

20/6/11

Roll No.

Total No. of Pages : 3

BT6/M11

8604

Software Engineering

Paper : CSE-308, Option : II

Time : Three Hours]

[Maximum Marks : 100

Note :— Attempt total **FIVE** questions by selecting at least **ONE** question from each unit.

UNIT—I

1. (a) Provide three examples of software projects for which prototyping life cycle model would be useful. Justify your answer. 9
- (b) It is possible to prove that a software component and even an entire program is correct. Why everyone doesn't do it ? 5
- (c) Name two project scheduling methods and briefly explain their working. 6
2. (a) Assume that you are a project manager for developing a payroll program that reads a file containing information about all the cheques that have been printed. The file is supposed to be printed and also used by the program next time it is run, to produce a report that compares payroll expenses of the current month with those of the previous month. Compute function points for this program and estimate the size of each function in LOC. Assuming that your organization produces 450 LOC/pm with a burdened labor rate of Rs. 30,000 per person month, estimate the effort and cost required to build the software using any LOC-based estimation technique. 12
- (b) Explain briefly working of COCOMO model. 8

UNIT—II

3. Computer Science department in a University offers many courses every semester, which are taught by many instructors. The senior-most instructor is allotted the course, if there are many instructors to teach the same course. The number of courses allowed are dependent on number of class-rooms available. The instructor teaching a course specifies the maximum number of students allowed to be enrolled in that course. Draw various DFDs for this problem from its requirement analysis viewpoint and then list 5 main requirement specifications for it. 20
4. (a) What are methods of risk identification and refinement ? Briefly describe. 10
- (b) What is use of software review ? At what point of times is it done during project development and what are its advantages ? 10

UNIT—III

5. (a) Use structured design methodology to produce a design for the following :
- (i) A system that converts a given string of characters into an array of equivalent ASCII values. 4+6=10
- (ii) A system for a chemist shop that will manage his all medicines' details, keep track of expiration dates, and track allergy records of patients to avoid issuing medicines that might be harmful. 4+6=10
- (b) Discuss the objectives of modular software design. What are the effects of module coupling and cohesion ? 10

6. (a) List different types of cohesion and explain each of them. 10
(b) How object-oriented design method differs from function-oriented design method ? Take any suitable example and show the difference of design. 10

UNIT—IV

7. (a) What are different levels of testing ? Explain each of them and their role. 10
(b) What do you understand by white box testing ? What are its various methods ? Explain any one of them. 10
8. (a) What are various types of maintenance ? Explain each of them by giving example. 10
(b) Differentiate between verification and validation. 5
(c) Explain boundary value analysis based testing technique briefly. 5