CST-204

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. *1*

(a) System software

(b) Application software

(c) Any program

(d) Only Real-time software

2. _____ is a software process model. *1*

(a) Waterfall model (b) Prototyping model

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

3. LOC stands for _____ . *1*

(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 _____ . *1*

(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. *1*

(a) Analysis

(b) Design

(c) Coding

(d) Software project scheduling

6. _____ is a software quality assurance activity performed by software engineers. *1*

(a) Requirements analysis (b) Formal technical review

(c) Code walk-throughs (d) Compilation

7. "PERT" is a term associated with *1*

(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. *1*

(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. *1*

(a) Requirements Analysis

(b) Software Design

(c) Software Quality

(d) Software Cost Estimation

10. _____ is simply how easily a computer program can be tested. *1*

(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. *5*

12. How will you estimate the effort that needs to be put to successfully complete a project ? *5*

13. Explain all phases of Linear Sequential Model. *5*

14. What is a Gantt chart ? Explain with an example. *5*

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 ? *8*

(b) Make an E-R diagram for a "School Management System". *7*

17. Explain the following w.r.t. S/W project development : *15*

(i) Problem based estimation

(ii) Project coordination techniques

(iii) S/W sizing

18. Differentiate between the following : *15*

(i) S/W reliability and Software feasibility

(ii) Adaptive maintenance and Corrective maintenance

(iii) White box and Black box testing