

ADCA / MCA (II Yr)
Term-End Examination
June, 2007

CS-10 : SOFTWARE ENGINEERING

Time : 3 hours

Maximum Marks : 75

Note : Question number 1 is **compulsory**. Answer any **three** questions from the rest.

1. (a) A flight reservation center is planned to be automated as follows : 20
- on-line reservation of tickets
 - on-line availability of tickets
 - on-line current-status checking of PNR number

For the above mentioned system :

- (i) Develop a Software Requirement Specification.
- (ii) Design DFD upto two levels.
- (iii) Explain the validation criteria for the system.
- (iv) What classes of tests would be conducted for validation of the above requirements ?

- (b) How do you define reliability ? Give the measures of reliability and availability. 5
- (c) Explain the structured approach to top-down and bottom-up design. 5
2. (a) What are the activities involved in project management ? Explain the key elements of software project management. 7
- (b) Give the list of major project estimation techniques. Explain how the COCOMO model is used in estimation. 8
3. (a) What are the main problems associated with software development and their underlying causes ? 8
- (b) What is CMM ? Explain various maturity levels in CMM. 7
4. (a) Explain the layered technology approach to software engineering. 5
- (b) Develop a use case diagram for a library system where the book issue and book return operations are allowed. 10

5. (a) Explain the function oriented and object oriented designs and their features. 6
- (b) Explain the following : 9
- (i) Test case design
 - (ii) Control coupling
 - (iii) Verification and validation

