

BHARATHIAR UNIVERSITY: COIMBATORE-641 046

B.Sc. Computer Science

(For the students admitted from the academic year **2011-2012** and onwards)

CBCS PATTERN

Skill based subject

Skill-1 CS

SOFTWARE ENGINEERING & SOFTWARE PROJECT MANAGEMENT

UNIT – I:

Introduction –Software Engineering Technology – Software process – Software process models – The prototyping. Requirement Engineering - System modeling – Requirements analysis and elicitation for software - software prototyping - data dictionary – elements of analysis model – data modeling – functional modeling and information flow.

UNIT – II:

The system design process – software design and software engineering – The design process – Design principles – Design concepts – Effective modular design – Design heuristics for effective modularity - User interface Design

UNIT – III:

Software testing techniques – Software testing fundamentals – White box testing – Basis path testing – Control structure testing – Black box testing. Software testing strategies – A strategic approach to s/w testing – Validation testing – System testing – The Art of debugging

UNIT – IV:

Software Configuration Management – Definitions and terminology – processes and activities .Software Quality assurance – definitions –quality control and assurance – Organization of Structures – Risk Management – Risk Identification, quantification Monitoring – Mitigation. Project initiation – Project Planning and tracking–organizational processes – assigning resources – project tracking – project closure

UNIT – V:

Software requirements gathering – steps to be followed – skills sets required –challenges.

Estimation: Three phases of estimation. Design and Development phases – reusability,

Technology choices, Standards, Portability user interface – testability – diagnosis ability –

Maintainability – Install ability-The Effect of Internet on Project Management

TEXT BOOKS:

1. Roger S. Pressman: Software Engineering, Tata McGraw Hill Publication Company Pvt. Ltd., **V Edition.**
2. Gopaldaswamy Ramesh, “Managing Global Software Projects” Tata McGraw Hill Publishing Company Ltd, New Delhi, 2002

REFERENCE BOOKS:

1. Watts S Humbrey: A Discipline for Software Engineering, Pearson education Publ., 2001.
2. Bob Hughes and Mike Cotterell “Software Project Management”2nd edition, Tata McGraw Hill Publishing Company Ltd., New Delhi, 2002.