Paper Cade: BCADSC4.3	Paper Title: Software Engineering	Teaching Hours: 5 Hrs / Week
Total Teaching Hours: 60Hrs	Marks: Th-80+IA-20	Credits: 3

UNIT 1:
Introduction to Software Engineering: Defining Software, Software Application Domains, Software Engineering Layers, Software Myths. Process Models: The Waterfall Model, Incremental process model, Evolutionary Process Model – Prototyping and The Spiral model. **12 Hrs**

UNIT 2:
Software Requirement: Functional and non functional requirement, Software requirements document, requirements specification. Requirements Engineering Process: Requirements elicitation and analysis, requirements validation, Requirements management. System Models: Behavioral models, Object Models. **12 Hrs**

UNIT 3:
Design Engineering: Design Concepts, Architectural Styles, Architectural Design. Modeling Component-level design: designing class –based components, conducting component-level design. User Interface Design: Golden rules, User interface analysis and design **12 Hrs**

UNIT 4:
Testing Strategies: A strategic approach to software testing, Validation testing, System testing. Testing Conventional Applications: White-Box Testing (Basis Path Testing), Black Box Testing (Equivalence Partitioning, Boundary Values Analysis). **12 Hrs**

UNIT 5:
Risk management: Reactive vs. Proactive Risk strategies, software risks, Risk identification, Risk projection, Risk refinement, RMMM, RMMM plan. Software Quality Assurance: Software Reviews, Formal technical Reviews, Statistical Software quality Assurance, Software reliability. **12 Hrs**

Text Books:

1. Ian Somerville, Software Engineering, 9th Edition, Pearson Publication Ltd. 2011
2. Roger Pressman, Software Engineering – A practitioner's approach 6th edition McGraw Hill 2010.

References:

1. Carlo Ghejgietal, Fundamentals of software – engineering, Pearson Education.
2. PanakajJalote, An Integrated approach to software engineering – Narosa Publishing house.