

PAPER : MCA35 Software Engineering]

Examination Scheme					
Internal		External		Total	
Th. (Marks)	Pr. (Marks)	Th. (Marks)	Pr. (Marks)	Th. (Marks)	Pr. (Marks)
30	-	70	-	100	-

UNIT I (25%)

The Product : Software, Software Myths, The process : Software engineering : A Layered Technology, Software Process Models, The linear sequential Model, The prototyping Model, The RAD Model, Evolutionary Software Process Models, Component – Based Development, Fourth Generation Techniques, Software process and project metrics : Software measurement

UNIT II (25%)

Software project planning : Project planning objectives, Software scope, Decomposition Techniques, Empirical estimation models, The Make/Buy Decision., Risk analysis and Management : Reactive versus proactive risk strategies, Software risks, Risk identification, Risk projection, Risk refinement, Risk mitigation, monitoring, and management, Safety risks and hazards, The RMMM Plan, Project scheduling and technique : Basic concept, Defining a task set for the software project, Defining a task Network, Scheduling, Earned value analysis.

UNIT III (25%)

Software Quality Assurance : Quality Concepts, The Quality Movement, Software Quality Assurance, Software Reviews, Formal Technical Reviews, Formal Approaches to SQA, Statistical Software Quality Assurance, Software Reliability, Mistake Proofing for Software, Introduction to ISO standard

UNIT IV (25%)

Software Testing Technique : Software testing fundamentals, Test case design, White-box Testing, Basis path testing, Control structure testing, Black-box testing, Testing for specialized environments, architectures and application, Object-Oriented Analysis : Introduction to UML Diagrams, Use Case Diagrams, Class Diagrams, Collaboration Diagrams, Implementation Diagrams

Books:

1. Software Engineering – Roger Pressman
2. UML a beginner's guide- Jason T. Roff

Question Paper Scheme:

Section – I		Section – II	
Q.1 - Objective Type Unit I & II	(11) Marks	Q.4 - Objective Type Unit III & IV	(11) Marks
Q.2 - Unit-I OR Q.2 Unit-I	(12) Marks	Q.5 - Unit-III OR Q.5 Unit-III	(12) Marks
Q.3 - Unit-II OR Q.3 Unit-II	(12) Marks	Q.6 - Unit-IV OR Q.6 Unit-IV	(12) Marks