

Total No. of Questions : 12]

SEAT No. :

P1429

[Total No. of Pages : 3

[4858] - 202

**T.E. (IT) (Semester - I)**  
**SOFTWARE ENGINEERING**  
**(2008 Pattern)**

*Time : 3 Hours]*

*[Max. Marks : 100*

*Instructions to the candidates :-*

- 1) *From section I answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6 and answer Q.7 or Q.8, Q.9 or Q.10, Q.11 or Q.12.*
- 2) *Answers to the two sections should be written in separate answer books.*
- 3) *Neat Diagrams must be drawn wherever necessary.*
- 4) *Figures to the right indicate full marks.*

**SECTION - I**

**Q1)** a) What are the characteristics of software? Explain in detail following software myths. **[10]**

- i) Practitioner's myths
- ii) Management myths

b) Explain in detail Spiral model with its merits/demerits. **[8]**

OR

**Q2)** a) Define software engineering. What are the software characteristics? What are the various categories of software? **[10]**

b) Explain in detail extreme programming. **[8]**

**Q3)** a) Explain in detail requirement engineering task. **[8]**

b) What are the rules of thumb Explain in detail following UML diagrams stating purpose and applicability. **[8]**

- i) Use-case diagram
- ii) State diagram

OR

**P.T.O.**

- Q4)** a) Draw level 0, level 1, and level 2 data flow diagram for library book returning system for a student. System also maintains book information. [8]
- b) Explain domain analysis. Discuss in short : Data objects, cardinality and modality in data models. [8]

- Q5)** a) Explain in Detail following Design concepts : [12]
- i) Information Hiding 3. Function Independence
- ii) Modularity
- b) Explain Layered architecture style in brief. [4]

OR

- Q6)** a) Explain the Golden rules used for user interface design. [12]
- b) Explain Web application interface design principles and guidelines. [4]

### **SECTION - II**

- Q7)** a) Explain the Debugging Process with the help of a diagram. [6]
- b) Explain the following system testing strategies in brief. [6]
- i) Stress Testing
- ii) Security Testing
- c) Define Cyclomatic Complexity? What are the 3 ways to calculate it? [4]

OR

- Q8)** a) Explain the following Integration Testing Strategies: [8]
- i) Top-down integration
- ii) Bottom-up integration
- b) What is black box testing? What are the ways to perform black box testing? [8]

- Q9)** a) What are the ways in which software estimation can be classified? Elaborate [6]  
b) Explain the term people and process of management Spectrum. [6]  
c) State the direct measures of the Software process and product. Also state the indirect measures of product? [4]

OR

- Q10)** a) Explain decision tree to support make-buy decision with an example. [8]  
b) What do you mean by DRE? What is the ideal value for DRE? What is the significance of DRE in maintaining Software Quality? [4]  
c) Describe the Lorenz and Kidd approach of estimation for Object-Oriented Projects. [4]

- Q11)** a) What is risk mitigation, risk monitoring, risk management? Explain in brief. [10]  
b) What are the types of risks? Explain in brief. [8]

OR

- Q12)** a) What is the objective of SCM? What are SCM features? [6]  
b) What are the software quality factors? Explain any four. [12]

