BTS 122 (A)

B.Tech. Degree VII Semester Examination in Information Technology, June 2001

IT 701 SOFTWARE ENGINEERING AND CASE TOOLS

Time: 3 Hours *Max. Marks: 100*

(All questions carry ***equal*** marks)

I. (a) Explain why it is useful to draw a distinction between requirements definition and requirement specification.

(b) Explain why it is very difficult to produce a complete and consistent set of requirements?

OR

II. (a) Distinguish between unit testing and integration testing with respect to testing of computer software.

(b) What do you understand by software DEBUGGING? Is it different from software testing?

III. Explain why, for large system development, it is recommended that prototypes should be *throw-away* prototypes.

OR

IV. Explain why formal specification is a valuable technique for defining the interfaces between sub-systems.

V. Explain why maximizing cohesion and minimizing coupling leads to more maintainable systems. What other attributes of a design might influence system maintainability?

OR

VI. (a) Discuss the differences between object oriented and function oriented design strategies.

(b) Explain why it is necessary to design the system architecture before the specifications are written.

VII. (a) Discuss the differences between verification and validation and explain why validation is a particularly difficult process.

(b) Explain why top-down testing is not an effective strategy for object oriented system.

OR

VIII. (a) Discuss whether it is possible for engineers to test their own programs in an objective way.

(b) One approach which is commonly adopted to system testing is to test the system until the test budget is exhausted and then deliver the system to customers. Discuss the ethics of this approach.

IX. Using examples explain why CASE systems must be adapted for use in a given environment.

OR

X. Explain the difficulties of measuring program maintainability. Describe why maintainability is not a simply related to a single complexity metric.

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