Reg. No. : | | | | | | | | | | |

K 3536

M.C.A. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2007.

Third Semester

MC 1703 — SOFTWARE ENGINEERING

(Regulation 2005)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Write the approaches for software process assessment.

2. What is the difference between systems engineering and software engineering?

3. Identify the actors and use cases in a general banking problem.

4. List out the requirements validation techniques.

5. What is OCL? What is the use of it in Object-Oriented design?

6. Enumerate the fundamental software design concepts

7. How do you define cyclomatic complexity?

8. Define testability.

9. Name the measures for reliability in software.

10. Differentiate between Errors and Defects.

PART B — (5 × 16 = 80 marks)

11. (a) Categories the iterative models for software process. Explain each of them in detail. (16)

Or

(b) What are the different types of agile process models? Explain the characteristics of each of them in detail. (16)

12. (a) (i) Explain the factors to be considered for system modeling. (8)

(ii) Which of the UML diagrams are useful for system modeling. With a suitable example explain. (8)

Or

(b) (i) List out the analysis modeling approaches. (2)

(ii) With suitable examples and required diagrammatic representation explain the following :

(1) Scenario based modeling. (7)

(2) Behavioral modeling. (7)

13. (a) Explain in detail about the pattern based software design. (16)

Or

(b) (i) Define cohesion and coupling. Explain the various types in each of them. (8)

(ii) Elaborate the rules for good use interface design. (8)

14. (a) (i) Explain the various system testing methods. (8)

(ii) Write notes on testing of real time environments. (8)

Or

(b) (i) Explain the variations in testing for OO environment. (8)

(ii) Assume a problem and derive the test cases for it using the method equivalence partitioning. (8)

15. (a) (i) Write notes on statistical software quality assurance. (8)

(ii) Write notes on software safety. (8)

Or

(b) Explain in detail about the software configuration management layered activities.
