

**M.Sc. (Informatics)/III-Sem.-2011**

**Paper: IT-35**

**Software Engineering-I**

Time: 3hrs

Maximum Marks:75

*(Write your Roll No. on the top immediately on receipt of this question paper.)*

*Attempt five questions in all. All questions carry equal marks*

- Q.1 Define the term “ Software Engineering “. What are the 3 key elements used in software engineering? With the help of a diagram, describe linear sequential waterfall model. Do a critical evaluation of linear sequential waterfall model.
- Q.2 List down the Design Principles. Explain with diagrams, the design concept of Horizontal Partitioning and Vertical Partitioning. Which type of Partitioning is also known as Factoring?
- Q.3 What is the difference between Multiprogramming, Multitasking & Multiprocessing. List and explain the Modeling Principles that should be considered in the design of Real Time software.
- Q.4 Explain “ Facilitated Application Specific Techniques”. What is a software prototype? Write down about the two approaches to prototyping. What are the basic elements of Data Modeling? Using an appropriate figure explain Entity Relationship Diagram.
- Q.5 Give the IEEE definition of Testing. Differentiate between Testing, Verification & Validation. A tank has its pressure controlled by application software to carry out a chemical reaction. The pressure should not fall below 100 units & it should not rise above 500 units. Identify all the test cases using Black Box Methods.
- Q.6 Define Software Configuration Management. What are Software configuration Items? Differentiate between Software Maintenance and Software Configuration Management. Describe the 2 elements of Change Control.