Manipal Institute of Technology, Manipal
(A Constituent Institute of Manipal University)

INSPIRED BY LIFE

VI SEMESTER   B.TECH (OPEN ELECTIVE)

END SEMESTER EXAMINATION, MAY 2016

SUBJECT: Principles of Software Engineering (CSE 344)
REVISED CREDIT SYSTEM
Date: 16-05-2016

Time: 3 Hours   MAX. MARKS: 50

Instructions to Candidates:
❖ Answer **ANY FIVE FULL** questions.   ❖ Missing data, if any, may be suitably assumed.

1A. What is the principle aim of the Software engineering discipline? Mention any two characteristics of software.   2M

1B. Distingush between a computer program and a computer software. Mention how Software engineering techniques evolved?   5M

1C. What are the symptoms of the present day software crisis? What factors have contributed to the making of present day software crisis? What are the possible solutions?   3M

2A. Explain exploratory program development style of software product development.   3M

2B. Show at least three important drawbacks of the exploratory programming style.   3M

2C. What is the goal of software life cycle models? Write note on feasibility study of Software Development Life Cycle.   4M

3A. With the help of diagram Identify six different phases of a classical waterfall model. How classical waterfall model is different from iterative waterfall model.   5M

3B. Identify when a prototype model needs to be developed for software product development. Write the model representation.   4M

3C. Write down the two advantages of using spiral model.   **1M**

4A. Write at least four roles of a system analyst in requirements gathering and analysis activity of software product development.   4M

4B.Without developing an SRS document an organization might face severe problems. Identify those problems. 3M

4C.Consider Library Membership Automation Software (LMS) where it should support the following three options: 3M
  i. New member
  ii. Renewal
  iii. Cancel membership
 Write the decision tree representation.

5A.Mention the importance of cohesion and coupling in software product design. 4M

5B.Tic-tac-toe is a computer game in which a human player and the computer make alternative moves on a 3×3 square. A move consists of marking previously unmarked square. The player who first places three consecutive marks along a straight line on the square (i.e. along a row, column, or diagonal) wins the game. As soon as either the human player or the computer wins, a message congratulating the winner should be displayed. If neither player manages to get three consecutive marks along a straight line, but all the squares on the board are filled up, then the game is drawn. The computer always tries to win a game. Write Level 0 and Level 1 DFDs. 3M

5C.Write down at least three differences between function-oriented and object-oriented design approach. 3M

6A.What is the necessity of well-defined and standard style of coding called coding standards? 3M

6B. Distinguish between Black box testing and White box testing. 4M

6C. What should be the necessary skills of a software project manager in order to perform the task of software project management? 3M