



Paper Code: ARO 380	L	T/P	Credits									
Subject: Software Project Management	3	0	3									
Marking Scheme: Teachers Continuous Evaluation: As per university examination norms from time to time. End Term Theory Examination: As per university examination norms from time to time.												
INSTRUCTIONS TO PAPER SETTERS: Maximum Marks: As per University norms												
<ul style="list-style-type: none"> ➤ There should be 9 questions in the end term examination question paper ➤ Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 15 marks. ➤ Apart from Question No. 1, the rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, students may be asked to attempt only 1 question from each unit. Each question should be 15 marks. ➤ The questions are to be framed keeping in view the learning outcomes of course/paper. The standard/ level of the questions to be asked should be at the level of the prescribed textbooks. ➤ The requirement of (scientific) calculators/ log-tables/ data-tables may be specified if required 												
Course Outcomes [Bloom's Knowledge Level (KL)]: CO1: Recall the definition of a software project and differentiate it from other types of projects [K1]. CO2: Analyze and select appropriate project scheduling methods and techniques [K2]. CO3: Apply decomposition techniques to estimate the effort and duration of software projects [K3]. CO4: Analyze the effectiveness of. [K4].												
CO/PO	PO01	PO02	PO03	PO04	PO05	PO06	PO07	PO08	PO09	PO10	PO11	PO12
CO1	3	3	3	3	2	-	-	-	1	1	1	2
CO2	3	3	3	3	2	-	-	-	1	2	1	2
CO3	3	3	3	3	2	-	-	-	1	1	1	3
CO4	3	3	3	3	3	2	-	-	1	1	1	3
Course Content											No of Lectures	
Unit I: Introduction to Software Project Management (SPM): Definition of a Software Project (SP), SP Vs. other types of projects activities covered by SPM, categorizing SPs, project as a system, management control. Software Project scheduling and planning: Basic concepts, project scheduling, defining a task set and task network, scheduling, earned value analysis indicators, Project elements, WBS [Work Breakdown Structure]. Selecting a project, identifying project scope and objectives, identifying project infrastructure, analyzing project characteristics, identifying project products and activities.											[8]	



<p>Unit II: Project Estimation and Evaluation: software project estimation, decomposition techniques, empirical estimation models, estimation for object oriented projects, estimation for Agile development and Web engineering projects. Cost benefit analysis, cash flow forecasting, cost benefit evaluation techniques, risk evaluation. Selection of an appropriate project report; choice of process model, structured methods, rapid application development, water fall, spiral models, Prototyping delivery, Albrecht function point analysis.</p>	[10]
<p>Unit III: Activity planning: Objectives of activity planning, project schedule, projects and activities, sequencing and scheduling activities, Network planning model; Network Diagrams : CPM, Bar Charts, Gantt Chart , PERT [Activity-on-arrow network; Activity on Node network] Precedence network; Forward pass; Backward pass; Critical path. Risk Analysis and Management: Risk and risk types, Risk Break down Structure, Risk management process, Evaluating schedule risk using PERT.</p>	[12]
<p>Unit IV: Resource allocation & Monitoring the control: Introduction, the nature of resources, identifying resource requirements, visualizing progress, Project Tracking, Status Reports, Milestone Analysis, Actual Versus Estimated Analysis of Effort and Schedule. Software quality and project closure: Defining software quality attributes, ISO 9126, Software quality measures, Project Closure Analysis, The Role of Closure Analysis, Performing Closure Analysis. Project Management Case Study.</p>	[10]
<p>Text Books: [T1] Software Project Management (2nd Edition), by Bob Hughes and Mike Cottrell, 1999, TMH [T2] Software Project Management, Walker Royce, 1998, Addison Wesley.</p>	
<p>Reference Books: [R1] R. S. Pressman, Software Engineering, TMH, 7th ed. [R2] Pankaj Jalote, Software project management in practice, Addison-Wesley [R3] Robert T. Futrell, Donald F. Shafer, and Linda I. Shafer, “Quality Software Project Management”, 2002, Pearson Education Asia. [R4] Ramesh Gopalaswamy, “Managing Global Software Projects”, 2003, Tata McGraw-Hill [R5] S. A. Kelkar, “Software Project Management”</p>	