classify the modularity of software? Explain the steps to analyse and design object oriented system. [10]

Question 5:
Write a program for the calculations of roots of quadratic equation. Generate a cross reference for the program and calculate
- Module weakness
- LV (Average No. of Live Variables)
- Average Life of Variables [10]

Question 6:
Discuss the various software quality models. [10]

Question 7:
(a) What is cohesion and coupling? [2.5]
(b) What is object oriented design? [7.5]

Question 8:
Consider an example of grading the students in academic institution. The grading is done accrding to the following rules:

Marks Secured	**Grade**
75 - 100	Distiction
60 - 74	First Division
50 - 59	Second Division
40 - 49	Third Division
0 - 39	Fail

Generate test cases using equivalence class partition technique. [10]