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

Term-End Examination

December, 2006

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. A _____ is a person who performs systems analysis during the phases of Software Development Life Cycle.   *1*

    (a) Systems Analyst   (b) Programmer

    (c) Tester   (d) All of the above

2. In _____, the details of a task at one level are hidden from the use of that task at a higher level.   *1*

    (a) recursion   (b) abstraction

    (c) procedure   (d) any program

3. Unreasonable _____ are costly because unnecessary effort is made to meet them.   *1*

    (a) deadlines   (b) requirements

    (c) effort estimates   (d) None of the above

4. _____ control is best when speed of development is the most important goal and the problem is well understood.   *1*

    (a) Decentralised   (b) Centralised

    (c) Any   (d) None of the above

5. _____ is a set of activities designed to evaluate the process by which products are developed or manufactured. *1*

   (a) SRS

   (b) SQA

   (c) Design specification

   (d) Test plan

6. _____ is the degree to which the software can function correctly in the presence of invalid inputs or stressful environmental conditions. *1*

   (a) Program correctness   (b) Software reliability

   (c) Software robustness   (d) Reusability

7. SQL is a _____ generation language. *1*

   (a) third   (b) fourth

   (c) second   (d) first

8. The maximum expenditure on a software project will be for _____ . *1*

   (a) analysis   (b) design

   (c) testing   (d) maintenance

9. _____ charts can help a manager identify schedule bottle-necks immediately, even mechanically. *1*

   (a) Gantt   (b) PERT

   (c) Flow   (d) All of the above

10. For a user who does not have sufficient expertise in software, the best generation of languages to use are that of _____ generation. *1*

    (a) first   (b) second

    (c) third   (d) fourth

11. Assume that you are a System Analyst and want to develop a Student Admission System. After analysis phase, produce at least six requirements for the Student Admission System. *5*

12. Explain five reasons of failure of CASE tools. *5*

13. What is software testing ? Explain different software testing approaches.

14. With the help of suitable diagram, explain the Spiral model of software development. Also mention its advantages.

SECTION B

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

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

16. Explain the structure of a Controlled Centralised team. Write the seven factors that should be considered when planning the structure of a software engineering team.

17. Define the term "Software Quality". Explain any seven qualities of a software product.

18. Explain any ten sources of problems from users' point of view that may lead to software crisis.