SARDAR VALLABHBHAI PATEL EDUCATION SOCIETY'S
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Program Name: Int. M.Sc. (I.T.)
Level: Post Graduate
Branch:Information Technology
Subject Code: 2BS206
Subject Name: Version Control System

w. e. f. Academic Year:	2025-26
Semester:	02
Category of the Course:	SEC

Prerequisite:	NIL
Rationale:	This course covers basic understanding of version control system.

Course Outcome:

After Completion of the Course, Student will able to:

No	Course Outcomes
01	Learn the concept of Version Control Systems
02	Recognize the need of various version control systems
03	Apply Git version control system for real world projects.

Teaching and Examination Scheme:

Teaching Scheme (in Hours)			Total Credits L+T+ (PR/2)	Assessment Pattern and Marks				Total Marks
				Theory		Tutorial / Practical		
L	T	PR	C	SEE (TH)	IAT	CCE	SEE (P)	
2	0	0	2	25	25	-	-	50

Where SEE: Semester End Examination, IAT: Internal Assessment Test, CCE: Continuous and Comprehensive Evaluation

Course Content:

Unit No.	Content	No. of Hours	% of Weightage
1	**UNIT 1: Introduction to Version Control Systems** 1.1 Concepts of Version Control 1.2 Importance in software development 1.3 Types of Version Control Systems 1.4 Key Concepts: Repositories, Working directories, Commits, Branches, and Tags	7	25%
2	**UNIT 2: Version Control Systems** 2.1 Centralized Systems: Subversion (SVN), Perforce 2.2 Distributed Systems: Git, Mercurial 2.3 Version Control with Other Tools: GitHub Desktop, SourceTree, VS Code integrations	8	25%
3	**UNIT 3: Git Basics** 3.1 Setting Up Git: Installing Git, Configuring user details 3.2 Creating a Repository 3.3 Basic Operations 3.4 Working with Remote Repositories	7	25%
4	**UNIT 4: Advanced Git Features and Collaboration in Git** 4.1 Branching and Merging 4.2 Rewriting History 4.3 Tagging 4.4 Stashing and Cleaning 4.5 Working in Teams 4.6 Branching Strategies 4.7 Conflict Resolution	8	25%
	Total	30	100

Suggested Specification Table with Marks (Theory):

Distribution of Theory Marks (%)					
R Level	**U Level**	**A Level**	**N Level**	**E Level**	**C Level**
40	**40**	**20**	**-**	**-**	-

Where R: Remember; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create (as per Revised Bloom's Taxonomy)

References/Suggested Learning Resources:

(a) Books:

1. Git Pocket Guide by Richard E. Silverman
2. Git Essentials: Create, Merge, and Distribute Code with Git" by Ferdinando Santacroce 3. Mastering Git by Jakub Narebski

(b) Open-source software and website:

1. Git Tutorial
2. Git Documentation
3. Apache Subversion (SVN) Documentation
4. GitLab Tutorial

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