B.Sc. Computer Science

SEMESTER - V

Course Code	Course Title	H	C	I	E	T
17U5DMC13	Software Engineering	5	4	25	75	100

Objectives:
- To impart the knowledge of Software Product development with an engineering approach.
- To teach software development methodologies, tools and techniques.

Unit – I   **Total Hours: 75**
Introduction   **(15 Hours)**
Definitions - Some Size factors - Quality and Productivity factors - Managerial issues.

Unit – II
Planning a Software Project   **(15 Hours)**
Defining the problem - Developing a solution strategy - Planning the development process - Planning an organizational structure – Other Planning Activities.

Unit – III
Software Cost Estimation   **(15 Hours)**
Software cost factors - Software cost estimation techniques - Staffing level estimation - Software requirements definition – The software requirements specification – Formal Specification techniques.

Unit – IV
Software Design   **(15 Hours)**
Fundamental   design concepts - Modules and modularization criteria - Design notations - Design techniques - Real-time and distributed system design – Test plans - Milestones, walkthroughs & inspections.

UNIT – V
Software Maintenance   **(15 Hours)**
Enhancing Maintainability during development - Managerial aspects   of software maintenance - Configuration management - Source - code metrics - Other Maintenance tools and Techniques.

Text Book:
 "Software Engineering concepts" – Richard Fairley – MGH.

Chapters:

Unit – I   **:** 1.1,1.2,1.3, 1.4
Unit – II   **:** 2.1 ,2.2,2.3,2.4,2.5
Unit – III **:** 3.1 ,3.2,3.3, 4.1, 4.2
Unit – IV   **:** 5.1,5.2,5.3,5.4, 5.6,5.7,5.8
Unit – V   **:** 9.1,9.2,9.3,9.4,9.5

Reference Books:

1. "Software engineering design" - H.C Shooman – MGH - 1983.
2. "Software Engineering" – Roger Pressman – MGH - IV Ed.,1998.