Ganpat University
॥ विद्यया समाजोत्कर्षः ॥
Faculty of Computer Applications

FACULTY OF COMPUTER APPLICATIONS

Programme	BCA Honors	**Branch/Spec.**	Computer Applications
Semester	V	**Version**	1.0.0.0
Effective from Academic Year	2026-2027	**Effective for the batch Admitted in**	June 2024
Subject Code	U35B5SPM	**Subject Name**	SOFTWARE PROJECT MANAGEMENT

Teaching scheme						**Examination scheme (Marks)**			
(Per week)	**Lecture (DT)**		**Practical (Lab.)**		**Total**		**CE**	**SEE**	**Total**
	L	TU	P	TW					
Credit	4	-	-	-	4	Theory	50	50	100
Hours	4	-	-	-	4	Practical	-	-	-

Objective:

This course provides the comprehensive knowledge about Software Project Management, which encompasses with Software Project Planning, Scheduling, Cost Estimation, Risk Management

Pre-requisites:

The general objective of this course is to provide fundamental knowledge of software project management

Course Outcomes:

Name of CO	**Description**
CO1	To Understand Software Project Management Concepts.
CO2	To Apply activity planning, work breakdown structures, and network models (CPM, PERT, PDM) to create and analyze effective project schedules.
CO3	The Use different software estimation techniques such as expert judgment, analogy, top-down, bottom-up, and parametric models to estimate project efforts accurately.
CO4	Analyze project evaluation techniques including cost-benefit analysis, risk evaluation, and technical assessments for making informed software project decisions.
CO5	Identify, assess, and manage different categories of risks using appropriate

	frameworks to ensure project stability and success.
CO6	Explain and apply software quality concepts including TQM, Six Sigma, and ISO standards to enhance the quality in software planning and development.

	Mapping of CO and PO											
Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	1	1	1	1	1	2	1	0	1	1
CO2	3	2	1	1	1	1	1	2	1	0	2	1
CO3	3	2	1	1	1	1	1	2	1	0	2	1
CO4	3	2	1	2	1	1	1	2	1	0	2	1
CO5	3	2	1	3	1	1	1	2	1	0	3	1
CO6	3	2	1	3	1	1	1	2	1	0	3	1

Content:

Unit		**Hrs**
1	**Software Project Management Concepts** Introduction, Project and Software project, Software project vs other project, Importance and Problems in software project management, Process of SPM. Characteristics of good project manager, Successful Software Project Manager, Overview of Software Project Planning.	12
2	**Software Project Scheduling** Objectives of activity planning, Work breakdown structure, Network planning model: Critical path method (CPM), Program evaluation and review technique (PERT), Precedence diagramming method (PDM), Shortening project duration, Identifying critical activities. Forward pass and Backward pass.	12
3	**Software Estimation Techniques** Software Effort Estimation: Problems with over and under estimations, Basis of software Estimating, Software effort estimation techniques, expert Judgment, Estimating by analogy. Bottoms-up estimating, Top-down approach and parametric models.	10
4	**Software Evaluation and Costing** Project Evaluation: Strategic Assessment, Technical Assessment, cost-benefit analysis, Cash flow forecasting, cost-benefit evaluation techniques, Risk Evaluation. Selection of Appropriate Report, Project approach: Choosing technologies, choice of process models, structured methods.	12

5	**Risk Management** Risk Identification, Planning, Evaluation and Management, Categories of Risk, Framework for dealing with risk, evaluating Risks to the schedule.	7
6	**Software Quality Management** TQM, Six Sigma, Software Quality: defining and importance of software quality, ISO9126, Place of software quality in software planning.	7

Practical Content:	
NA	
Text Books:	
1	Mike Cotterell, Bob Hughes. Software Project Management, Fifth Edition, Tata McGrawHill; 2012.
Reference Books:	
1	Dutt, S. C. (n.d.). *Software Project Management*. Pearson Education India
2	A.S. Kelkar (n.d.). *Software Project Management*. PHI Learning
3	Robert K. Wysocki – Effective Software Project Management – Wiley Publication 2011
4	Walker Royce – Software Project Management – Addison-Wesley, 1998
5	Gopalaswamy Ramesh – Managing Global Software Projects – McGrawHill Education (India), Fourteen Reprint 2013
Web References / MOOC / Certification Course	
1	https://in.coursera.org/learn/software-engineering-software-design-and-projectmanagement
2	https://www.udemy.com/course/software-project-management-the-complete-course
3	https://www.tutorialspoint.com/software_engineering/software_project_management.htm
Question Paper Scheme:	
	End Semester Examination Duration: (2 Hours Theory Examination) **Note for Examiner:** - Q-1 Any Five out of Seven (25 Marks) Q-2 Any Two out of Three (06 Marks) Q-3 Mandatory question (05 Marks) Q-4 Any Two out of Three (08 Marks) Q-5 Any Two out of Three (06 Marks) *The question paper must comprehensively address all Course Outcomes (COs), align Taxonomy levels, and ensure complete syllabus coverage.*