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| III B.Sc, (CS)       | <b>SOFTWARE ENGINEERING</b> | <b>ECS615S</b>    |
| <b>SEMESTER - VI</b> |                             | <b>HRS/WK-6</b>   |
| <b>Elective - I</b>  |                             | <b>CREDIT - 5</b> |

**Objective:** To introduce the concepts of software Engineering and the various phases in Software development in order to equip the students in developing project.

**Unit - I: Software Engineering and Models:** Introduction- Characteristics of Software- Software Myths- **Process Models:** The Waterfall Model- Incremental Process Models: The incremental Model, The RAD Model-Evolutionary Process Models: Prototyping, The Spiral Model, The concurrent Development Model.

**Unit-II: Requirement Engineering:** Requirement Engineering Tasks- Initiating the Requirements Engineering Process-Eliciting Requirements.

**Unit - III: Building the Analysis Model:** Requirement Analysis-Data Modeling concepts- Flow oriented Modeling- Class based Modeling- Creating Behavioral Model.

**Unit - IV: Testing: Testing strategies:** Test Strategies for Conventional Software- Validation Testing-System Testing. **Testing Tactics:** White Box Testing- Basic Path Testing-Control Structure Testing-Black Box Testing.

**Unit –V: Project Management:** The Management Spectrum - The People-The Product, The Process- Formal Technical Reviews.

**Text Books:**

1. R.S.Pressman – Software Engineering –Sixth Edition McGraw Hill International edition – 2005.

**Reference Books**

1. Richard Fairley – Software Engineering – (Design,Reliability and Management) – Tata McGraw Hill edition –1983.
2. Software Engineering: (Update) (8th Edition) by Ian Sommerville

**NOTE:**

Please refer text book 1 for Question Paper and key preparation.

B. Sc. Computer Science

Time: 3 Hrs

Max. Marks: 75

**Section – A (5 x 5 = 25)**

**Answer ANY FIVE out of eight.**

One question from each unit and three questions from important topics with problems and programs

**Section – B (5 x 10 = 50)**

**Answer ANY FIVE out of EIGHT.**

One question from each unit and three questions from important topics with problems and programs