SEMESTER - VI

SUBJECT: SOFTWARE ENGINEERING **COURSE CODE BIT- 604**

UNIT-I

Software process, SW product, characteristics of good SW product, SW process models, waterfall prototyping, RAD, incremental and generic spiral model, 4G techniques.
SW requirement analysis (SRS), types of requirements and steps involved in SRA, SW requirements specifications (SRS), guidelines and prototype for good SRS.

UNIT-II

Structured analysis and design, representation techniques used data modeling (entity-relationship diagram), Process modeling (data flow diagram), behavioral modeling (state-transition diagram).
Software design concepts and principles, procedural and data abstraction, top-down design, call-return architecture, structural partitioning, characterization of effective modular design (functional independence, cohesion, coupling), SW architecture styles (data-centered, data-flow and layered architectures).

UNIT-III

Software Testing: Need for SW testing, testing principle, approaches to the design of test cases, black box and white-box testing, Phases in testing activity: unit, integration, validation and system tests; concepts of verification and validation.

UNIT-IV

Software project management concepts, project planning and resource estimation techniques, simple Boehm model, risk analysis and management, project scheduling and tracking, software quality assurance, SW configuration management (SCM) concepts: baseline, version id, release id, Introduction to CASE tools, categories of commonly used CASE tools.

Books Recommended:

1. "Software Engineering – A Practitioners Approach", by Roger Pressman, McGraw Hill
2. Ghezzi, Jazayeri et al, "Fundamentals of Software Engineering", PHI
3. Ian Summerville, "Software Engineering", PHI