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Number of Printed Pages—3   **IT–502 / CS–701**

B. TECH.

FIFTH SEMESTER EXAMINATION, 2002-2003
SOFTWARE ENGINEERING

Time : Three Hours   *Total Marks : 100*

Note : Attempt ALL questions.

1. Attempt any FOUR of the following :— $(5 \times 4 = 20)$

   (a) What do you understand by the term Software Engineering ?

   (b) Why has software become so much important in modern days desk top computing ?

   (c) Explain, in brief, the evolution of computer software in last 50 years.

   (d) A set of software related problems has persisted throughout the evolution and many fear that these problems will intensify — explain any two of the problems in detail.

   (e) "Software is developed or engineered, it is not manufactured in classical sense." Explain.

   (f) Name and explain three applications of software.

2. Attempt any FOUR of the following :— $(5 \times 4 = 20)$

   (a) Explain, in brief, Software development life-cycle.

(b) What is Requirement Analysis ?

(c) Explain Software Process Model in brief.

(d) Describe, with a suitable diagram, the Waterfall Model or Prototype Model.

(e) Explain, with examples, Top Down and Bottom Up approach in Software design.

(f) Provide three examples of fourth generation techniques.

3. Attempt any TWO of the following :—   (10 × 2 = 20)

(a) Explain the advantages of Structured Programming in detail.

(b) What are the Testing Objectives and Testing Principles in Software Design ?

(c) What are Top Down and Bottom Up Integration testings ? Explain with examples.

4. Attempt any TWO of the following :—   (10 × 2 = 20)

(a) Discuss, in detail, the basic principles in Project Scheduling.

(b) How do OOD and structured design differ ? What aspects of these two design methods are the same ?

(c) Describe a video game and apply the OOD approach to represent its design.

5. Attempt any TWO of the following :—   (10 × 2 = 20)

(a) What is CASE ? Explain three most used CASE tools.

(b) Are there situations in which dynamic testing tools are the "only to go" ? If so, what are they ? Describe, what is meant by Data Tool Integration in your own words.

(c) What are the reliability issues in regard to quality assurance of a design ? Explain Reliability Metrics.