

ACADEMIC LESSON PLAN OF WINTER 2025

Discipline: IT	Semester :5 th	Name of the Teaching faculty: Manalisa Giri
Subject : CGM	No. of Days/per week class allotted : 04	Semester from date : with effect from 14/07/2024 to 15/11/2025 No. of weeks : 15
Week	Class Day	Topics : Theory
1 st	1 st	Computer graphics in CAD Presentation Graphics
	2 nd	Computer Art Entertainment
	3 rd	Picture analysis
	4 th	Education & Training
2 nd	1 st	Visualization Image Processing
	2 nd	Graphic User Interface
	3 rd	Hardware: Various display devices
	4 th	Multimedia Concepts.
3 rd	1 st	Graphics System
	2 nd	Raster Scan Display
	3 rd	Image scanners
	4 th	Random Scan Display
4 th	1 st	Graphics Input Devices Graphics Software.
	2 nd	Points & Lines
	3 rd	DDA Line Drawing Algorithm
	4 th	Bresenham's Line drawing Algorithm
5 th	1 st	Mid Point Circle algorithm
	2 nd	Filled Area Primitives
	3 rd	Boundary fill algorithm, Flood fill algorithm
	4 th	Translation
6 th	1 st	Rotation, Scaling
	2 nd	Reflection, Shear
	3 rd	Matrix representation and Homogenous coordinate system
	4 th	Viewing pipeline, Viewing coordinate reference frame
7 th	1 st	Window to view port coordinate transformation
	2 nd	Line clipping concept Polygon clipping concept.
	3 rd	Polygon surface Polygon table
	4 th	Plane equation Polygon mesh
8 th	1 st	Quadric surfaces, Sphere, Ellipsoid
	2 nd	Spline representation
	3 rd	Bezier curves & Surfaces, B-Spline curves & surfaces.
	4 th	Translation Rotation

9 th	1 st	Scaling , Reflection
	2 nd	Shear , Composite transformation
	3 rd	Modeling & Coordinate transformation.
	4 th	Viewing pipeline Viewing coordinates
10 th	1 st	Parallel projection
	2 nd	Perspective projection
	3 rd	Concept of 3D clipping.
	4 th	Different light sources used in 3D modeling
11 th	1 st	Basic Illumination model
	2 nd	Ambient light Diffuse reflection
	3 rd	Specular reflection,
	4 th	Basics of Acoustics, Psychoacoustics
12 th	1 st	Musical sound and noise, elementary sound system
	2 nd	Microphones, Amplifiers, digital audio formats
	3 rd	Audio compression (LPC, Sub Band Encoding)
	4 th	Vector and raster Graphics
13 th	1 st	Digital representation of image, colour, 16 bit, 24 bit colour dept
	2 nd	Colour Characteristics-Hue, saturation, Luminance
	3 rd	Colour Palette , Image formats-JPEG, BMP, TIFF, GIFF
	4 th	Image evaluation Layers
14 th	1 st	Filters Image manipulation-scaling, cropping, rotation
	2 nd	Video in Multimedia
	3 rd	Basics of Motion-Video
	4 th	Sources of Motion-Video 12.4 Video formats, lines, frames, field
15 th	1 st	TV Broadcast standards-PAL, NTSC, SECAM
	2 nd	MPEG Compression
	3 rd	Revision
	4 th	Question and Answer discussion

Manali'sar Lpin
Signature of the faculty

LESSON PLAN 2025 (WINTER)

Discipline:IT	Semester:5 th	Name of the Teaching faculty: Manalisa Giri
Subject : Computer CGM LAB	No.of Days/per week class allotted : 02	Semester from date: with effect from 14/07/2025 to 15/11/2025 No. of weeks : 15
Week	Class Day	Practical: Topics
1 st	1 st	Introduction to Computer Graphics, Graphics functions used in 'C' programs Program to implement a line using slope intercept formula
	2 nd	Program to implement line using DDA algorithm.
2 nd	1 st	Program to implement line using Bresenham's algorithm.
	2 nd	Program to implement circle using mid-point algorithm.
3 rd	1 st	Program to implement translation of a line and triangle.
	2 nd	Program to implement translation of a line and triangle.
4 th	1 st	Program to implement scaling transformation.
	2 nd	Write a program using function & Fill the Circle with Red color.
5 th	1 st	Practice programs of DDA and Bresenham's line drawing algorithm
	2 nd	The concept of Photoshop.How to open a document and save the document.
6 th	1 st	How to create a new document with the needed resolution.
	2 nd	How to select an area, copy and paste the selection.
7 th	1 st	How to save images for the web and their formats.
	2 nd	The use of layers and the history palette. How to print our document.
8 th	1 st	How to use the text editor. How to Crop Image In Photoshop & Sharpen Image?
	2 nd	Procedure to Removing & Adding Backgrounds images. Procedure to

		Convert Color Photos to Black & White.
9 th	1 st	How to Create a passport size images? How to Change Eye Color & Hair Color?
	2 nd	How to Add Rain in Photoshop? How to make a GIFs File?
10 th	1 st	Concept of Flash.Procedure to create an animation to represent the growing moon.
	2 nd	Procedure to create an animation to indicate a ball bouncing on steps
11 th	1 st	Procedure to simulate movement of a cloud. Procedure to draw the fan blades and to give proper animation. Procedure to display the background given (filename: tulip.jpg) through your name. Procedure to create an animation with the following features
	2 nd	Procedure to design a visiting card containing at least one graphic and text information.
12 th	1 st	Procedure to prepare a cover page for the book in your subject area. Plan your own design.
	2 nd	Procedure to adjust the brightness and contrast of the picture so that it gives an elegant look.
13 th	1 st	Procedure to adjust the brightness and contrast of the picture so that it gives an elegant look.
	2 nd	Procedure to position the picture preferably on a plain background of a colour of your choice - positioning includes rotation and scaling.
14 th	1 st	Procedure to position the picture preferably on a plain background of a colour of your choice - positioning includes rotation and scaling.
	2 nd	Procedure to type a word and apply the effects shadow embosses.
15 th	1 st	Quiz and Practice of programs and Experiments
	2 nd	REVISION

Manelica Linn.
Signature of the faculty

ACADEMIC LESSON PLAN WINTER 2025

Discipline:IT	Semester:5 th	Name of the Teaching faculty: Manalisa Giri
Subject : WEB DEVELOPMEN T LAB	No.of Days/per week class allotted : 02	Semester from date: with effect from 14/07/2025 to 15/11/2025 No. of weeks : 15
Week	Class Day	Practical: Topics
1 st	1 st	Introduction to HTML 5 and CSS
	2 nd	Basic structure of HTML, designing a web page, inserting links images, horizontal rules, comments.
2 nd	1 st	Formatting text, title, headings, colors, fonts, sizes, simple tables and forms. HTML tags, hyperlinks. Adding graphics and images, image maps, image files.
	2 nd	Using tables, forms, style sheets and frames. Floating of web site/pages.
3 rd	1 st	Introduction to PHP: How PHP Works
	2 nd	The php.ini File, Basic PHP Syntax, PHP variables, statements, operators, decision making, loops, arrays, strings, forms, get and post methods, functions
4 th	1 st	Introduction to cookies, storage of cookies at client side, Using information of cookies.
	2 nd	Creating single or multiple server side sessions.
5 th	1 st	Introduction to content management systems based on PHP..
	2 nd	Introduction to My SQL
6 th	1 st	connecting to My SQL, database, creation, insertion, deletion and retrieval of My SQL data using PHP
	2 nd	Design PHP based web pages using correct PHP, CSS, and XHTML syntax, structure.
7 th	1 st	Using correct PHP, CSS, and XHTML syntax, structure
	2 nd	Create Web forms and pages that properly use HTTP GET and POST protocol as appropriate.
8 th	1 st	Design SQL language within My SQL
	2 nd	PHP to access and manipulate databases

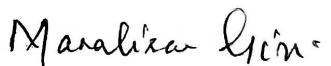
9 th	1 st	Install and configure both PHP and My SQL
	2 nd	How to Add Rain in Photoshop? How to make a GIFs File?
10 th	1 st	Create PHP code that utilizes the commonly used API library functions built in to PHP
	2 nd	Design and create a complete web sitet
11 th	1 st	demonstrates good PHP/My SQL client/server design.
	2 nd	To store a cookie using PHP on client side.
12 th	1 st	To store a cookie using PHP on client side. And desgine
	2 nd	To save the user session on server side
13 th	1 st	Design website.
	2 nd	Design website. And presentation
14 th	1 st	My SQL client/server design.
	2 nd	Quiz and Practice of programs and Experiments
15 th	1 st	Quiz and Practice of programs and Experiments
	2 nd	REVISION

Manalika Devi
Signature of the faculty

ACADEMIC LESSON PLAN OF WINTER 2025

Discipline: IT	Semester :3 rd	Name of the Teaching faculty: Manalisa Giri
Subject : CGM	No.of Days/per week class allotted : 03	Semester from date : with effect from 14/07/2024 to 15/11/2025 No. of weeks : 15
Week	Class Day	Topics : Theory
1 st	1 st	Introduction to Computer Graphics: Introduction
	2 nd	Image Processing
	3 rd	Picture analysis
2 nd	1 st	Conceptual frame work for interactive graphics
	2 nd	Classification of computer graphics
	3 rd	Hardware: Various display devices
3 rd	1 st	Video controller,
	2 nd	Random-scan display processor
	3 rd	Image scanners
4 th	1 st	,Interaction hardware
	2 nd	Raster Graphics Techniques: Interaction handling
	3 rd	Raster graphics features,
5 th	1 st	Line drawing algorithms
	2 nd	Circle drawing algorithms
	3 rd	Scan conversion
6 th	1 st	Polygon filling
	2 nd	Pattern filling, Halftoning
	3 rd	Clipping techniques
7 th	1 st	Geometric Transformation and Viewing: 2D
	2 nd	Geometric Transformation and Viewing: 3D
	3 rd	Representation and composition, 3Dviewing
8 th	1 st	User Interfacing: Interaction handling models
	2 nd	Window management Input handling
	3 rd	Window management output handling
9 th	1 st	Tool kits
	2 nd	Curves & Surfaces and Solid Modelling: Polygon meshes
	3 rd	Parametric cubic curves
10 th	1 st	Quadric surfaces
	2 nd	Bezier and B-spline curves

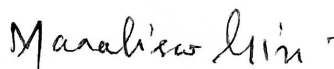
	3 rd	Representing solids: sweep representation
11 th	1 st	boundary representation
	2 nd	Spatial partitioning
	3 rd	Visibility: Hidden line and Hidden surfaces
12 th	1 st	Floating horizon algorithm Robert's algorithm
	2 nd	Z-buffer List priority algorithms
	3 rd	Z-buffer List priority algorithms with numerical
13 th	1 st	Rendering: Illumination models
	2 nd	Types of Illumination model
	3 rd	Shadows Shading Transparency
14 th	1 st	Definition of Animation
	2 nd	Conversion & Computer Aided animation
	3 rd	Conversion & Computer Aided animation
15 th	1 st	Rules & Technology
	2 nd	Revision
	3 rd	Question and Answer discussion


 Signature of the faculty

ACADEMIC LESSON PLAN OF WINTER 2025

Discipline: IT,	Semester: 3 rd	Name of the Teaching faculty: Manalisa Giri
Subject : Multimedia Lab	No.of Days/per week class allotted : 02	Semester from date: with effect from 14/07/2025 to 15/11/2025 No. of weeks : 15
Week	Class Day	Practical Topics:
1 st	1 st	Adobe Photoshop: Scanning image, Creating new images
	2 nd	Changing foreground, Changing Background, Creating and using paths
2 nd	1 st	Editing and retouching Duplicating images, Layers-linking with layers, Grouping an image
	2 nd	Rubber stamp and pattern stamp tool, Painting-paint brush tool, Airbrush tool, Pencil tool, Eraser tool,
3 rd	1 st	Gradient tools Photo shop filters
	2 nd	Quiz test in Photoshop
4 th	1 st	Sound Forge: Sound recording and editing through sound forgeXP
	2 nd	The main screen, the data window, opening an existing file-playing a sound file
5 th	1 st	Playing a section of a file, copying data to a new file, saving a file
	2 nd	Simple editing, Advanced editing, editing sound formats,
6 th	1 st	Applying sound processing functions Recording sound using sound forge.
	2 nd	Adobe Premiere: Creating desktop video with Adobe Premiere
7 th	1 st	Creating on Adobe Premiere movie, Starting a new project importing clips,
	2 nd	Assembling the clipping construction window
8 th	1 st	Previewing the movie
	2 nd	Changing duration of a cell, creating a transition, adding other clips and transitions,

9 th	1 st	Applying filters to a clip, Changing the time unit in the construction window
	2 nd	Using preview command to preview the transition and filter effects
10 th	1 st	Adding sound to movie, Connecting, and capturing source video through Broadway cord
	2 nd	Editing and compressing the video
11 th	1 st	Quiz Test
	2 nd	Author ware: Introduction-system requirements, installing, general features
12 th	1 st	Knowledge objects-introduction to knowledge objects, choosing a knowledge object
	2 nd	Adding a knowledge object file, author ware knowledge objects, authoring basics - icon based authoring what each icon does the tool bar
13 th	1 st	Working with icons on the flow line, authoring-step by step
	2 nd	Distribution requirements, packaging an AW piece, packaging and AW piece for the web, Creating interactions - components of an interaction
14 th	1 st	How an interaction works, tracing the flow through an interaction, setting up an interaction step by step, Directing the flow - Decision structure, framework
	2 nd	Navigation structures -step by step, Transitions, Positioning and motion - using transition for special effects
15 th	1 st	Positioning objects using the motion icon, making objects move step by step
	2 nd	REVISION


 Signature of the faculty

ACADEMIC LESSON PLAN OF WINTER 2025

Discipline: CE&IOT	Semester:3 rd	Name of the Teaching faculty: Manalisa Giri
Subject : IOT FUNDAMENT ALS LAB	No.of Days/per week class allotted : 02	Semester from date: with effect from 14/07/2025 to 15/11/2025 No. of weeks : 15
Week	Class Day	Practical Topics:
1 st	1 st	Controlling the Light Emitting Diode (LED) with a push button.
	2 nd	Controlling the Light Emitting Diode (LED) with a push button.
2 nd	1 st	Interfacing the RGB LED with the Arduino
	2 nd	Interfacing the RGB LED with the Arduino
3 rd	1 st	Interfacing the RGB LED with the Arduino
	2 nd	Interfacing the RGB LED with the Arduino
4 th	1 st	Controlling the LED blink rate with the potentiometer interfacing with Arduino
	2 nd	Controlling the LED blink rate with the potentiometer interfacing with Arduino
5 th	1 st	Controlling the LED blink rate with the potentiometer interfacing with Arduino
	2 nd	Controlling the LED blink rate with the potentiometer interfacing with Arduino
6 th	1 st	Detection of the light using photo resistor
	2 nd	Detection of the light using photo resistor
7 th	1 st	Detection of the light using photo resistor
	2 nd	Detection of the light using photo resistor
8 th	1 st	Interfacing of temperature sensor LM35 with Arduino
	2 nd	Interfacing of temperature sensor LM35 with Arduino
9 th	1 st	Interfacing of temperature sensor LM35 with Arduino

	2 nd	Interfacing of temperature sensor LM35 with Arduino
10 th	1 st	Interfacing of temperature sensor LM35 with Arduino
	2 nd	Interfacing Servo Motor with the Arduino
11 th	1 st	Interfacing Servo Motor with the Arduino
	2 nd	Interfacing Servo Motor with the Arduino
12 th	1 st	Interfacing of the Active Buzzer with Arduino
	2 nd	Interfacing of the Active Buzzer with Arduino
13 th	1 st	Interfacing of the Active Buzzer with Arduino
	2 nd	Interfacing of the Active Buzzer with Arduino
14 th	1 st	Interfacing of the Relay with Arduino
	2 nd	Interfacing of the Relay with Arduino
15 th	1 st	Interfacing of the Relay with Arduino .
	2 nd	REVISION

Maralieu Lpin
Signature of the faculty

ACADEMIC LESSON PLAN OF WINTER 2025

Discipline:MO M	Semester :3 rd	Name of the Teaching faculty: Manalisa Giri
Subject : E- COMMERCE	No.of Days/per week class allotted : 03	Semester from date : with effect from 14/07/2024 to 15/11/2025 No. of weeks : 15
Week	Class Day	Topics : Theory
1 st	1 st	E-Commerce-meaning, nature, concepts,
	2 nd	types; e-commerce business models B2B [concept, major activities, types of B to B market
	3 rd	(independent, buyer oriented, supplier oriented, e- market place)],
2 nd	1 st	B2C [portals, e-tailor, content provider, transaction broker, real life examples of B2C]
	2 nd	C2C, C2B, etc.; forces behind e-commerce, e-Governance
	3 rd	Meaning, types, significance, real life examples]
3 rd	1 st	E-CRM and SCM E- CRM- definition
	2 nd	Types of E- CRM, Functional components of E- CRM
	3 rd	strategies for ECRM solutions.E- SCM :definition
4 th	1 st	Features, typesofsupply chain.
	2 nd	Digital Payment Methods of e-payment
	3 rd	Debit Card, Credit Card, Smart Cards, e Money, NEFT, RTGS]
5 th	1 st	Electronic or digital wallet, digital signature
	2 nd	(procedures, working and legal provisions), payment gateways
	3 rd	Core Banking Solution or CBS, Mobile Payment, UPI, NCPI, International Payments
6 th	1 st	Online banking
	2 nd	Meaning, concepts, importance, electronic fund transfer, automated clearing house, automated ledger posting
	3 rd	risks involved in e-payments
7 th	1 st	ERP & New Trends in E-Commerce ERP Definition
	2 nd	Features, major characteristics
	3 rd	Levels of ERP,
8 th	1 st	Enterprise potential of ERP
	2 nd	Modules of ERP
	3 rd	Phases of ERP implementation
9 th	1 st	Limitations of ERP.
	2 nd	New Trends in E- Commerce Social Commerce -concept, definition, features;
	3 rd	Digital Marketingdefinition

10 th	1 st	Digital Marketing definition Objectives
	2 nd	Digital Marketing methods
	3 rd	limitations
11 th	1 st	Advertisement in Social Media-objectives
	2 nd	Social Media-objectivesadvantages and disadvantages.
	3 rd	Social Media-objectivesdisadvantages.
12 th	1 st	Advertisement in Social Media-objectives, advantages and disadvantages.
	2 nd	Advertisement in Social Media-objectives, advantages and disadvantages.
	3 rd	Digital Marketing methods
13 th	1 st	Social Commerce -concept,
	2 nd	Advertisement in Social Media-objectives,
	3 rd	Revision whole syllbus
14 th	1 st	Question and Answer discussion (2 marks)
	2 nd	Question and Answer discussion (5 marks)
	3 rd	Question and Answer discussion (10 marks)
15 th	1 st	Revision
	2 nd	Revision
	3 rd	Question and Answer discussion(All questions)


 Signature of the faculty

ACADEMIC LESSON PLAN OF WINTER 2025

Discipline: CE&IOT	Semester :3 rd	Name of the Teaching faculty: Manalisa Giri
Subject : IOT FUNDAMENT ALS	No.of Days/per week class allotted : 03	Semester from date : with effect from 14/07/2025 to 15/11/2025 No. of weeks : 15
Week	Class Day	Topics : Theory
1 st	1 st	Introduction to IoT: Definition and characteristics of IoT
	2 nd	Functional requirements and motivation for IoT
	3 rd	Physical design: Things in IoT and their roles
2 nd	1 st	Basic concepts of internetworking
	2 nd	IoT architecture
	3 rd	Overview of TCP/IP
3 rd	1 st	IOT specific protocols
	2 nd	IoT logical design and communication: Functional blocks of IoT architecture
	3 rd	
4 th	1 st	Communication models
	2 nd	APIs for IoT
	3 rd	APIs for IoT
5 th	1 st	IoT protocols and their comparison
	2 nd	Overview of different networking technologies in IoT
	3 rd	QUIZ TEST
6 th	1 st	IoT applications: Home Automation: Smart lighting
	2 nd	Security, and appliances
	3 rd	Smart Cities: Traffic management, smart parking, waste management
7 th	1 st	Environmental Monitoring: Pollution control
	2 nd	Weather tracking
	3 rd	Energy Sector: Smart grids and energy optimization
8 th	1 st	Industrial IoT: Predictive maintenance,
	2 nd	Automation
	3 rd	QUIZ TEST
9 th	1 st	M2M communication and IoT system management: Introduction to Machine-to-Machine (M2M) communication
	2 nd	Difference between M2M and IoT
	3 rd	Software-Defined Networking (SDN) and its role in IoT,
10 th	1 st	Network Function Virtualization (NFV) in IoT

	2 nd	IoT system management: Need and importance
	3 rd	Management protocols: SNMP
11 th	1 st	NETCONF, YANG
	2 nd	QUIZ TEST
	3 rd	IoT development methodology: IoT development lifecycle
12 th	1 st	Requirements and constraints for IoT applications
	2 nd	Process and domain model specifications,
	3 rd	Information model specification
13 th	1 st	Service specification for IoT
	2 nd	IoT architecture and security: IoT level specifications and their importance,
	3 rd	IoT security challenges and solutions,
14 th	1 st	Secure data transmission in IoT
	2 nd	Privacy concerns in IoT applications
	3 rd	Future trends and emerging technologies in IoT
15 th	1 st	REVISION
	2 nd	QUESTION AND ANSWER DISCUSSION
	3 rd	REVISION

Maralissa Lin
Signature of the faculty