Advanced Diploma in Information Technology (ADIT) / Bachelor in Information Technology (BIT)

Term-End Examination

June, 2007

CST-204 : ADVANCED TOPICS IN SOFTWARE ENGINEERING

Time : 3 Hours *Maximum Marks : 75*

Note : *There are **two** sections in this paper. Section A is **compulsory**. Questions number 1 to 10 carry 1 mark each. Questions number 11 to 14 carry 5 marks each. Answer any **three** questions from Section B. Each question of Section B carries 15 marks.*

SECTION A

1. _____ is a collection of programs written to serve other programs.

(a) System software

(b) Application software

(c) Any program

(d) Only Real-time software

2. _____ is a software process model.

(a) Waterfall model (b) Prototyping model

(c) Spiral model (d) All of the above

3. LOC stands for _____ .

(a) Lines of Code (b) Lines of Compiler

(c) Laws of Code (d) Lines on Code

4. Risk analysis and management are a series of steps that help a software team to understand and manage _____ .

(a) cost
(b) complexity of software
(c) human resources
(d) uncertainty

5. _____ is an activity that distributes estimated effort across the planned project duration by allocating the effort to specific software engineering tasks.

(a) Analysis
(b) Design
(c) Coding
(d) Software project scheduling

6. _____ is a software quality assurance activity performed by software engineers.

(a) Requirements analysis
(b) Formal technical review
(c) Code walk-throughs
(d) Compilation

7. "PERT" is a term associated with

(a) Feasibility analysis
(b) Software testing
(c) Project scheduling
(d) Program productivity

8. _____ is a repository that contains descriptions of all data objects consumed or produced by the software.

(a) Data Dictionary
(b) Data Flow Diagram
(c) Flow Chart
(d) Algorithm

9. _____ is an iterative process through which requirements are translated into a "blueprint" for constructing the software.

   (a) Requirements Analysis

   (b) Software Design

   (c) Software Quality

   (d) Software Cost Estimation

10. _____ is simply how easily a computer program can be tested.

   (a) Software testability (b) Documentation

   (c) Indenting (d) Complexity

11. Assume that you are a Systems Analyst and need to develop a Railway Reservation System. Write at least five requirements for the system.

12. How will you estimate the effort that needs to be put to successfully complete a project ?

13. Explain all phases of Linear Sequential Model.

14. What is a Gantt chart ? Explain with an example.

SECTION B

*Answer any **three** questions from this section.*

15. Give five examples of software projects that would use Prototyping model for development. Justify your answer. *15*

16. (a) How is adaptation criteria defined for any S/W project ? What is its significance ?

   (b) Make an E-R diagram for a "School Management System".

17. Explain the following w.r.t. S/W project development :

(i) Problem based estimation

(ii) Project coordination techniques

(iii) S/W sizing

18. Differentiate between the following :

(i) S/W reliability and Software feasibility

(ii) Adaptive maintenance and Corrective maintenance

(iii) White box and Black box testing