Course Learning Objectives: The objective of this course is • To understand the difference between open-source software and commercial software. • To understand the policies, licensing procedures and ethics of FOSS. • To know open-source philosophy, methodology and ecosystem. • To discriminate awareness with Open-Source Technologies.		
Course Learning Outcomes: After completion of the course, the learners will be able • To differentiate between Open Source and Proprietary software and Licensing. • To recognize the applications, benefits and features of Open-Source Technologies. • To gain knowledge to start, manage open-source projects.		
Unit	**Content**	**No. of Lectures:30**
1	**1.1 Introduction to Open-Source:** Open Source, Need and Principles of OSS, Open-Source Standards, Requirements for Software, OSS success, Free Software, Examples, Licensing, Free Vs. Proprietary Software, Free Software Vs. Open-Source Software, Public Domain. History of free software, Proprietary Vs Open-Source Licensing Model, use of Open-Source Software, FOSS does not mean no cost. History: BSD, The Free Software Foundation and the GNU Project. **1.2 Open-Source Principles and Methodology:** Open-Source History, Open-Source Initiatives, Open Standards Principles, Methodologies, Philosophy, Software freedom, Open-Source Software Development, Licenses, Copyright vs. Copy left, Patents, Zero marginal cost, Income-generation Opportunities, Internationalization. **1.3 Licensing:** What Is a License, how to create your own Licenses, Important FOSS Licenses (Apache, BSD, PL, LGPL), copyrights and copy lefts, Patent. **1.4 Open-Source projects:** Starting and maintaining own Open-Source Project, Open-Source Hardware, Open-Source Design, Open-source Teaching, Open-source media	15
2	**2.1 Collaboration:** Community and Communication, Contributing to Open-Source Projects Introduction to GitHub, interacting with the community on GitHub, Communication and etiquette, testing open-source code, reporting 15 Page 17 of 50 issues, contributing code. Introduction to Wikipedia, contributing to Wikipedia or contributing to any prominent open-source project of student's choice. **2.2 Open-Source Ethics and Social Impact:** Open source vs. closed source, Open-source Government, Ethics of Open-source, Social and Financial impacts of open-source technology, Shared software, Shared source, Open Source as a Business Strategy. **2.3 Understanding Open-Source Ecosystem:** Open-Source Operating Systems: GNU/Linux, Android, Free BSD, Open Solaris. Open-Source Hardware, Virtualization Technologies, Containerization Technologies: Docker, Development tools, IDEs, Debuggers, Programming languages, LAMP, Open-Source Database technologies. **2.4 Case Studies:** Example Projects: Apache Web server, BSD, GNU/Linux, Android, Mozilla (Firefox), Wikipedia, Drupal, WordPress, Git, GCC, GDB, GitHub, Open Office, LibreOffice Study: Understanding the developmental models, licensing, mode of funding, commercial/non-commercial use.	15