

(Following Paper ID and Roll No. to be filled in your Answer Book)

**PAPER ID : 2475**

Roll No.

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**B. Tech.**

(SEM. VI) THEORY EXAMINATION 2010-11

**SOFTWARE ENGINEERING**

*Time : 3 Hours*

*Total Marks : 100*

- Note :** (1) Attempt **all** questions.  
(2) All questions carry equal marks.

1. Attempt any **two** parts of the following : **(2×10=20)**
- (a) Discuss about the software Development Life Cycle ? Why is it important to adhere to life cycle model while developing a large software product ?
- (b) (i) Describe the characteristics of a software with examples.  
(ii) What do you mean by software engineering process ? How is it different from conventional engineering process ? Discuss.
- (c) Discuss the following process models in brief :
- (i) Prototype model  
(ii) Spiral model.

2. Attempt any **two** parts of the following : (2×10=20)
- (a) What is software requirements specification document ? Briefly discuss the importance of software requirement specification with suitable example..
  - (b) (i) Explain data flow diagram with suitable example.  
(ii) What is data modeling ? What is the importance of entity relationship diagram in it ?
  - (c) (i) Compare ISO-9000 and SEI-CMM models.  
(ii) Discuss the software quality attributes in brief.
3. Attempt any **two** parts of the following : (2×10=20)
- (a) What do you understand by design concept of cohesion measures ? Briefly explain each level of cohesion. Also compare it with coupling measures.
  - (b) Define software metrics. What are various categories of software metrics ? Discuss with the help of examples.
  - (c) Write short notes on :
    - (i) Object Oriented Design
    - (ii) Halstead's software science.
4. Attempt any **two** parts of the following: (2×10=20)
- (a) What is software testing ? Briefly discuss the following :
    - (i) Verification and Validation
    - (ii) Alpha, beta and acceptance testing.
  - (b) Describe the white-box testing in detail. Discuss the cyclomatic complexity with suitable example.

- (c) Discuss the following :
  - (i) Formal Technical Reviews (FTR)
  - (ii) Debugging Approaches.

5. Describe any **two** of the following with examples: **(2×10=20)**

- (a) Software Risk Management
- (b) Software Configuration Management Activities
- (c) Constructive Cost Models (CoCoMo).