

## NIRMA UNIVERSITY

<b>Institute:</b>	Institute of Technology
<b>Name of Programme:</b>	Integrated B.Tech.(CSE)-MBA
<b>Course Code:</b>	CSI0406
<b>Course Title:</b>	Open Source Laboratory
<b>Course Type:</b>	Core
<b>Year of Introduction:</b>	2021-22

### Credit Scheme

L	T	Practical Component				C
		LPW	PW	W	S	
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### Course Learning Outcomes (CLO):

At the end of the course, students will be able to –

1. demonstrate basics of various open-source Content Management Systems
2. make use of database connectivity to perform various database operations using Perl
3. design solutions to solve real-world problems using open-source packages

### Syllabus:

**Laboratory work will be based on following topics and minimum 7 experiments will be conducted.**

**Content Management System (CMS):** Installation and configuration of open source CMS for various administrative tasks; use CMS for various tasks such as website Design, online magazine, publication, Learning Management System, Blog, etc.

**Perl:** Introduction, Understanding Scalar values, Basic Operators and control flow, List and array variables, regular expression, subroutines, Hash, connecting with MySQL database

**OpenCV:** Installation of openCV, Load, Display and Save an image, image conversion, Capture Video from Webcam, Basic drawing functions, filtering

**Version Control:** Introduction, need of version control, initialization of repository, viewing of history, undo and redo changes, clone repository, push and pull changes

Self-Study:                   -NA-

Suggested Readings/  
References:

1. Andreas Mauthe, Peter Thomas, Professional Content Management Systems: Handling Digital Media Assets, Wiley
2. Tom Christiansen, brian d foy, Larry Wall, Jon Orwant, Programming Perl, O'Reilly Media
3. Gary Bradski, Adrian Kaehler, Learning OpenCV, O'Reilly Media
4. Jon Loeliger and Matthew J. McCullough, Version Control with Git: Powerful Tool and Techniques for Collaborative Software Development,

O'Reilly Media

Suggested List of Experiments:	Sr. No.	Title	Hours
	1	To install and configure open-source CMS for various administrative tasks.	02
	2	To use CMS for various tasks such as website design, online magazine, publication, Learning Management System, Blog etc.	04
	3	To write a Perl program to demonstrate Scalar values, Basic Operators and control flow, List and array variables.	02
	4	To write a Perl program to demonstrate regular expression, subroutines, Hash and Connection with MySQL database.	04
	5	To install openCV, and demonstrate Load, Display, Save and image conversion.	02
	6	To perform Video capturing from Webcam, Basic drawing functions and filtering using openCV.	02
	7	To demonstrate need of version control, initialization of repository and viewing history.	02
	8	To perform Undo and redo changes, clone repository, push and pull changes.	02

Suggested Case List: -NA-