

B.C.A. (Honours) & B.C.A. (Honours with Research)
(Semester - 3 and Semester - 4)
Saurashtra University
To be effective from June – 2024



CS – 19 Open Source Tools		
<p>Objectives:</p> <ul style="list-style-type: none"> • Understanding Open Source Philosophy • Identify and explore a range of open source tools. • Understand the collaborative nature of open source development and the role of communities. • Learn how to contribute to open source projects through code contricutions, documentation, bug reporting etc. <p>Prerequisites:</p> <ul style="list-style-type: none"> • Basic Computer Skills • Basic knowledge of Version Control 		
No	Topics	Details
1	Open Source Softwares	<ul style="list-style-type: none"> • Understanding Open Source Software <ul style="list-style-type: none"> • Definition • Principles • History and evolution • Open-Source Licensing <ul style="list-style-type: none"> • Overview • Rights and responsibilities of users and developers under open source licenses • Contracts & licenses and related issues • Application of Open sources • Open Sources Operating System: <ul style="list-style-type: none"> • FEDORA • UBUNTU
2	Open Source Development and Collaboration	<ul style="list-style-type: none"> • Version Control with Git <ul style="list-style-type: none"> • Introduction to version control systems. • Git fundamentals, repositories, commits, branches and merges • Open Source Project Management <ul style="list-style-type: none"> • Overview of Project Management Methodologies (Agile) • Tools for Project Planning, Task Tracking and Team Collaboration (Trello) • Contributing to open source projects: Issue Tracking, Pull Requests, Code Reviews.
3	Case Studies	<ul style="list-style-type: none"> • Apache • Linux Operating System

Seminar - 5 Lectures
Expert Talk - 5 Lectures
Test - 5 Lectures



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Total Lectures 30 + 15 = 45

Reference Books:

- "Producing Open Source Software: How to Run a Successful Free Software Project" by Karl Fogel
- "Git Pocket Guide: A Working Introduction" by Richard E. Silverman
- "The Phoenix Project: A Novel About IT, DevOps, and Helping Your Business Win" by Gene Kim, Kevin Behr, and George Spafford
- KailashVadera, Bhavyesh Gandhi, "Open Source Technology", Laxmi Publications Pvt. Ltd 2012, 1st Edition.
- Fadi P. Deek and James A. M. McHugh, "Open Source: Technology and Policy", Cambridge Universities Press 2007.

Course Outcomes:

- Recognize the benefits and features of Open Source Technology and to interpret, contrast and compare open source products among themselves
- Use appropriate open source tools based on the nature of the problem
- Write code and compile different open-source software.