Dr. M.G.R.
EDUCATIONAL AND RESEARCH INSTITUTE
DEEMED TO BE UNIVERSITY
University with Graded Autonomy Status
(An ISO 21001 : 2018 Certified Institution)
Periyar E.V.R. High Road, Maduravoyal, Chennai-95. Tamilnadu, India.

FACULTY OF HUMANITIES AND SCIENCE

LEARNING OUTCOME BASED CURRICULUM

Curriculum and Syllabus

M.Sc (Game Art &Animation)

(For Students Admitted From 2024 Onwards)

DEPARTMENT OF VISCOM & ANIMATION

DECLARATION

I**, JEEVALATHA .G**, Head of **Viscom & Animation Department**, hereby declare that this copy of the syllabus **(M.Sc Game Art &Animation**), Full time (**2022 Regulation**) from Page no 1 to 120 is the final version which is being taught in the class and uploaded in our University website. I assure that the Syllabus available in our University website is verified and found correct. The Curriculum and Syllabi have been approved by our Academic Council / Vice Chancellor.

Date: **Signature**

VISION

To produce well knowledged Media and Animation professionals who will bring name and fame to the media industry through their culture conscious skills.

MISSION

M1: To impart quality training in accordance to the industry standards by providing robust curriculum.
M2: To motivate and enhance students creativity by providing real time practice which increases their creative-thinking skills.
M3: To promote leadership, entrepreneurship skills and cognizance about ethical values.
M4: To inculcate employability through industry collaboration and value added courses.

PROGRAMME EDUCATIONAL OBJECTIVES

PEO1 : Graduates can contribute to the reformation of the society by their socially responsible films

PEO2 : Graduates will adhere to theoretical and pragmatic skills to achieve professional standard

PEO3 : Graduates can incorporate their technical skills on animation, visual effects and editing to translate their ideas

PROGRAMME SPECIFIC OUTCOMES

PSO 1 : Show a practical and technical command of materials and methods in the media & entertainment industry .

PSO 2 : Have working knowledge of the process of transforming abstract/textual concepts into concrete, audio visual , animated and graphical forms .

PSO 3 : Create/read the content with deep knowledge and develop strategies for effective deployment, resulting in culture conscious content and shows

PROGRAMME OUTCOMES

PO1: Acquire in-depth knowledge related to the discipline.

PO2: Apply the recent advancement in the domain knowledge for solving real-life problems.

PO3: Demonstrate critical thinking skills by analyzing, synthesizing and evaluating various research problems.

PO4: Identify and use qualitative and quantitative methods of research in order to pursue a well-researched written work that makes use of wide range of disciplinary techniques and scientific methods applicable.

PO5: Conceive the ways and means to address various social, economic, environmental, human rights and other ethical issues faced by humanity at the local, national and global levels.

PO6: Demonstrate Professional, leadership and Management skills required for professional development and employability.

PO7: Demonstrate the ability for collaborative work and scientific communication through projects, internship and on-site training.

PO8: Use mathematical, analytical, statistical and information technology tools.

PO9: Ability to update knowledge and skills, participating in learning activities throughout life, through self-paced and self-directed learning aimed at personal development.

PEO WITH MISSION STATEMENT MAPPING

	M1	M2	M3	M4
PEO 1	3	3	3	3
PEO 2	3	3	3	3
PEO 3	3	3	3	3

PEO -PO MAPPING

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9
PEO 1	3	3	2	2	2	3	3	3	3
PEO 2	3	3	3	2	2	2	3	3	3
PEO 3	3	3	2	2	2	2	3	3	3

PEO - PSO MAPPING

	PSO 1	PSO 2	PSO 3
PEO 1	3	3	3
PEO 2	3	2	3
PEO 3	3	3	3

Strength of correlation3-High, 2-Mediaum, 1-Low

	I SEMESTER						
		Title of the Subject					
S.NO	**Sub.Code**	**THEORY**	**C**	**L**	**T/SLr**	**P/R**	**Ty/Lb/ ETP/IE**
1	HMGA24001	Image Editing Techniques	3	3	0/0	0/0	Ty
2	HMGA24002	Gaming Concepts & Game Ethics	3	3	0/0	0/0	Ty
3	HMAV22EXX	Program Elective	3	2	0/1	0/0	Ty
4	HMCC22001	Research Methodology	3	2	1/0	0/0	Ty
		PRACTICAL					
5	HMGA24ET1	Game Characterization	3	2	0/0	2/0	ETP
6	HMGA24L01	Image Editing Lab	2	0	0/0	2/2	Lb
7	HMGA24L02	Project – Game Characterization & Design	2	0	0/0	2/2	Lb
8	HMAC22IXX	Audit Course	0	2	0/0	0/0	IE

Credits Sub Total:19

	II SEMESTER						
		Title of the Subject					
S.NO	**Sub.Code**	**THEORY**	**C**	**L**	**T/SLr**	**P/R**	**Ty/Lb/ ETP/IE**
1	HMGA24003	User Interface &Experience Designs for Games	3	3	0/0	0/0	Ty
2	HMGA24004	Mobile Games Illustrations	4	4	0/0	0/0	Ty
3	HMGA24005	Working with Unity 3D	4	3	0/2	0/0	Ty
		PRACTICAL					
4	HMGA24L03	Interface & Interactive Design Lab	2	0	0/0	2/2	Lb
5	HMGA24L04	Working with Unity 3D Lab	2	0	0/0	2/2	Lb
6	HMGA24L05	Project- Game UI Designing	4	0	0/0	4/4	Lb

Credits Sub Total:19

	III SEMESTER						
		Title of the Subject					
S.NO	**Sub.Code**	**THEORY**	**C**	**L**	**T/SLr**	**P/R**	**Ty/Lb/ ETP/IE**
1	HMGA24006	Unreal Game Engine	4	4	0/0	0/0	Ty
2	HMGA24007	Character Modeling and Marvelous Designer	4	4	0/0	0/0	Ty
3	HMGA24008	Character Animation	3	2	0/1	0/0	Ty
		PRACTICAL					
4	HMGA24L06	Unreal Game Engine Lab	3	0	0/0	3/3	Lb
5	HMGA24L07	Character Modeling & Animation Lab	2	0	0/0	2/2	Lb
6	HMGA24I01	Research Publication	2	0	0/0	0/4	IE
7	HBFL22IXX	Foreign Language	1	0	0/0	2/0	IE

Credits Sub Total:19

	IV SEMESTER						
		Title of the Subject					
S.NO	**Sub.Code**	**THEORY**	**C**	**L**	**T/SLr**	**P/R**	**Ty/Lb / ETP/IE**
1	HMGA24LXX	Internship-Elective	5	0	0/0	10/0	Lb
2	HMGA24LXX	Portfolio-Elective	12	0	0/0	24/0	Lb
3	HMOL23IE1	Open Elective Swayam/ NPTEL/Any MOOC/ONLINE COURSE	1	0	0/0	2/0	IE

Credits Sub Total:18

Summary Of Credits

1st Semester - 19

2nd Semester -19

3rd Semester -19

4thSemester -18

Total -75

LIST OF ELECTIVES:

1. Internship- Elective

S.NO	Sub.Code	Title of the Subject
1.	HMGA24L08	VR and AR Gaming
2.	HMGA24L09	Immersive Reality& Extreme Reality in PC

2. Portfolio- Elective

S.NO	Sub.Code	Title of the Subject
1.	HMGA24L10	Portfolio – VR and AR Gaming
2.	HMGA24L11	Portfolio - Immersive Reality& Extreme Reality in PC

Note: Students should choose any one internship and portfolio

List of Program Elective:

S.NO	Sub.Code	Title of the Subject
1.	HMAV22E01	Designing Trends & Techniques
2.	HMAV22E02	Contemporary trends in social media

Note: Students should choose any one Foreign Language

List of Foreign Language:

S.No	Sub.Code	Title of the Project
1	HBFL22I01	French
2	HBFL22I02	German
3	HBFL22I03	Japanese
4	HBFL22I04	Arabic
5	HBFL22I05	Chinese
6	HBFL22I06	Russian
7	HBFL22I07	Spanish

AUDIT COURSE							
Sl.No	**Course Code**	**Course Name**	**Ty/Lb**	**Teaching Scheme**			
				L	**T**	**P**	**C**
1	HMAC22I01	English for Research paper Writing	Ty	2	0	0	0
2	HMAC22I02	Disaster Management	Ty	2	0	0	0
3	HMAC22I03	Sanskrit for Technical Knowledge	Ty	2	0	0	0
4	HMAC22I04	Value Education	Ty	2	0	0	0
5	HMAC22I05	Constitution of India	Ty	2	0	0	0
6	HMAC22I06	Pedagogy Studies	Ty	2	0	0	0
7	HMAC22I07	Stress Management by Yoga	Ty	2	0	0	0
8	HMAC22I08	Personality Development through Life Enlightenment Skills	Ty	2	0	0	0
9	HMAC22I09	Life skill	Ty	2	0	0	0

Note: Students should choose any one Audit Course

Table 1:Components of curriculum and credit distribution

S. No	CATEGORY	Description	No. of Courses	Credits	Total	Credit Weightage	Contact hours
1	CORE COURSES	Core Theory	8	28	39	52%	420
		Core Lab	5	11			165
2	ELECTIVE COURSES	Department Electives/ Skill enhancement electives	3	20	20	27%	300
3	OPEN ELECTIVES	Open Elective theory	-	-	1	1%	-
		Open Elective Lab	1	1			15
4	INTERDISCIPLINARY / ALLIED COURSES	Theory	-	-	-	-	-
		Lab	-	-			-
5	HUMANITIES & SOCIAL SCIENCES , LIFE SKILLS &SOFT SKILLS	Language 1 & 2	-	-	1	1%	-
		English 1 & 2	-	-			-
		Soft Skills	-	-			-
		Life Skill	-	-			-
		Foreign Language	1	1			15
		Environmental Studies	-	-			-
		Management Papers	-	-			-
		Entrepreneurship Development	-	-			-
		Universal Human values	-	-			-
		Entrepreneurship	-	-			-
6	PROJECTS/INTERNSHIP/ CORE SKILL	Project	2	6	6	8%	90
		Core Skills	-	-			-
		Internship / NSS / NCC	-	-			-
7	Research Component	Research methodology,Publication,IPR and Patents etc.	2	5	5	7%	75
8	Any other	ETP	1	3	3	4%	45
Total		10	23	75	75		1125

TABLE-2

M.Sc Game Art & Animation is a New programme and has been introduced in 2024. The Revision/Modification in syllabus is not applicable.

TABLE-3

List of New courses / value added courses / life skills / Electives / interdisciplinary / courses focusing on employability / entrepreneurship / skill development

Sem	New Course	Value Added Course	Life Skills	Electives	Interdisciplinary / Allied	Focus on employability/ Entrepreneurship/ Skill development
Sem 1	• Image Editing Techniques • Gaming Concepts & Game Ethics	Research Methodology	Audit Course	Program Elective	-	• Game Characterization • Image Editing • Game Characterization & Design
Sem 2	• User Interface &Experience Designs for Games • Mobile Games Illustrations • Working with Unity 3D	-	-	-	-	• Interface & Interactive Design • Unity 3D • Game UI Designing
Sem 3	• Unreal Game Engine • Character Modeling and Marvelous designer • Character Animation	Research Publication	Foreign Language	-	-	• Unreal Game Engine • Character Modeling & Animation
Sem 4	-	-	-	Open Elective Swayam/ NPTEL/Any MOOC/ONLINE COURSE	-	• VR and AR Gaming • Immersive Reality& Extreme Reality in PC

SEMESTER I

Subject Code	Subject Name : IMAGE EDITING TECHNIQUES	C	L	T/SLr	P/R	Ty/Lb/ETP/ IE
HMGA24001	**Prerequisite : None**	**3**	**3**	**0/0**	**0/0**	**Ty**

L : Lecture T : Tutorial SLr : Supervised Learning P: Project R : Research C : Credits
T/L/ETL : Theory / Lab / Embedded Theory and Lab

OBJECTIVES

- Understand and Apply Basic Image Manipulation Techniques
- Master Layer Management and Color Tools
- Utilize Filters for Creative Enhancement
- Employ Retouching and Healing Techniques
- Implement Advanced Techniques for Web and Game Image

COURSE OUTCOMES (Cos)

Students completing this course were able to

CO1	To effectively manipulate image techniques
CO2	organize and manage layers, using effects and color modes to create polished compositions for digital and print.
CO3	enhance images using various filters and artistic effects.
CO4	use retouching tools like cloning and healing to improve image quality.
CO5	prepare images for web and game use, utilizing techniques like batch commands and panoramic image creation.

Mapping of Course Outcome with Program Outcome (POs)

Cos/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	1	1	1	1	-	3	2	3
CO2	3	2	2	1	3	1	3	2	3
CO3	3	2	2	1	3	1	3	2	3
CO4	3	1	2	1	3	-	3	2	3
CO5	3	1	2	1	2	-	3	2	3

COs/PSOs	PSO1	PSO2	PSO3
CO1	3	3	3
CO2	3	3	3
CO3	3	3	3
CO4	3	3	3
CO5	3	3	3

3/2/1 Indicates Strength Of Correlation, 3 – High, 2- Medium, 1- Low

Category	Basic Sciences	Engg. Science	Humanities & social Science	Program Core	Program Elective	Open Elective	Practical/Project	Internships/Technical Skills	Soft Skills
				√					

Subject Code	Subject Name : IMAGE EDITING TECHNIQUES	C	L	T/SLr	P/R	Ty/Lb/ETP/ IE
HMGA24001	Prerequisite : None	3	3	0/0	0/0	Ty
L : Lecture T : Tutorial SLr : Supervised Learning P: Project R : Research C : Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab						

UNIT I **9 Hrs**

Introduction to manipulation- Image Size and Resolution –Game Resolution _ Prompt Introduction- Import & Placing Images - Export- Creating Workspace - Tool Bar - Selection Tools - Copying & Pasting a Selection - Copy & Copy Merge - Paste & Paste Special

UNIT II **9 Hrs**

Color Modes - Type tool options – Layer - Adjustment Layer - Working with Layer Comps - Creating Layer Groups - Organizing Layers - Locking & hiding Layers - Linking Layers - Layer Effects - Painting Tools - Shape Tools - Work Path - Clipping Path - Cropping Images

UNIT III **9 Hrs**

Filters - Artistic Filter - Brush Stroke Filter - Distort Filter - Sketch Filter - Blur Gallery - Field Blur - Iris blur - Tilt Shift - Liquefy - Vanishing Point - Render Filter

UNIT IV **9 Hrs**

Matte Painting- Join -Split- slice – patch – heal- Retouching Tools - Clone Stamp Tool - Pattern Stamp Tool - Patch & Healing Brush Tool - Red Eye Tool - Blur , sharpen , smudge Tool – Histogram-Environment

UNIT V **9 Hrs**

Actions Palette - Batch Command - Photomerge - slices - saving files for web - zoomify- creating rollover - web photo gallery-Introduction to AI prompt , working with photo merge, creating panoramic image, Creating 360 image , working with HDR , Image for games , saving files as a web GIF

Total No. of Hrs: 45

TEXT BOOK:

1. Adobe Creative Team(Author) (2010)*Adobe Photoshop CS6 Classroom in a Book,Adobe Press*

REFERENCES:

2. Mike Wooldridge & Brianna Stuart,(2012)*Teach yourself Visually Adobe Photoshop, Wiley*
3. The Photoshop Workbook: Professional Retouching and Compositing Tips, Tricks - Glyn Dewis

Subject Code	Subject Name : GAMING CONCEPTS & GAME ETHICS	C	L	T/SLr	P/R	Ty/Lb/ETP/ IE
HMGA24002	Prerequisite : None	3	3	0/0	0/0	Ty

L : Lecture T : Tutorial SLr : Supervised Learning P: Project R : Research C : Credits
T/L/ETL : Theory / Lab / Embedded Theory and Lab

OBJECTIVES

- Understand Animation Basics
- Improve Gaming Communication Skills
- Learn UX/UI Design Principles
- Promote Responsible Gaming
- Explore Ethical Issues in Game Design

COURSE OUTCOMES (Cos)

Students completing this course were able to

CO1	show an understanding of animation history and principles, applying this knowledge across media.
CO2	apply communication strategies in gaming, enhancing player interaction through verbal and nonverbal methods.
CO3	demonstrate proficiency in UX/UI principles, using design thinking to create user-centered experiences.
CO4	explain the importance of responsible gaming practices and recognize age-related and financial safeguards.
CO5	analyze ethical issues in game design, understanding the effects of content choices and suggesting strategies for positive gaming environments.

Mapping of Course Outcome with Program Outcome (POs)

Cos/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	1	1	1	1	-	3	2	3
CO2	3	2	2	1	3	1	3	2	3
CO3	3	2	2	1	3	1	3	2	3
CO4	3	1	2	1	3	-	3	2	3
CO5	3	1	2	1	2	-	3	2	3

COs/PSOs	PSO1	PSO2	PSO3
CO1	3	3	3
CO2	3	3	3
CO3	3	3	3
CO4	3	3	3
CO5	3	3	3

3/2/1 Indicates Strength Of Correlation, 3 – High, 2- Medium, 1- Low

Category	Basic Sciences	Engg. Science	Humanities & social Science	Program Core	Program Elective	Open Elective	Practical/Project	Internships/Technical Skills	Soft Skills
				√					

Subject Code	Subject Name : GAMING CONCEPTS & GAME ETHICS	C	L	T/SLr	P/R	Ty/Lb/ETP/ IE
HMGA24002	Prerequisite : None	3	3	0/0	0/0	Ty
L : Lecture T : Tutorial SLr : Supervised Learning P: Project R : Research C : Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab						

UNIT I **9Hrs**

History of Animation - Animation: Meaning, definition & types - Basic Principles of Animation - Anatomy & Body Language - Introduction to Animation Technologies - Animation in AR - Animation in VR- Animation in MR - Games to develop XR

UNIT II **9Hrs**

Game Concept - definition - Introduction to human communication in gaming - Intrapersonal communication - Interpersonal communication - Group Communication - Verbal & Nonverbal communication - Verbal - voice chat - text chat - commands - Nonverbal - gestures - emotions - Communication in Gaming Communities.

UNIT III **9Hrs**

Introduction to UX Design , Concepts UI & UX Design , Design Thinking & stages, Divergent and Convergent Thinking ,Brainstorming versus Game storming & Observational Empathy

UNIT IV **9Hrs**

Responsible Gaming - Age Gating - Fair Gaming - Financial Safeguards - Responsible Advertising - Safe, Secure and Reliable Gaming - Gaming vs. Gambling - Privacy concerns - User protection - Online Gaming Rules.

UNIT V **9Hrs**

Ethical Issues in Game Content and Design - Impact of violence - Stereotypes - Sensitive themes on players - about Controversial games - Role of developers - Moderators in fostering positive gaming environments - Future game ethics in AI.

Total No. of Hrs: 45

TEXT BOOK:

Designing Games For Ethics: Models, Techniques and Frameworks (Premier Reference Source) Hardcover – Import, 30 December 2010by Karen Schrier (Editor)

REFERENCES:

- McQuailDennis(1981) *Communication Models*, Longman, London.
- Games and Ethics: Theoretical and Empirical Approaches to Ethical Questions in Digital Game Cultures: 7

Subject Code : HMCC22001	Subject Name : **RESEARCH METHODOLOGY**	C	L	T/SLr	P/R	Ty/Lb/ETP /IE
	Prerequisite : None	3	2	1/0	0/0	Ty

L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab

OBJECTIVES :

- Design and formulation of researchproblem.
- Analyze research related information and statistical methods inresearch.
- Carry out research problem individually in a perfect scientificmethod
- Understand the filing patent applications processes, Patent search, and various tools of IPR, Copyright, andTrademarks.

COURSE OUTCOMES (Cos) : (3 – 5)Students completing the course were able to

CO1	Design and Formulation of research problem.
CO2	Analyze research related information and statistical methods in research.
CO3	Carry out research problem individually in a perfect scientific method
CO4	Understand Patent Filing application Process.
CO5	Patent Search and various tools used.

Mapping of Course Outcomes with Program Outcomes (POs)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	3	2	2	3	3	3			
CO2	3	2	1	3	3	1	1	1	1			
CO3	3	3	2	1	2	2	3	3	3			
CO4	3	3	2	2	1	2	2	2	2			
CO5	3	3	3	3	3	2	3	3	3			

Category	Basic Sciences	Engg.Science	Humanities &social Science	Program Core	Program Elective	Open Elective	Practical/ Project	Internship/ Skill component	Inter disciplinary
			✓						

Subject Code : HMCC22001	Subject Name : **RESEARCH METHODOLOGY**	C	L	T/SLr	P/R	Ty/Lb/ETP /IE
	Prerequisite : None	3	2	1/0	0/0	Ty
L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab						

Unit 1 **9Hrs**

Introduction to research, Definitions and characteristics of research, Types of Research, Research Process, Problem definition, Objectives of Research, Research Questions, Research design, Quantitative vs. QualitativeApproach,BuildingandValidatingTheoreticalModels,Exploratoryvs.ConfirmatoryResearch, Experimental vs. Theoretical Research, Importance of reasoning inresearch.

Unit 2 **9Hrs**

ProblemFormulation,UnderstandingModeling&Simulation,LiteratureReview,Referencing,Information Sources, Information Retrieval, Indexing and abstracting services, Citation indexes, Development of Hypothesis, Measurement Systems Analysis, Error Propagation, Validity of experiments, Statistical Design of Experiments, Data/Variable Types & Classification, Data collection, Numerical and Graphical Data Analysis: Sampling, Observation, Interpretation ofResults.

Unit 3 (This Unit has to be handled by Mathematics Faculty) **9Hrs**

Statistics:Probability&Samplingdistribution,Estimation,MeasuresofcentralTendency,Arithmeticmean, Median, Mode, Standard deviation, Co efficient of variation (Discrete serious and continuous serious), Hypothesis testing & application, Correlation & regression analysis, Orthogonal array, ANOVA, Standard error, Concept of point and interval estimation, Level of significance, Degree of freedom, Analysis of variance, One way and two way classified data, 'F'test.

Unit 4 **9Hrs**

PreparationofDissertationandResearchPapers,Tablesandillustrations,Guidelinesforwritingtheabstract, introduction,methodology,resultsanddiscussion,conclusionsectionsofamanuscript.References,Citation and listing system ofdocuments.

Unit 5 **9Hrs**

Intellectual property rights (IPR) patents copyrights Trademarks Industrial design geographical indication. Ethics of Research Scientific Misconduct Forms of Scientific Misconduct. Plagiarism, Unscientific practices in thesis work, Ethics in science.

Total No. of Hrs: 45

Text Book:

1. K. S. Bordens, and B. B.Abbott, , "Research Design and Methods – A Process Approach", 8th Edition, McGraw Hill,2011.
2. C. R. Kothari, "Research Methodology – Methods and Techniques", 2nd Edition, NewAgeInternational Publishers

PRACTICAL

Subject Code : HMGA24ET1	Subject Name : GAME CHARACTERIZATION	C	L	T/SLr	P/R	Ty/Lb/ETP /IE
	Prerequisite : None	3	2	0/0	2/0	ETP

L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab

OBJECTIVES :

- Understand Character Design Fundamentals:
- Explore Character Expression
- Practice Character Sketching
- Capture Dynamic Poses
- Develop a Complete Character Design

COURSE OUTCOMES (Cos) : (3 – 5)Students completing the course were able to

CO1	demonstrate an understanding of the fundamental principles and elements of character design through their sketches.
CO2	effectively convey character personality and emotion through facial expressions and body language in their artwork.
CO3	showcase proficiency in creating character sketches using geometric shapes and experimenting with body proportions.
CO4	produce quick sketches that capture movement and energy, using gesture lines to enhance the portrayal of action.
CO5	develop a complete, polished character design that includes detailed features, textures, and shading, demonstrating their ability to finalize character concepts.

Mapping of Course Outcomes with Program Outcomes (POs)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	3	2	2	3	3	3			
CO2	3	2	1	3	3	1	1	1	1			
CO3	3	3	2	1	2	2	3	3	3			
CO4	3	3	2	2	1	2	2	2	2			
CO5	3	3	3	3	3	2	3	3	3			

Category	Basic Sciences	Engg.Science	Humanities &social Science	Program Core	Program Elective	Open Elective	Practical/ Project	Internship/ Skill component	Inter disciplinary
				✓					

Subject Code : HMGA24ET1	Subject Name : GAME CHARACTERIZATION	C	L	T/SLr	P/R	Ty/Lb/ETP /IE
	Prerequisite : None	3	2	0/0	2/0	ETP

L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab

UNIT I **9 Hrs**

Basic Principles and Elements of Character Design Concepts - Shape Language - Silhouette - Proportions - Color Scheme - Line Quality - Anatomy and Proportions in Character Design - Basic Human Anatomy - Stylization - Cartoon Style - Realistic Style - Fantasy - Gesture and Movement.

UNIT II **9 Hrs**

Character Expression and Personality - facial features - Body language and posture - Emotion and expressionBasic Character Sketching and Proportions - Constructing the Character Framework - Refining and Adding Details -

UNIT III **9 Hrs**

- Create a series of character sketches using basic geometric shapes (circles, rectangles, triangles) to build the body structure.
- Experiment with different body types and proportions by adjusting the shapes and size relationships.

UNIT IV **9 Hrs**

- Draw several quick sketches of characters in various dynamic poses (e.g., running, jumping, fighting) to capture movement and energy.
- Focus on gesture lines and body language to convey the character's actions and emotions effectively.

UNIT V **9 Hrs**

- Develop a complete character design based on previous sketches, including detailed facial features, clothing, and accessories.
- Refine the initial sketches by adding textures, shading, and final line work to create a polished character design.

Total No. of Hrs: 45

TEXT BOOK:

1. Thomson &Arthur(2011) *Anatomy of the Artist* , Oxford, Clarendon Press.

REFERENCES:

1 . Aditya Chari, *Figure drawing made easy*
2. Valerie L. Winslow(2008),*Classic Human Anatomy: The Artist's Guide to Form, Function, and Movement Hardcover*
3. Wynn Kapit & Lawrence M. Elson(2013) , *The Anatomy Coloring Book.*

Subject Code : HMGA24L01	Subject Name : IMAGE EDITING LAB	C	L	T/SLr	P/R	Ty/Lb/ETP /IE
	Prerequisite : None	2	0	0/0	4/0	Lb

L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab

OBJECTIVES :

- Develop Game Character Design Skills
- Master Background Manipulation
- Understand Color Digital Imaging
- Create Game Matte Paintings
- Utilize AI Prompts for Creativity

COURSE OUTCOMES (Cos) : (3 – 5)Students completing the course were able to

CO1	demonstrate the ability to design and create original game characters, showcasing their understanding of character aesthetics and functionality.
CO2	produce well-manipulated backgrounds that complement game settings, demonstrating technical skills in image editing.
CO3	apply color correction and enhancement methods to create vibrant and engaging digital images.
CO4	create polished matte paintings that can be integrated into game environments, demonstrating an understanding of composition and artistic techniques.
CO5	effectively use AI-generated prompts to inspire and guide their image editing projects, showcasing creativity and adaptability in their design process.

Mapping of Course Outcomes with Program Outcomes (POs)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	3	2	2	3	3	3			
CO2	3	2	1	3	3	1	1	1	1			
CO3	3	3	2	1	2	2	3	3	3			
CO4	3	3	2	2	1	2	2	2	2			
CO5	3	3	3	3	3	2	3	3	3			

Category	Basic Sciences	Engg.Science	Humanities &social Science	Program Core	Program Elective	Open Elective	Practical/ Project	Internship/ Skill component	Inter disciplinary
							✓		

Subject Code : HMGA24L01	Subject Name : IMAGE EDITING LAB	C	L	T/SLr	P/R	Ty/Lb/ETP /IE
	Prerequisite : None	2	0	0/0	4/0	Lb
L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab						

To give hands on experience in designing and editing

To make the student familiar with image editing for all the medias

1. Creating a game character.

2. Create a Background manipulation.

3. Create a Color DI.

4. Create a Game matte painting.

5. Create a AI prompt.

Subject Code : HMGA24L02	Subject Name : PROJECT – GAME CHARACTERIZATION & DESIGN	C	L	T/SLr	P/R	Ty/Lb/ETP /IE
	Prerequisite : None	**2**	**0**	**0/0**	**4/0**	**Lb**

L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab

OBJECTIVES :

- Understand Game Environment Design
- Create Game Characters
- Utilize Image Editing Techniques
- Implement Composition and Depth
- Develop a Cohesive Game Visualization

COURSE OUTCOMES (Cos) : (3 – 5)Students completing the course were able to

CO1	demonstrate the ability to design and create immersive game environments that enhance gameplay and storytelling.
CO2	produce well-designed game characters that fit seamlessly into their environments, showcasing stylistic coherence and functionality.
CO3	exhibit proficiency in using image editing techniques to enhance and integrate images into their game visualizations.
CO4	demonstrate an understanding of composition and depth, effectively arranging elements within the game environment to create visual interest.
CO5	deliver a polished game visualization project that effectively combines their environment and character designs, showcasing their overall design skills and creativity.

Mapping of Course Outcomes with Program Outcomes (POs)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	3	2	2	3	3	3			
CO2	3	2	1	3	3	1	1	1	1			
CO3	3	3	2	1	2	2	3	3	3			
CO4	3	3	2	2	1	2	2	2	2			
CO5	3	3	3	3	3	2	3	3	3			

Category	Basic Sciences	Engg.Science	Humanities &social Science	Program Core	Program Elective	Open Elective	Practical/ Project	Internship/ Skill component	Inter disciplinary
							✓		

Subject Code : HMGA24L02	Subject Name : PROJECT – GAME CHARACTERIZATION & DESIGN	C	L	T/SLr	P/R	Ty/Lb/ETP /IE
	Prerequisite : None	**2**	**0**	**0/0**	**4/0**	**Lb**
L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab						

- Make a game environment with few game characters using an images to create a game Visualization using Photoshop Software.
- Students are asked to use the below mentioned concepts in their project.
    - Design templates
    - Character
    - Assets
    - Environment

SEMESTER II

Subject Code : HMGA24003	Subject Name : User Interface & Experience Design For Games	C	L	T/SLr	P/R	Ty/Lb/ETP /IE
	Prerequisite : None	3	3	0/0	0/0	Ty

L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab

OBJECTIVES :

- Understand UI/UX Fundamentals
- Develop Skills in Prototyping and Animation
- Master Design Tools and Techniques
- Implement 3D and Interactive Elements
- Create and Test Interactive Prototypes

COURSE OUTCOMES (Cos) : (3 – 5)Students completing the course were able to

CO1	demonstrate a solid understanding of UI/UX concepts
CO2	produce functional and visually appealing prototypes
CO3	show proficiency in design software such as Adobe XD and Figma
CO4	create responsive and interactive designs that incorporate 3D elements and user interactions
CO5	effectively test their prototypes on real devices

Mapping of Course Outcomes with Program Outcomes (POs)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	3	2	2	3	3	3			
CO2	3	2	1	3	3	1	1	1	1			
CO3	3	3	2	1	2	2	3	3	3			
CO4	3	3	2	2	1	2	2	2	2			
CO5	3	3	3	3	3	2	3	3	3			

Category	Basic Sciences	Engg.Science	Humanities &social Science	Program Core	Program Elective	Open Elective	Practical/ Project	Internship/ Skill component	Inter disciplinary
				✓					

Subject Code : HMGA24003	Subject Name : User Interface & Experience Design For Games	C	L	T/SLr	P/R	Ty/Lb/ETP/IE
	Prerequisite : None	3	3	0/0	0/0	Ty
L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab						

UNIT – I 9Hrs

Introduction About UI & UX - Opportunities ,Working with panels -Create - Setup- Navigate, Import- text - Images -Photo as an image fill, Colored backgrounds – Create –Modify, About Vector Graphics-About Grids, Layout grids- Create -Modify, Create Components - Edit components -Overriding content, Organizing - Arranging Content, Aligning -positioning content, About Prototype - Clickable Prototype – Previewing- recording Prototype, overlay Backgrounds, Downloading - working with UI kits.

UNIT – II 9Hrs

About Pages- Page Adjustments-Linking Pages, Create Scrollable Areas- Managing Scrollable Areas, Introduction to Auto-Animate- Basics of Auto-Animate, Animation- Timed Animation- Parallax Animation -Types of Easing, Setting up Parallax Assets, Hover State, Toggle State.

UNIT – III 9Hrs

About 3D Transforms –Creating- Adding, Front to Back versus Z Position, Responsive content, Interactions- Time Interactions- Tap-Drag, Keys Creation- Types, Slideshows Prototypes, Audio -Sound Effects. Exporting Assets – web-Formats, Exporting code assets- individual assets, Design mode - Prototype mode, Sharing XD Files -Share for review–Libraries- publishing library Using an XD Library.

UNIT – IV 9Hrs

Introduction to Figma - The Basics - Creating New Files- Importing from Sketch- The Main Toolbar- The Properties Panel- The Layers Panel- Useful Shortcuts – frames -Grids & Guides - -Creating Shapes - Pen & Pencil Tools- Boolean Operations - Boolean Exercise Solution- Alignment Tools. The Wireframe -Setting Up Our Frames - Images & Overlays Adding Icons- Choosing a Color Scheme-

UNIT – V 9Hrs

Setting Up Color Styles- -Components -Button Components Using Pages to Organize -Using Variants to Create Component Groups -Variants Exercise Solution- Exploring Variants Even -Payment Page –Constraints - Exercise Solution-Plugins - Completing Our Map Page-Creating Prototypes- Adding Connections between Frames-Scrolling in Prototypes- Testing on a Real Device Using Overlays for Tutorial Cards- Openning Links-Adding Animations- Page Transitions- Interactive Maps Interactive Components Exercise Solutions-Creating New Flows.

Total No of Hours. 45

TEXT BOOKREFERENCES::

1.Software Essentials for Graphic Designers:- InDesign-– Paper Back- Amazon.com

2.Adobe Creative Team (2012)- *Adobe In Design Class Room in a Book*

3. Adobe Indesign (English - paperback- Bittu Kumar)

Subject Code : HMGA24004	Subject Name : MOBILE Games Illustrations	C	L	T/SLr	P/R	Ty/Lb/ETP/IE
	Prerequisite : None	**4**	**4**	**0/0**	**0/0**	**Ty**

L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab

OBJECTIVES :

- To Understand Design Fundamentals
- To Develop Visual Design Strategies
- To Utilize Design Tools Effectively
- To Explore Mobile UX Design
- To Create Responsive Designs

COURSE OUTCOMES (Cos) : (3 – 5)Students completing the course were able to

CO1	demonstrate a strong understanding of UI design principles, including color usage and typography, applied effectively in their projects.
CO2	convert wireframes into visually compelling designs that incorporate effective interactions and micro-interactions.
CO3	showcase their ability to use design tools proficiently, creating prototypes and utilizing plugins to enhance their workflow.
CO4	apply UX design principles specific to Android and Apple mobile interfaces, demonstrating a comprehensive understanding of mobile design.
CO5	produce responsive and adaptive designs for various devices, effectively reviewing and refining their work for improved user experience.

Mapping of Course Outcomes with Program Outcomes (POs)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO 7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	3	2	2	3	3	3			
CO2	3	2	1	3	3	1	1	1	1			
CO3	3	3	2	1	2	2	3	3	3			
CO4	3	3	2	2	1	2	2	2	2			
CO5	3	3	3	3	3	2	3	3	3			

Category	Basic Sciences	Engg.Science	Humanities &social Science	Program Core	Program Elective	Open Elective	Practical/ Project	Internship/ Skill component	Inter disciplinary
				✓					

Subject Code : HMGA24004	Subject Name : MOBILE Games Illustrations	C	L	T/SLr	P/R	Ty/Lb/ETP/IE
	Prerequisite : None	**4**	**4**	**0/0**	**0/0**	**Ty**
L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab						

UNIT I: **12hrs**

Understanding the interface - Understanding various design methods - Properties- Shortcuts - Color theory and Typography - Understanding the usage of colors on UI -

UNIT II: **12hrs**

Setting a visual design strategy -Converting the wireframes into visual design- Interactions and micro interactions- Assets and style guides - overview of Sharing for development

UNIT III: **12hrs**

Interface Shapes - Pen Tool - Text Tool - Components -Plug-in- Panel , Masks - Shortcuts- Prototyping - Tools Interaction -Panel Triggers & Actions - Mobile and Desktop Previews -Recording Prototype -Sharing - Working With Files

UNIT IV: **12hrs**

Introduction to Android mobiles UX designs -Reviews -Introduction - Understanding various sections of a screen in android and Apple mobiles - -Reviewing the entire progress

UNIT V: **12hrs**

Static designs& dynamics designs - Responsive and adaptive designs - responsive website - review of all the designs

Total No. of Hrs: 60

TEXT BOOK:

- *Essential Mobile Interaction Design: Perfecting Interface Design in Mobile Apps (Usability) by Cameron Banga (Author), Josh Weinhold (Author*
- *Adobe XD Classroom in a Book (2020 release)by Brian Wood Released May 2020*

REFERENCE:*Mobile User Experience* -by ***Adrian Mendoza***

Subject Code : HMGA24005	Subject Name : Working with Unity 3D	C	L	T/SLr	P/R	Ty/Lb/ETP/IE
	Prerequisite : None	**4**	**3**	**0/1**	**0/0**	**Ty**

L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab

OBJECTIVES :

- To Familiarize with Unity Editor
- To Develop Environment Assets
- To Character Development Skills
- To Implement Character Animation
- To Build and Export Projects

COURSE OUTCOMES (Cos) : (3 – 5)Students completing the course were able to

CO1	demonstrate proficiency in navigating the Unity Editor and prototyping gameplay elements using primitives and the mouse manager.
CO2	will create detailed environment assets, utilizing lighting techniques and particle systems to enhance the overall game atmosphere.
CO3	produce well-developed characters, demonstrating an understanding of shapes, forms, and character hierarchy in their designs.
CO4	implement character animations and player controls, effectively adding accessories and enhancing character interaction within the game.
CO5	build and export their Unity projects across multiple platforms, including mobile and VR, ensuring compatibility and optimal performance.

Mapping of Course Outcomes with Program Outcomes (POs)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	3	2	2	3	3	3			
CO2	3	2	1	3	3	1	1	1	1			
CO3	3	3	2	1	2	2	3	3	3			
CO4	3	3	2	2	1	2	2	2	2			
CO5	3	3	3	3	3	2	3	3	3			

Category	Basic Sciences	Engg.Science	Humanities &social Science	Program Core	Program Elective	Open Elective	Practical/ Project	Internship/ Skill component	Inter disciplinary
				✓					

Subject Code : HMGA24005	Subject Name : Working with Unity 3D	C	L	T/SLr	P/R	Ty/Lb/ETP/IE
	Prerequisite : None	**4**	**3**	**0/1**	**0/0**	**Ty**
L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab						

UNIT I

12 Hrs

Introduction to Unity Editor - Prototyping in Unity -Level Design -Creating a Player Controller - Creating User Interface and Audio -Post Processing and Cinemachine -Building your project .Unity Interface - Scene Navigation - Game Object Concepts- Reviewing the Game Design Document Prototyping with Primitives -Prototyping the Mouse Manager

UNIT II **12 Hrs**

Introduction to ProBuilder - Configuring Environment Assets- Creating Environment Prefabs -Lighting &Environment.Creating Particle Systems - smoke - image particles - fog - Creating Light Streaks- lights - spot light - Emission lights

UNIT III **12 Hrs**

Character Development - Definition - Working with Art tools - Shapes - Forms - Character Hierarchy - Shape Symbolism - Circle - Square - triangle - strong character creation.Creating Model Sheets - Commission Analysis - short information - expanded meaning - personality of the character - Preparation Process - Skeleton Comparison - Muscular Comparison - Design - Silhouette

UNIT IV **12Hrs**

Setting up the Character-types of characters - character identification - character development-Configuring the Animator Controller -Creating the Player Controller - Adding Accessories to Characters

UNIT V **12 Hrs**

Built in Windows – Rebuild in mobile – baking lighting and texturing – convert to APK file format –Convert to VR built format-convert in PC

Total No. of Hrs: 60

TEXT BOOK: ***Game Development with Unity - by*** **Michelle Menard**

Unity 3D Game Development by Example Beginner's Guide: Lite Edition - by **Ryan Henson Creighton**

REFERENCES: https://forum.unity.com/threads/looking-to-buy-unity-book-for-studying.512492/

Subject Code : **HMGA24L03**	Subject Name : **Interface & Interactive Design LAB**	**C**	L	T/SLr	P/R	Ty/Lb/ETP/IE
	Prerequisite : None	**2**	0	0/0	4/0	Lb

L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab

OBJECTIVES :

- To Icon Design Skills
- To Mobile Interface Design
- To PC Interface Design
- To Interface Design Template Creation
- To 2D Game Layout Sketching

COURSE OUTCOMES (Cos) : (3 – 5)Students completing the course were able to

CO1	demonstrate proficiency in designing effective icons that convey meaning and function within a user interface.
CO2	produce three well-designed mobile interface templates that prioritize user experience and responsiveness.
CO3	develop three PC interface design templates that effectively utilize screen space and enhance user interaction.
CO4	create a new interface design template that showcases creativity while adhering to usability standards.
CO5	deliver a detailed 2D layout sketch for a new game, reflecting a clear understanding of gameplay dynamics and user engagement.

Mapping of Course Outcomes with Program Outcomes (POs)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	3	2	2	3	3	3			
CO2	3	2	1	3	3	1	1	1	1			
CO3	3	3	2	1	2	2	3	3	3			
CO4	3	3	2	2	1	2	2	2	2			
CO5	3	3	3	3	3	2	3	3	3			

Category	Basic Sciences	Engg.Science	Humanities &social Science	Program Core	Program Elective	Open Elective	Practical/ Project	Internship/ Skill component	Inter disciplinary
							✓		

Subject Code : **HMGA24L03**	Subject Name : **Interface & Interactive Design LAB**	**C**	L	T/SLr	P/R	Ty/Lb/ETP/IE
	Prerequisite : None	**2**	0	0/0	4/0	Lb
L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab						

1. Create five icons
2. Create three new mobile interface design Templates
3. Create three new PC interface design Templates
4. Create new template using Interface design .
5. Sketch a 2D Layout for a new game

Total Hours- 30

Subject Code : HBGA24L04	Subject Name : Working with Unity 3D Lab	C	L	T/SLr	P/ R	Ty/Lb/ETP/IE
	Prerequisite : None	**2**	**0**	**0/0**	**4/0**	**Lb**

L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab

OBJECTIVES :

- To Develop Interior Design Skills
- To Design Exterior Environments
- To Model Product Designs
- To Import Complex Models
- To Incorporate Themed Assets

COURSE OUTCOMES (Cos) : (3 – 5)Students completing the course were able to

CO1	demonstrate the ability to create realistic and aesthetically pleasing interior environments in Unity 3D.
CO2	produce a well-structured forest environment that effectively utilizes Unity's terrain tools and environmental effects.
CO3	showcase their skills in creating and texturing a 3D product model, demonstrating attention to detail and design principles.
CO4	effectively import and integrate complex models into Unity 3D, ensuring they function correctly within the designed environment.
CO5	import and utilize themed assets, such as spaceships, in Unity 3D, enhancing the overall narrative and aesthetic of their projects.

Mapping of Course Outcomes with Program Outcomes (POs)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	3	2	2	3	3	3			
CO2	3	2	1	3	3	1	1	1	1			
CO3	3	3	2	1	2	2	3	3	3			
CO4	3	3	2	2	1	2	2	2	2			
CO5	3	3	3	3	3	2	3	3	3			

Category	Basic Sciences	Engg.Science	Humanities &social Science	Program Core	Program Elective	Open Elective	Practical/ Project	Internship/ Skill component	Inter disciplinary
							✓		

Subject Code : HBGA24L04	Subject Name : Working with Unity 3D Lab	C	L	T/SLr	P/R	Ty/Lb/ETP/IE
	Prerequisite : None	**2**	**0**	**0/0**	**4/0**	**Lb**
L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab						

1) Create Interior design in Unity 3D

2) Create a Exterior Environment for forest in unity 3D

3) Create a Product Model in Unity 3D

4) Import a Scifi Space station in unity 3D

5) Import a Startruck space in Unity 3D

Total Hours- 30

Subject Code : HMGA24L05	Subject Name : Project- Game UI Designing	C	L	T/SLr	P/R	Ty/Lb/ETP/IE
	Prerequisite : None	**4**	**0**	**0/0**	**8/0**	**Lb**

L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab

OBJECTIVES :

- To Understand Mobile App Development
- To Design User-Friendly Interfaces
- To Implement Core Features
- To Integrate Backend Services
- To Test and Optimize Applications

COURSE OUTCOMES (Cos) : (3 – 5)Students completing the course were able to

CO1	demonstrate the ability to develop mobile applications from concept to completion, showcasing their understanding of the development lifecycle.
CO2	create user-friendly interfaces for their applications that enhance user experience and accessibility.
CO3	implement and demonstrate core features in their applications, such as product listings for online shopping and menu selections for food services.
CO4	effectively integrate backend services, demonstrating the ability to manage user data and application interactions seamlessly.
CO5	deliver optimized mobile applications that perform well on various devices, reflecting thorough testing and refinement processes.

Mapping of Course Outcomes with Program Outcomes (POs)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	3	2	2	3	3	3			
CO2	3	2	1	3	3	1	1	1	1			
CO3	3	3	2	1	2	2	3	3	3			
CO4	3	3	2	2	1	2	2	2	2			
CO5	3	3	3	3	3	2	3	3	3			

Category	Basic Sciences	Engg.Science	Humanities &social Science	Program Core	Program Elective	Open Elective	Practical/ Project	Internship/ Skill component	Inter disciplinary
							✓		

Subject Code : HMGA24L05	Subject Name : Project- Game UI Designing	C	L	T/SLr	P/R	Ty/Lb/ETP/IE
	Prerequisite : None	**4**	**0**	**0/0**	**8/0**	**Lb**
L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab						

1) Create any Two Mobile application

- Online Shopping
- Food services
- Medicals

SEMESTER III

Subject Code : HBGA24006	Subject Name : UNREAL GAME ENGINE	C	L	T/SLr	P/R	Ty/Lb/ETP /IE
	Prerequisite : None	4	4	0/0	0/0	Ty

L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab

OBJECTIVES :

- To Understand the basics of Unreal Engine and its interface for VR/AR development.
- To Master navigation and object manipulation techniques within the Unreal Engine viewport.
- To Learn to manage assets using the Content Browser and customize project settings.
- ToExplore the use of Actors, materials, lights, and atmospheric elements in scene creation.
- To Develop proficiency in collision settings and simulate realistic interactions in virtual environments.

COURSE OUTCOMES (Cos) : (3 – 5)Students completing the course were able to

CO1	Demonstrate a clear understanding of Unreal Engine's tools, interfaces, and workflows.
CO2	Navigate and manipulate assets within the viewport using advanced snapping and alignment techniques.
CO3	Effectively manage assets in the Content Browser for efficient project organization.
CO4	Design immersive levels with proper use of Actors, materials, lights, and atmospheric effects.
CO5	Implement accurate collision properties and simulate realistic physics in game environments.

Mapping of Course Outcomes with Program Outcomes (POs)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	3	2	2	3	3	3			
CO2	3	2	1	3	3	1	1	1	1			
CO3	3	3	2	1	2	2	3	3	3			
CO4	3	3	2	2	1	2	2	2	2			
CO5	3	3	3	3	3	2	3	3	3			

Category	Basic Sciences	Engg.Science	Humanities &social Science	Program Core	Program Elective	Open Elective	Practical/ Project	Internship/ Skill component	Inter disciplinary
				✓					

Subject Code : HBGA24006	Subject Name : UNREAL GAME ENGINE	C	L	T/SLr	P/R	Ty/Lb/ETP/IE
	Prerequisite : None	4	4	0/0	0/0	Ty
L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab						

UNIT I : **12 Hrs**

Introduction to Unre -registration & installation --project -levels- actors- difference between the Unreal Engine and the Unreal Editor- Level Editor - Viewport, Toolbar- Content Browser- Modes Panel-World Outliner- customize the interface- place Actors into a Level- different tabs of Place Mode -Lights

UNIT II **12 Hrs**

Viewport I - Navigating Within the Viewport -Viewport - mouse navigation, WASD navigation, and Maya navigation Viewport II –move, rotate, and scale tools. Learn how to -select multiple Actors and move them all at once.Viewport III – snapping to perfectly align your Actors -with one another within your Level- Learn the difference between Surface Snapping- Grid Snapping, Rotation Snapping, and Scale

UNIT III **12 Hrs**

Viewport IV – Different Ways To View Your Level- Content Browser I - Learn about the Sources Panel- Asset Window-searching- the Content Browser- and breadcrumbs.

UNIT IV **12 Hrs**

Actors -Static Meshes -Brushes -Materials- Lights- Atmospheric Fog - Player Start- Components- Volumes- Creating the Sky

UNIT V **12 Hrs**

Collisions- and collision properties -Simulation Generates Hit Events, Generate Overlap Events-Collision Enabled- , Physics Collisions Only, Query Collisions Only - difference between ECB Yes, ECB No, and ECB Owner.

Total Hrs : 60

TEXT BOOK:*Learning Unreal Engine Game Development: A step-by-step guide that paves the way for developing fantastic games with Unreal Engine 4 - by* Joanna Lee

REFERENCES: 3D Game Design with Unreal Engine 4 and Blender - by Justin Plowman

Subject Code :	Subject Name :	C	L	T/SLr	P/R	Ty/Lb/ETP /IE
HBGA24007	**Character Modeling and Marvelous Designer**					
	Prerequisite : None	**4**	**4**	**0/0**	**0/0**	**Ty**

L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab

OBJECTIVES :

- To Learn the fundamentals of Marvelous Designer and its integration with 3D modeling tools.
- To Master pattern creation and manipulation to design diverse clothing styles for characters.
- To Explore texture and material application to enhance the realism of clothing assets.
- To Understand custom avatar creation and clothing assembly for specialized designs.
- To Integrate workflows across ZBrush, Substance, Maya, Blender, and Marmoset for rendering and final output.

COURSE OUTCOMES (Cos) : (3 – 5)Students completing the course were able to

CO1	Demonstrate proficiency in using Marvelous Designer for designing and simulating garments.
CO2	Create detailed clothing assets, including casual, medieval, and military-themed outfits, with realistic textures.
CO3	Apply patterns and fabric properties to customize and align clothing designs with project requirements.
CO4	Successfully integrate custom avatars and finalize projects with detailed assembly and finishing touches.
CO5	Render professional-quality outputs using advanced tools like ZBrush, Substance, Maya, Blender, and Marmoset.

Mapping of Course Outcomes with Program Outcomes (POs)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	3	2	2	3	3	3			
CO2	3	2	1	3	3	1	1	1	1			
CO3	3	3	2	1	2	2	3	3	3			
CO4	3	3	2	2	1	2	2	2	2			
CO5	3	3	3	3	3	2	3	3	3			

Category	Basic Sciences	Engg.Science	Humanities &social Science	Program Core	Program Elective	Open Elective	Practical/ Project	Internship/ Skill component	Inter disciplinary
				✓					

Subject Code :	Subject Name :	C	L	T/SLr	P/R	Ty/Lb/ETP /IE
HBGA24007	**Character Modeling and Marvelous Designer**					
	Prerequisite : None	**4**	**4**	**0/0**	**0/0**	**Ty**
L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab						

UNIT I : **12 Hrs**

Introduction to Marvelous Designer –import 3d models-working with 3d format- Interface Overview -Cloth Properties -Cloth Dynamics-Planning a Project -Uniform undershirt – pleats – uniform jackets- uniform jacket details.

UNIT II : **12 Hrs**

Importing 3d Maya project file- align a project – working with patterns
Using Patters - Shirt Details- Medieval Pants- Medieval Cowl
Medieval Bracers- Materials and Textures.

UNIT III : **12 Hrs**

Casual Dress -Date Dress-Date Dress Skirt-Date Dress Texture-Night Dress-Night Dress Texture-Wedding Dress--Zipper and Skirt-Lace.

UNIT IV : **12 Hrs**

Importing Custom Avatar-Pants Block In –Pockets -Military Shirt and Belt -Kneepads-Military Vest Block In -Military Vest Details-Military Bag Block In -Military Bag Details
Final Assembly

UNIT V : **12 Hrs**

Zbrush Integration- Substance Workflow- Maya Render-Blender Render- Marmoset Render

Total Hours-60

TEXT BOOK: Character Modeling Guide | Introduction to PBR Assets for Video Games

Understanding Marvelous Designer: A Guide for CG Artists

Subject Code : HMGA24008	Subject Name : **Character Animation**	C	L	T/SLr	P/R	Ty/Lb/ETP /IE
	Prerequisite : None	**3**	**2**	**0/1**	**0/0**	**Ty**

L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab

OBJECTIVES :

- ToUnderstand animation principles and control techniques in Maya for game development.
- ToMaster rendering workflows using Arnold, including lights, materials, and textures for realistic outputs.
- ToLearn UV mapping, hair and fur dynamics, and advanced tools like X-Gen and Bifrost for character detailing.
- ToDevelop game-ready character models using polygon modeling techniques in Maya.
- ToApply real-time rendering and immersion technology to create projects for AR and VR game design.

COURSE OUTCOMES (Cos) : (3 – 5)Students completing the course were able to

CO1	Demonstrate proficiency in applying animation principles and creating game-ready animations in Maya.
CO2	Render high-quality visuals using Arnold, employing advanced lighting, texturing, and rendering techniques.
CO3	Develop UV maps, dynamic hair and fur, and other detailed assets for realistic game characters.
CO4	Create optimized game character models using advanced modeling tools and techniques in Maya.
CO5	Design immersive, real-time projects for AR and VR games, incorporating character animation and interactive elements.

Mapping of Course Outcomes with Program Outcomes (POs)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	3	2	2	3	3	3			
CO2	3	2	1	3	3	1	1	1	1			
CO3	3	3	2	1	2	2	3	3	3			
CO4	3	3	2	2	1	2	2	2	2			
CO5	3	3	3	3	3	2	3	3	3			

Category	Basic Sciences	Engg.Science	Humanities &social Science	Program Core	Program Elective	Open Elective	Practical/ Project	Internship/ Skill component	Inter disciplinary
				✓					

Subject Code : HMGA24008	Subject Name : **Character Animation**	C	L	T/SLr	P/R	Ty/Lb/ETP /IE
	Prerequisite : None	**3**	**2**	**0/1**	**0/0**	**Ty**

L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab

UNIT I : **9 Hrs**

Animation in Maya for games – Squash & Stretch- Anticipation – staging- straight ahead action and pose to pose action, follow through and overlapping action, ease – in and out, - Animation control menus – snap, Keys, Tangents, Playback Speed, Playback Looping, Play blast, Sound.

UNIT II : **9 Hrs**

Camera - Types of camera, View Port Camera, Arnold render setting - Lights – Standard Lights, Arnold render Rendering - Texturing: Normal Mapping, , Arnold shape - Rendering Techniques.

Working with render setup – Arnold , hyper shade node, Arnold light -mesh light - HDRI light - sky dome . Arnold renders setting, Batch render render sequence

UNIT III : **9 Hrs**

Introduction to UV maps for Games -planer -cylinder - working with UV mapping in Maya - working with UV editor - understand UV unwrapping. Maya touv mapping .intro to x-gen - hair and fur for game characters- animation - hair & fur.- dynamic hair and fur -working mash - bifrost - introduction to boss dynamic

UNIT IV : **9 Hrs**

Game character Modeling in Maya , Exploring the Maya Interface, Customizing the Menu , Modeling menu , Techniques in Modeling – Polygon Modeling for Games.

UNIT V : **9 Hrs**

Working with project in real-time render –character animation for game- game design in AR and VR

Immersion technology –project development for game .

Total Hours- 45

TEXT BOOK: Character Animation fundamentals-Developing skills for 2D & 3D by Steve Roberts 2012

PRACTICAL

Subject Code : HMGA24L06	Subject Name : Unreal Game Engine Lab	C	L	T/SLr	P/ R	Ty/Lb/ET P/IE
	Prerequisite : None	**3**	**0**	**0/0**	**3/3**	**Lb**

L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab

OBJECTIVES :

- To Understand the basics of Unreal Engine and its interface for VR/AR development.
- To Master navigation and object manipulation techniques within the Unreal Engine viewport.
- To Learn to manage assets using the Content Browser and customize project settings.
- To Explore the use of Actors, materials, lights, and atmospheric elements in scene creation.
- To Develop proficiency in collision settings and simulate realistic interactions in virtual environments.

COURSE OUTCOMES (Cos) : (3 – 5)Students completing the course were able to

CO1	Demonstrate a clear understanding of Unreal Engine's tools, interfaces, and workflows.
CO2	Navigate and manipulate assets within the viewport using advanced snapping and alignment techniques.
CO3	Effectively manage assets in the Content Browser for efficient project organization.
CO4	Design immersive levels with proper use of Actors, materials, lights, and atmospheric effects.
CO5	Implement accurate collision properties and simulate realistic physics in game environments.

Mapping of Course Outcomes with Program Outcomes (POs)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	3	2	2	3	3	3			
CO2	3	2	1	3	3	1	1	1	1			
CO3	3	3	2	1	2	2	3	3	3			
CO4	3	3	2	2	1	2	2	2	2			
CO5	3	3	3	3	3	2	3	3	3			

Category	Basic Sciences	Engg.Science	Humanities &social Science	Program Core	Program Elective	Open Elective	Practical/ Project	Internship/ Skill component	Inter disciplinary
							✓		

Subject Code : HMGA24L06	Subject Name : Unreal Game Engine Lab	C	L	T/SLr	P/ R	Ty/Lb/ETP/IE
	Prerequisite : None	**3**	**0**	**0/0**	**3/3**	**Lb**
L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab						

1.Create an Environment design in unreal engine

2.Create Interior for Vintage house

3.Create a Abundant school with Interiors

4.Create an Environment for forest with Terrains.

Total Hours-45

Subject Code : HMGA24L07	Subject Name : Character Modeling & Animation Lab	C	L	T/SLr	P/ R	Ty/Lb/ETP/IE
	Prerequisite : None	2	0	0/0	2/2	Lb

L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab

OBJECTIVES :

- To Learn the fundamentals of Marvelous Designer and its integration with 3D modeling tools.
- To Master pattern creation and manipulation to design diverse clothing styles for characters.
- To Explore texture and material application to enhance the realism of clothing assets.
- To Understand custom avatar creation and clothing assembly for specialized designs.
- To Integrate workflows across ZBrush, Substance, Maya, Blender, and Marmoset for rendering and final output.

COURSE OUTCOMES (Cos) : (3 – 5)Students completing the course were able to

CO1	**Demonstrate proficiency in using Marvelous Designer for designing and simulating garments.**
CO2	**Create detailed clothing assets, including casual, medieval, and military-themed outfits, with realistic textures.**
CO3	**Apply patterns and fabric properties to customize and align clothing designs with project requirements.**
CO4	**Successfully integrate custom avatars and finalize projects with detailed assembly and finishing touches.**
CO5	**Render professional-quality outputs using advanced tools like ZBrush, Substance, Maya, Blender, and Marmoset.**

Mapping of Course Outcomes with Program Outcomes (POs)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	3	2	2	3	3	3			
CO2	3	2	1	3	3	1	1	1	1			
CO3	3	3	2	1	2	2	3	3	3			
CO4	3	3	2	2	1	2	2	2	2			
CO5	3	3	3	3	3	2	3	3	3			

Category	Basic Sciences	Engg.Science	Humanities &social Science	Program Core	Program Elective	Open Elective	Practical/ Project	Internship/ Skill component	Inter disciplinary
							✓		

Subject Code : HMGA24L07	Subject Name : Character Modeling & Animation Lab	C	L	T/SLr	P/ R	Ty/Lb/ETP/IE
	Prerequisite : None	**2**	**0**	**0/0**	**2/2**	**Lb**
L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab						

1.Create a photorealistic model (AAA) with cloth and hair

2.Create a Four leg animals (Horse, Tiger,Cat, Dinosaurs)

3.Create a animation for a character (Walk, Jump, Run)

Total Hours-30

Subject Code: HMGA24I01	Subject Name : Research Publication	C	L	T/SLr	P/R	Ty/Lb/ETP/IE
	Prerequisite : None	**2**	**0**	**0/0**	**0/4**	**IE**

L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab

OBJECTIVES

- Apply foundational research skills to address a research question
- Demonstrate planning, time and change management skills
- Demonstrate leadership skills
- Undertake research independently
- Demonstrate a capacity to communicate research results clearly, comprehensively and persuasively.

COURSE OUTCOMES (Cos)

Students completing this course were able to

CO1	Carry out a substantial research-based project
CO2	Demonstrate capacity to improve student achievement, engagement and retention
CO3	Demonstrate capacity to lead and manage change through collaboration with others
CO4	Analyse data and synthesize research findings
CO5	Use research findings to advance education theory and practice

Mapping of Course Outcome with Program Outcome (POs)

Cos/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9			
CO1	3	3	3	3	3	3	3	2	3			
CO2	2	2	3	3	3	3	2	1	3			
CO3	2	3	2	2	3	3	2	2	2			
CO4	3	3	2	3	2	2	2	2	2			
CO5	2	3	3	2	2	3	1	3	3			

COs/PSOs	PSO1	PSO2	PSO3	
CO1	3	3	3	
CO2	2	1	3	
CO3	2	2	1	
CO4	3	2	2	
CO5	2	2	3	

3/2/1 Indicates Strength Of Correlation, 3 – High, 2- Medium, 1- Low

Category	Basic Sciences	Engg.Science	Humanities & social Science	Program Core	Program Elective	Open Elective	Practical/Project	Internships/Technical Skills	Soft Skills
							√		

Subject Code: HMGA24I01	Subject Name : Research Publication	C	L	T/SLr	P/R	Ty/Lb/ETP/IE
	Prerequisite : None	**2**	**0**	**0/0**	**0/4**	**IE**
L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab						

Students have to submit thesis on a topic of their choice understanding the nature and purpose of research in media industry. Reviews will be conducted twice in a week and marks will be graded for internal evaluation. Students will present their paper in National / International conference preceding and can publish in any / UGC care journal / Peer reviewed journal .

Total Hours-30

SEMESTER - IV

INTERNSHIP ELECTIVE

Subject Code HMGA24L08	Subject Name : INTERNSHIP VR and AR Gaming	C	L	T/SLr	P/R	Ty/Lb/ETP/IE
	Prerequisite : None	**5**	**0**	**0/0**	**10/0**	**Lb**

L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab

OBJECTIVES

- To Explore the principles of immersive technology and its applications in gaming.
- To Learn techniques for reducing latency, ensuring smooth rendering, and enhancing immersion..
- To Apply iterative development methods to optimize gameplay and interactions..
- To Develop player interactions through controllers, gestures, and AR interfaces.
- To make students familiarize different types of material and texture by applying.
- To Build engaging, interactive levels leveraging VR and AR-specific mechanics.

COURSE OUTCOMES (Cos)

Students completing this course were able to

CO1	Learns to core principles of immersive technology and its role in creating interactive gaming
CO2	Learns to Build player-driven interactions using virtual controllers
CO3	Learns to create advanced rendering
CO4	Create engaging levels and interactive experiences tailored to VR and AR platforms
CO5	Can Deploy and test VR/AR projects online, ensuring compatibility, smooth performance

Mapping of Course Outcome with Program Outcome (POs)

Cos/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9			
CO1	3	2	2	2	2	3	3	3	3			
CO2	3	1	3	1	2	3	3	3	3			
CO3	3	1	2	3		2	3	2	3			
CO4	3	2	3	1	3	2	3	3	3			
CO5	3	1	3	1	1	3	3	2	3			

COs/PSOs	PSO1	PSO2	PSO3	
CO1	1	3	2	
CO2	2	3	2	
CO3	2	3	2	
CO4	2	3	2	
CO5	3	3	3	

3/2/1 Indicates Strength Of Correlation, 3 – High, 2- Medium, 1- Low

Category	Basic Sciences	Engg.Science	Humanities & social Science	Program Core	Program Elective	Open Elective	Practical/Project	Internships/Technical Skills	Soft Skills
								√	

Subject Code HMGA24L08	Subject Name : INTERNSHIP VR and AR Gaming	C	L	T/SLr	P/R	Ty/Lb/ETP/IE
	Prerequisite : None	**5**	**0**	**0/0**	**10/0**	**Lb**
L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab						

- Students go to internship to hands on training and live experience from the industries and gain practical knowledge.
- Students will submit the daily activity report as project and viva will be conducted for final examination.

Subject Code HMGA24L09	Subject Name : INTERNSHIP Immersive Reality and Extreme Reality in PC	C	L	T/SLr	P/R	Ty/Lb/ETP/IE
	Prerequisite : None	**5**	**0**	**0/0**	**10/0**	**Lb**

L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab

OBJECTIVES

- Create detailed, realistic assets such as a living room and characters optimized for VR and AR platforms.
- To enhance user immersion and engagement in VR and AR.
- Map characters and assets with high-quality textures and dynamic lighting
- Develop a game walkthrough where characters can move based on user inputs
- Align VR content for seamless viewing in Oculus, ensuring users can explore.

COURSE OUTCOMES (Cos)

Students completing this course were able to

CO1	Understand the fundamentals of immersive technology and its gaming applications.
CO2	Apply optimization techniques for smooth rendering and reduced latency in VR and AR.
CO3	Develop interactive player mechanics using controllers, gestures, and AR interfaces.
CO4	Create and apply diverse materials and textures for realistic 3D environments.
CO5	Design and build engaging, interactive levels tailored for VR and AR platforms

Mapping of Course Outcome with Program Outcome (POs)

Cos/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9			
CO1	3	2	2	2	2	3	3	3	3			
CO2	3	1	3	1	2	3	3	3	3			
CO3	3	1	2	3	2	2	3	2	3			
CO4	3	2	3	1	3	2	3	3	3			
CO5	3	1	3	1	1	3	3	2	3			

COs/PSOs	PSO1	PSO2	PSO3	
CO1	1	3	2	
CO2	2	3	2	
CO3	2	3	2	
CO4	2	3	2	
CO5	3	3	3	

3/2/1 Indicates Strength Of Correlation, 3 – High, 2- Medium, 1- Low

Category	Basic Sciences	Engg.Science	Humanities & social Science	Program Core	Program Elective	Open Elective	Practical/Project	Internships/Technical Skills	Soft Skills
								√	

Subject Code HMGA24L09	Subject Name : INTERNSHIP Immersive Reality and Extreme Reality in PC	C	L	T/SLr	P/R	Ty/Lb/ETP/IE
	Prerequisite : None	**5**	**0**	**0/0**	**10/0**	**Lb**
L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab						

- Students go to internship to hands on training and live experience from the industries and gain practical knowledge.
- Students will submit the daily activity report as project and viva will be conducted for final examination.

PORTFOLIO ELECTIVE

Subject Code **HMGA24L10**	Subject Name : **PORTFOLIO-** **VR and AR Gaming**	**C**	**L**	**T/SLr**	**P/R**	**Ty/Lb/ETP/IE**
	Prerequisite : None	**12**	**0**	**0/0**	**24/0**	**Lb**

L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab

OBJECTIVES

- To Design and develop a unique game character optimized for VR and AR experiences.
- To Create an immersive VR level to showcase interactive gameplay and environment design.
- To Implement realistic textures and dynamic lighting for seamless visual integration in VR.
- To Enable character interactivity through key presses, mouse clicks, and VR controllers.
- To Integrate AR alignment for synchronized, immersive dual-platform experiences.

COURSE OUTCOMES (Cos)

Students completing this course were able to

CO1	Create visually appealing game characters tailored for VR and AR platforms.
CO2	Build interactive VR levels with engaging gameplay and well-crafted environment design.
CO3	Develop interactive mechanics, allowing character control via key presses, mouse clicks
CO4	Implement realistic textures and dynamic lighting to enhance the visual fidelity
CO5	Align VR and AR outputs for synchronized, immersive experiences

Mapping of Course Outcome with Program Outcome (POs)

Cos/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9			
CO1	3	3	3	3	3	3	3	2	3			
CO2	2	2	3	3	3	3	2	1	3			
CO3	2	3	2	2	3	3	2	2	2			
CO4	3	3	2	3	2	2	2	2	2			
CO5	2	3	3	2	2	3	1	3	3			

COs/PSOs	PSO1	PSO2	PSO3	
CO1	3	3	3	
CO2	2	1	3	
CO3	2	2	1	
CO4	3	2	2	
CO5	2	2	3	

3/2/1 Indicates Strength Of Correlation, 3 – High, 2- Medium, 1- Low

Category	Basic Sciences	Engg.Science	Humanities & social Science	Program Core	Program Elective	Open Elective	Practical/Project	Internships/Technical Skills	Soft Skills
							√		

Subject Code **HMGA24L10**	Subject Name : **PORTFOLIO- VR and AR Gaming**	**C**	**L**	**T/SLr**	**P/R**	**Ty/Lb/ETP/IE**
	Prerequisite : None	**12**	**0**	**0/0**	**24/0**	**Lb**
L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab						

Create your Portfolio for a VR game play through, Immersive technology . Align a AR view and make an output.

Portfolio should include the following:

1) Newly created game character for VR and AR
2) Create a level design for VR to Showcase the View
3) Characters should be mapped with textures and proper lights to set to view in VR
4) Character should be interactive with key presses and mouse clicks.

Subject Code HBGA24L11	Subject Name : PORTFOLIO- Immersive Reality & Extreme Reality	C	L	T/SLr	P/R	Ty/Lb/ETP/IE
	Prerequisite : None	**12**	**0**	**0/0**	**24/0**	**Lb**

L : Lecture T : Tutorial SLr : Supervised Learning P: Project R : Research C : Credits
T/L/ETL : Theory / Lab / Embedded Theory and Lab

OBJECTIVES

- Create detailed, realistic assets such as a living room and characters optimized for VR and AR platforms.
- To enhance user immersion and engagement in VR and AR.
- Map characters and assets with high-quality textures and dynamic lighting
- Develop a game walkthrough where characters can move based on user inputs
- Align VR content for seamless viewing in Oculus, ensuring users can explore.

COURSE OUTCOMES (Cos)

Students completing this course were able to

CO1	Understand the fundamentals of immersive technology and its gaming applications.
CO2	Apply optimization techniques for smooth rendering and reduced latency in VR and AR.
CO3	Develop interactive player mechanics using controllers, gestures, and AR interfaces.
CO4	Create and apply diverse materials and textures for realistic 3D environments.
CO5	Design and build engaging, interactive levels tailored for VR and AR platforms

Mapping of Course Outcome with Program Outcome (POs)

Cos/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9			
CO1	3	3	3	3	3	3	3	2	3			
CO2	2	2	3	3	3	3	2	1	3			
CO3	2	3	2	2	3	3	2	2	2			
CO4	3	3	2	3	2	2	2	2	2			
CO5	2	3	3	2	2	3	1	3	3			

COs/PSOs	PSO1	PSO2	PSO3	
CO1	3	3	3	
CO2	2	1	3	
CO3	2	2	1	
CO4	3	2	2	
CO5	2	2	3	

3/2/1 Indicates Strength Of Correlation, 3 – High, 2- Medium, 1- Low

Category	Basic Sciences	Engg.Science	Humanities & social Science	Program Core	Program Elective	Open Elective	Practical/Project	Internships/Technical Skills	Soft Skills
							√		

Subject Code HBGA24L11	Subject Name : PORTFOLIO- Immersive Reality & Extreme Reality	C	L	T/SLr	P/R	Ty/Lb/ETP/IE
	Prerequisite : None	**12**	**0**	**0/0**	**24/0**	**Lb**
L : Lecture T : Tutorial SLr : Supervised Learning P: Project R : Research C : Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab						

Create your Portfolio in VR or AR to view in ocalus should move around

Make a proper output in AR player.

Portfolio should include the following

1) Newly created Assets (living room, Character etc)
2) Characters to be animated and included in VR and AR
3) Character should be mapped with textures and proper lights to set
4) Game walkthrough and the character should move around on key presses and proper coillison effects

Subject Code HMOL23IE1	Subject Name : Open Elective Swayam/ NPTEL/Any MOOC/ONLINE COURSE	C	L	T/SLr	P/R	Ty/Lb/ETP/IE
	Prerequisite : None	**12**	**0**	**0/0**	**24/0**	**Lb**

L : Lecture T : Tutorial SLr : Supervised Learning P: Project R : Research C : Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab

OBJECTIVES

The objective of this online courses is to take the best teaching learning resources to all the students, including the most disadvantaged. It seeks to bridge the digital divide for students who have hitherto remained untouched by the digital revolution and have not been able to join the mainstream of the knowledge economy.

COURSE OUTCOMES (Cos)

Students completing this course were able to

CO1	Online learning Programe has helped students to become independent learners before they make their way into the real world.
CO2	Students gets an opportunities to explore new learning applications and platforms during class.
CO3	This will help the students to develop new skills and capabilities accelerating their growth trajectory.
CO4	It will connect them to a global network of online learners, exposing them to new perspectives.
CO5	The ideas that they receive will not be limited.

Mapping of Course Outcome with Program Outcome (POs)

Cos/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9			
CO1	3	3	2	2	2	3	3	3	3			
CO2	3	1	3	1	2	3	3	3	3			
CO3	3	1	2	3	3	2	3	2	3			
CO4	3	2	3	1	3	2	3	3	3			
CO5	3	1	3	1	1	3	3	2	3			

COs/PSOs	PSO1	PSO2	PSO3	
CO1	1	3	2	
CO2	2	3	2	
CO3	2	3	2	
CO4	2	3	2	
CO5	3	3	3	

3/2/1 Indicates Strength Of Correlation, 3 – High, 2- Medium, 1- Low

Category	Basic Sciences	Engg.Science	Humanities & social Science	Program Core	Program Elective	Open Elective	Practical/Project	Internships/Technical Skills	Soft Skills
							√		

Subject Code HMOL23IE1	Subject Name : Open Elective Swayam/ NPTEL/Any MOOC/ONLINE COURSE	C	L	T/SLr	P/R	Ty/Lb/ETP/IE
	Prerequisite : None	**12**	**0**	**0/0**	**24/0**	**Lb**

The students will be attending online course like swayam Nptel or other online courses for 90 hrs. And finally they will submit the course completion certificate to get the credits

Total Hours-15

PROGRAMME ELECTIVE

Subject Code	Subject Name : **DESIGNING TRENDS & TECHNIQUES**	**C**	**L**	**T/SLr**	**P/R**	**Ty/Lb/ETP/IE**
HMAV22E01	Prerequisite : None	**3**	**2**	**0/1**	**0/0**	**Ty**

L : Lecture T : Tutorial SLr : Supervised Learning P: Project R : Research C : Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab

OBJECTIVES

- To make the student know about Image Editing Software
- To make the students understand about basics of Designing
- Enable the student to know about Design Functions
- To make the students understand about Design Thinking & Its Process
- To gain knowledge about Usage of Updated Tools in Photoshop

COURSE OUTCOMES (Cos)

Students completing this course were able to

CO1	Identifies the tools and menus for designs
CO2	Understand about the creation of documents and workspace.
CO3	Implementing the effects to enhance the designs.
CO4	Experimenting the filters for different outputs.
CO5	Create layout designs brochures and pamphlets.

Mapping of Course Outcome with Program Outcome (POs)

Cos/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9			
CO1	3	1	1	1	1	-	3	2	3			
CO2	3	2	2	1	3	1	3	2	3			
CO3	3	2	2	1	3	1	3	2	3			
CO4	3	1	2	1	3	-	3	2	3			
CO5	3	1	2	1	2	-	3	2	3			

COs/PSOs	PSO1	PSO2	PSO3	
CO1	3	3	3	
CO2	3	3	3	
CO3	3	3	3	
CO4	3	3	3	
CO5	3	3	3	

3/2/1 Indicates Strength Of Correlation, 3 – High, 2- Medium, 1- Low

Category	Basic Sciences	Engg.Science	Humanities & social Science	Program Core	Program Elective	Open Elective	Practical/Project	Internships/Technical Skills	Soft Skills
					√				

Subject Code	Subject Name : **DESIGNING TRENDS & TECHNIQUES**	**C**	**L**	**T/SLr**	**P/R**	**Ty/Lb/ETP/IE**
HMAV22E01	Prerequisite : None	**3**	**2**	**0/1**	**0/0**	**Ty**
L : Lecture T : Tutorial SLr : Supervised Learning P: Project R : Research C : Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab						

Unit I : **9 Hrs**

Graphic Designing– Elements & Principles of Design - History, Objectives,Processes&Aesthetics. Aesthetic Theories for Graphic Designs – Beauty Theories- Colour Theories - Types of Graphic Designing

Unit II : **9 Hrs**

Functional Principles – Colour, Typography, Layouts, Symbols & Information Graphics. Usage of Designs in different Mediums- Traditional Design to Digital Design – Shift & Updates.

Unit III : **9 Hrs**

Introduction to Design Thinking – Definition, Features. Strategy of Innovation- Useof Design Thinking. Design Thinking – Applications — Solution-based Thinking - Analysis vs. Synthesis- Divergent Thinking- Convergent Thinking – Stages of Design Thinking

Unit VI : **9 Hrs**

Introduction to Vector Shapes and Bitmaps, Exploring the Photoshop - Using the File Browser Basic Photo Corrections - Working with Selection Tools Layer- Basics, Masks& Channels Retouching and Repairing, Working with Brushes & Customizing Brushes.

Unit V : **9 Hrs**

Using Colour Palette, Painting and Editing. Layers – Mask Layers –Effects & styles – Combine images with Auto blend layers – Filters and its effects. Exporting –Save as PDF – Print 3D Objects – Print with Color management

Total No. of Hrs: 45

TEXT BOOK :

Graphic Design – Revised 5th Edition – Rune Petterson – Institute for Infology
Adobe Photoshop User Guide PDF Archive
Photoshop CC: Visual QuickStart Guide - Book by Elaine Weinmann and Peter Lourekas

REFERENCE BOOKS :

https://www.tutorialspoint.com/hi/design_thinking/design_thinking_tutorial.pdf

Subject Code	Subject Name : **CONTEMPORARY TRENDS IN SOCIAL MEDIA**	**C**	**L**	**T/SLr**	**P/R**	**Ty/Lb/ETP/IE**
HMAV22E02	Prerequisite : None	**3**	**2**	**0/1**	**0/0**	**Ty**

L : Lecture T : Tutorial SLr : Supervised Learning P: Project R : Research C : Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab

OBJECTIVES

- To make students understand the concepts of New Media
- To make students to analyze the social media platforms
- To make students to understand social media & Communication
- To strengthen students to ideate on content making in social media
- To create a social media marketing plan

COURSE OUTCOMES (Cos)

Students completing this course were able to

CO1	Identifying the elements New Media
CO2	Understand about social media & Communication
CO3	Analyze the social media platforms
CO4	Ideating the concept of content making in social media& Challenges in Social Media
CO5	Create a social media Strategy & Marketing plan

Mapping of Course Outcome with Program Outcome (POs)

Cos/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9			
CO1	3	1	1	1	1	-	3	2	3			
CO2	3	2	2	1	3	1	3	2	3			
CO3	3	2	2	1	3	1	3	2	3			
CO4	3	1	2	1	3	-	3	2	3			
CO5	3	1	2	1	2	-	3	2	3			

COs/PSOs	PSO1	PSO2	PSO3	
CO1	3	3	3	
CO2	3	3	3	
CO3	3	3	3	
CO4	3	3	3	
CO5	3	3	3	

3/2/1 Indicates Strength Of Correlation, 3 – High, 2- Medium, 1- Low

Category	Basic Sciences	Engg.Science	Humanities & social Science	Program Core	Program Elective	Open Elective	Practical/Project	Internships/Technical Skills	Soft Skills
					√				

Subject Code	Subject Name : **CONTEMPORARY TRENDS IN SOCIAL MEDIA**	**C**	**L**	**T/SLr**	**P/R**	**Ty/Lb/ETP/IE**
HMAV22E02	Prerequisite : None	**3**	**2**	**0/1**	**0/0**	**Ty**
L : Lecture T : Tutorial SLr : Supervised Learning P: Project R : Research C : Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab						

Unit: I **9 Hrs**

NEW MEDIA - Definition - Introduction – Characteristics – Visual Culture, New Media Technology, Communication Revolution, New Media vs Old Media, E-Governance Process, Social & Legal Frameworks

Unit: II **9 Hrs**

SOCIAL MEDIA - Definition – Concept – Why - Characteristics – Roles, Types of Social Media: Blog - Social Networks - Content Sharing Communities – Wikis – Tweeters - Book Marking - Podcasts, The evolution of Social Media, Attributes of Social Media and Impact of Social Media.

Unit: III **9 Hrs**

SOCIAL MEDIA & COMMUNICATION- Tools – Creating – Connecting - Managing Groups - Privacy and Security, Types of Blogs: Personal – Political – Business - Almost Media - Mainstream Media – Reading, Blogging Culture: Presence – Credibility – Identity – Reputation - Authority and Influence

Unit: IV **9 Hrs**

SOCIAL MEDIA AND SOCIETY - Performing Relationship – Community – Identity - Strategies and Planning, Technological Convergence, User Generated Content (UGC), Consumer Generated Media (CGM), Social Book Marking, Reaching Consumers, Ethical Issues, Privacy, Labour, Identity Regulations and Social Media Optimization

Unit: V **9 Hrs**

CHALLENGES IN SOCIAL MEDIA - Content – Advertising – Marketing – Limitations - Influence on individual & Society, Social Media Audience: Behavior – Trends – Users - Domains of application - Crowd Sourcing, Social Media& Organizations, Government & Diplomacy, Activism, Race, Class and Digital Divide

Total No. of Hrs: 45

TEXT BOOK :

Emerging Trends In Social Media: Trends In New Media Paperback – 12 January 2019 by **Nimesh.**

REFERENCE BOOKS :

The New Rules of Marketing and PR by David Meerman Scott.

AUDIT COURSE

Subject Code: HMAC22I01	Subject Name ENGLISH FOR RESEARCH PAPER WRITING	C	L	T	P	Ty/Lb
	Prerequisite: Nil	0	2	0	0	Ty

L:LectureT:Tutorial P:Project ;R:ResearchC:CreditsT/L:Theory/Lab

Objectives

To know the art of writing the research paper and thesis .

To Ensure the good quality of paper at very first-time submission.

COURSEOUTCOMES(COs) :At the end of this course the students would be able to

CO1	Understand that how to improve your writing skills and level of readability
CO2	Learn about what to write in each section
CO3	Understand the skills needed when writing a Title

Mapping of Course Outcomes with Program Outcomes(POs)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
CO1	1	1	1	1	1	3	1	1	1	1	1	1
CO2	1	1	1	1	1	3	1	1	1	1	1	1
CO3	1	1	1	1	1	3	1	1	1	1	1	1

H/M/L indicates Strength of Correlation 3-High,2-Medium, 1-Low

Category	Basic Sciences	Engineering Sciences	Humanities and Social Sciences	Program Core	Program Electives	Open Electives	Practical/Project	Internships /Technical Skill	Soft Skills	Audit Course		
										✓		

HMAC22I01	ENGLISH FOR RESEARCH PAPER WRITING	2 0 0 0

Course objectives:

To know the art of writing the research paper and thesis .

To Ensure the good quality of paper at very first-time submission.

Syllabus

Units	CONTENTS	Hours
1	Planning and Preparation, Word Order, Breaking up long sentences,StructuringParagraphsandSentences,BeingConciseandRemoving Redundancy,AvoidingAmbiguityandVagueness	5
2	ClarifyingWhoDidWhat,HighlightingYourFindings,HedgingandCriticising, ParaphrasingandPlagiarism,SectionsofaPaper,Abstracts. Introduction	5
3	ReviewoftheLiterature,Methods,Results,Discussion,Conclusions,The FinalCheck.	5
4	key skills are needed when writing a Title, key skills are needed whenwritinganAbstract,keyskillsareneededwhenwritinganIntroduction, skillsneededwhenwritingaReviewoftheLiterature,	5
5	skillsareneededwhenwritingtheMethods,skillsneededwhenwriting theResults,skillsareneededwhenwritingtheDiscussion,skillsareneeded when writingtheConclusions	5
6	usefulphrases,howtoensurepaperisasgoodasitcouldpossiblybe thefirst- timesubmission	5

SuggestedStudies:

1. GoldbortR(2006)WritingforScience,YaleUniversityPress(availableonGoogleBooks)
2. DayR (2006)HowtoWriteandPublishaScientificPaper,CambridgeUniversityPress
3. HighmanN(1998),HandbookofWritingfortheMathematicalSciences,SIAM.Highman'sbook.
4. AdrianWallwork,EnglishforWritingResearchPapers,SpringerNewYorkDordrecht HeidelbergLondon,20

Subject Code: HMAC22I02	Subject Name: DISASTER MANAGEMENT	C	L	T	P	Ty/Lb
	Pre requisite: Nil	0	2	0	0	Ty

L : Lecture T :Tutorial P:Project R:Research C:Credits T/L:Theory/Lab

Objectives: Learn to demonstrate a critical understanding of key concepts in disaster risk reduction and humanitarian response.

COURSEOUTCOMES(COs) :At the end of this course the students would be able to

CO1	evaluate disaster risk reduction and humanitarian response policy and practice from Multiple perspectives.
CO2	Develop an understanding of standards of humanitarian response and practical relevance in Specific types of disasters and conflict situations.
CO3	Understand the strengths and weaknesses of disaster management approaches, planning and programming in different countries, particularly their home country or the countries they work in.

Mapping of Course Outcomes with Program Outcomes(POs)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
CO1	1	1	1	1	1	3	1	1	1	1	1	1
CO2	1	1	1	1	1	3	1	1	1	1	1	1
CO3	1	1	1	1	1	3	1	1	1	1	1	1

H/M/L indicates Strength of Correlation 3- High,2-Medium, 1-Low

Category	Basic Sciences	Engineering Sciences	Humanities and Social	Program Core	Program Electives	Open Electives	Practical/Project	Internships /Technical Skill	Soft Skills	Audit course		
										✓		

HMAC22I02	DISASTER MANAGEMENT	2 0 0 0

CourseObjectives:-Studentswillbeableto:

Learntodemonstrateacriticalunderstandingofkeyconceptsindisasterriskreductionand humanitarian response.
Criticallyevaluatedisasterriskreductionandhumanitarianresponsepolicyandpracticefrommultipleperspectives.
Developanunderstandingofstandardsofhumanitarianresponseandpracticalrelevanceinspecific typesofdisastersandconflict situations.
criticallyunderstandthestrengthsandweaknessesofdisastermanagementapproaches,planningandprogrammingindifferentcountries,particularlytheirhomecountryorthe countriestheyworkin.

Units	CONTENTS	Hours
1	**Introduction** Disaster:Definition,FactorsAndSignificance;DifferenceBetweenHazardAndDisaster;NaturalAndManmadeDisasters:Difference,Nature,Types AndMagnitude.	5
2	**RepercussionsOfDisastersAndHazards**:EconomicDamage,LossOfHumanAndAnimalLife,Destruction Of Ecosystem. NaturalDisasters:Earthquakes,Volcanisms,Cyclones,Tsunamis,Floods,DroughtsAndFamines,LandslidesAndAvalanches,Man-madedisaster: NuclearReactorMeltdown,IndustrialAccidents,OilSlicksAndSpills,OutbreaksOfDisease AndEpidemics, War AndConflicts.	5
3	**DisasterProneAreasInIndia** StudyOfSeismicZones;AreasProneToFloodsAndDroughts,Landslides AndAvalanches;AreasProneToCyclonicAndCoastalHazardsWithSpecialReferenceToTsunami;Post-DisasterDiseasesAnd Epidemics	5
4	**DisasterPreparednessAndManagement** Preparedness:MonitoringOfPhenomenaTriggeringADisasterOrHazard;Evaluation Of Risk: Application Of Remote Sensing, Data From MeteorologicalAndOtherAgencies,MediaReports:GovernmentalAndCommunityPreparedness.	5
5	**RiskAssessment** Disaster Risk: Concept And Elements, Disaster Risk Reduction, Global AndNational Disaster Risk Situation. Techniques Of Risk Assessment, GlobalCo-OperationInRiskAssessmentAndWarning,People'sParticipationIn RiskAssessment.Strategiesfor Survival.	5
6	**DisasterMitigation** Meaning,ConceptAndStrategiesOfDisasterMitigation,EmergingTrends InMitigation.StructuralMitigationAndNon-StructuralMitigation,ProgramsOfDisasterMitigation In India.	5

SUGGESTEDREADINGS:

1. R.Nishith,SinghAK,"DisasterManagementinIndia:Perspectives,issuesandstrategies"'NewRoyalbookCompany.
2. Sahni,PardeepEt.Al.(Eds.),"DisasterMitigationExperiencesAndReflections",PrenticeHallOfIndia,NewDelhi.
3. GoelS.L.,DisasterAdministrationAndManagementTextAndCaseStudies",Deep&DeepPublication Pvt.Ltd.,Newlhi.

Subject Code: HMAC22I03	Subject Name SANSKRIT FOR TECHNICAL KNOWLEDGE	Ty/Lb	L	T	P	C
	Prerequisite: Nil	Ty	2	0	0	0

L :Lecture T :Tutorial P:Project R:Research C:CreditsT/L:Theory/Lab

Objectives To get a working knowledge in illustrious Sanskrit, the scientific language in the world Learning of Sanskrit to improve brain functioning, to develop the logic in mathematics, science & other subjects enhancing the Memory power. The engineering scholars equipped with Sanskrit will be able to explore the huge knowledge from ancient literature.

COURSEOUTCOMES(COs):At the end of this course the students would be able to

CO1	Understanding basic Sanskrit language
CO2	Understanding ancient Sanskrit literature about science & technology
CO3	Develop logic in students being a logical language.

Mapping of Course Outcomes with Program Outcomes(POs)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
CO1	1	1	1	1	1	3	1	1	1	1	1	1
CO2	1	1	1	1	1	3	1	1	1	1	1	1
CO3	1	1	1	1	1	3	1	1	1	1	1	1

H/M/L indicates Strength of Correlation 3-High,2-Medium, 1-Low

Category	Basic Sciences	Engineering Sciences	Humanities and Social	Program Core	Program Electives	Open Electives	Practical/Project	Internships /Technical	Soft Skills	Audit course		
										✓		

HMAC22I03	SANSKRIT FOR TECHNICAL KNOWLEDGE	2 0 0 0

CourseObjectives

1. TogetaworkingknowledgeinillustriousSanskrit,thescientificlanguageintheworld
2. LearningofSanskrittoimprovebrain functioning
3. LearningofSanskrittodevelopthelogicinmathematics,science&othersubjects
4. enhancingthememorypower
5. TheengineeringscholarsequippedwithSanskritwillbeabletoexplorethe
6. hugeknowledgefromancientliterature

Syllabus

Unit	*Content*	*Hours*
1	• AlphabetsinSanskrit, • Past/Present/FutureTense, • SimpleSentences	10
2	• Order • Introductionofroots • TechnicalinformationaboutSanskritLiterature	10
3	• TechnicalconceptsofEngineering-Electrical,Mechanical,Architecture,Mathematics	10

Suggestedreading

1. "Abhyaspustakam"–Dr.Vishwas,Samskrita-BhartiPublication,NewDelhi
2. "TeachYourselfSanskrit"PrathamaDeeksha-VempatiKutumbshastri,RashtriyaSanskritSansthanam,NewDelhi Publication
3. "India'sGloriousScientificTradition"SureshSoni,Oceanbooks(P)Ltd.,NewDelhi.

Subject Code: HMAC22I04	Subject Name VALUE EDUCATION	Ty/Lb	L	T	P	C
	Prerequisite: Nil	Ty	2	0	0	0

L:LectureT:Tutorial P:ProjectR:ResearchC:CreditsT/L:Theory/Lab

Objectives .Understand value of education and self- development, Imbibe good values in students. Let them should know about the importance of character

COURSEOUTCOMES(COs):At the end of this course the students would be able to

CO1	Knowledge of self-development
CO2	Learn the importance of Human values
CO3	Developing the overall personality

Mapping of Course Outcomes with Program Outcomes(POs)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
CO1	1	1	1	1	1	3	1	1	1	1	1	1
CO2	1	1	1	1	1	3	1	1	1	1	1	1
CO3	1	1	1	1	1	3	1	1	1	1	1	1

H/M/L indicates Strength of Correlation 3-High,2-Medium,1-Low

Category	Basic Sciences	Engineering Sciences	Humanities and Social Sciences	Program Core	Program Electives	Open Electives	Practical/Project	Internships /Technical Skill	Soft Skills	Audit course		
										✓		

CourseObjectives

Studentswillbeableto

1. Understandvalueofeducationandself-development
2. Imbibegoodvaluesin students
3. Lettheshouldknowabouttheimportanceofcharacter

Syllabus

Unit	*Content*	*Hours*
1	Valuesandself-development– Socialvaluesandindividualattitudes.Workethics,Indianvisionofhumanism.	6
	Moralandnon-moralvaluation.Standardsandprinciples. Valuejudgements	
2	Importanceofcultivationofvalues. Sense of duty. Devotion, Self-reliance. Confidence,Concentration.Truthfulness,Cleanliness. Honesty,Humanity.Poweroffaith,National Unity. Patriotism.Lovefornature,Discipline	8
3	PersonalityandBehaviorDevelopment- SoulandScientificattitude.PositiveThinking.Integrityand discipline. Punctuality,LoveandKindness. Avoid faultThinking. Freefromanger,Dignityoflabour. Universalbrotherhoodandreligioustolerance. Truefriendship. Happiness Vs suffering,lovefortruth. Awareofself-destructivehabits. Associationand Cooperation. Doingbestforsaving nature	8
4	Character and Competence–HolybooksvsBlind faith. Self-managementandGoodhealth. Scienceofreincarnation. Equality,Nonviolence,Humility,RoleofWomen. Allreligionsandsamemessage. MindyourMind,Self-control. Honesty,Studyingeffectively	8

Suggestedreading

1. Chakroborty,S.K."ValuesandEthicsfororganizationsTheoryandpractice",OxfordUniversityPress,NewDelhi

Courseoutcomes

Studentswillbeableto

1. Knowledgeofself-development
2. LearntheimportanceofHumanvalues
3. Developing the overall personality

Subject Code: HMAC22I05	Subject Name: CONSTITUTION OF INDIA	Ty/Lb	L	T	P	C
	Prerequisite: Nil	Ty	2	0	0	0

L:LectureT:Tutorial P:ProjectR:ResearchC:CreditsT/L:Theory/Lab

Objectives Understand the premises informing the twin themes of liberty and freedom from a civil rights perspective. To address the growth of Indian opinion regarding modern Indian intellectuals' constitutional role and entitlement to civil and economic rights as well as the emergence of nationhood in the early years of Indian nationalism To address the role
Of socialism in
India afterthecommencementoftheBolshevikRevolutionin1917anditsimpactontheinitialdraftingoftheIndian Constitution.

COURSEOUTCOMES(COs):At the end of this course the students would be able to

CO1	Understand and explain the significance of Indian Constitution as the fundamental law of the land
CO2	Exercise his fundamental rights in proper sense at the same time identifies his responsibilities in national building.
CO3	Analyze the Indian political system, the powers and functions of the Union, State and Local Governments in detail
CO4	Understand Electoral Process, Emergency provisions and Amendment procedure.

Mapping of Course Outcomes with Program Outcomes(POs)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
CO1	1	1	1	1	1	3	1	1	1	1	1	1
CO2	1	1	1	1	1	3	1	1	1	1	1	1
CO3	1	1	1	1	1	3	1	1	1	1	1	1
CO4	1	1	1	1	1	3	1	1	1	1	1	1

H/M/L indicates Strength of Correlation 3-High,2-Medium, 1-Low

Category	Basic Sciences	Engineering Sciences	Humanities and Social	Program Core	Program Electives	Open Electives	Practical/Project	Internships /Technical	Soft Skills	Audit course		
										✓		

HMAC22I05	CONSTITUTION OF INDIA	2 0 0 0

CourseObjectives:

Studentswillbeableto:

1. Understand the premises informing the twin themes of liberty and freedom from a civilrightsperspective.
2. ToaddressthegrowthofIndianopinionregardingmodernIndianintellectuals'constitutiona lroleandentitlementtocivilandeconomicrightsaswellastheemergenceofnationhoodin theearlyyearsof Indian nationalism.
3. ToaddresstheroleofsocialisminIndiaafterthecommencementoftheBolshevik Revolutionin1917and itsimpactontheinitialdraftingoftheIndian Constitution.

Syllabus

Units	Content	Hours
1	**History of Making of the Indian Constitution: History, Drafting Committee, Composition & (Working)**	3
2	**Philosophy of the Indian Constitution: Preamble Salient Features**	3
3	**Contours of Constitutional Rights & Duties:** **Fundamental Rights** **Right to Equality** **Right to Freedom** **Right against Exploitation** **Right to Freedom of Religion** **Cultural and Educational Rights** **Right to Constitutional Remedies** **Directive Principles of State Policy** **Fundamental Duties.**	6
4	**Organs of Governance:** **Parliament** **Composition** **Qualifications and Disqualifications** **Powers and Functions** **Executive:** **President** **Governor** **Council of Ministers** **Judiciary, Appointment and Transfer of Judges, Qualifications** **Powers and Functions**	6
5	**Local Administration:** **District's Administration head: Role and Importance,** **Municipalities: Introduction, Mayor and role of Elected Representative CEO of Municipal Corporation.**	6

	Pachayati raj: Introduction, PRI: ZilaPachayat. **Elected officials and their roles, CEO Zila Pachayat: Position and role.** **Block level: Organizational Hierarchy (Different departments),** **Village level: Role of Elected and Appointed officials,** **Importance of grass root democracy**	
6	**Election Commission:** **Election Commission: Role and Functioning.** **Chief Election Commissioner and Election Commissioners.** **State Election Commission: Role and Functioning.** **Institute and Bodies for the welfare of SC/ST/OBC and women.**	**6**

Suggestedreading

1.TheConstitution ofIndia,1950(BareAct),Government Publication.

2. Dr.S.N.Busi,Dr.B.R.Ambedkar framing of Indian Constitution,1st Edition,2015

3. M.P.Jain,IndianConstitutionLaw,7thEdn.,LexisNexis,2014.

4. D.D.Basu,IntroductiontotheConstitutionofIndia,LexisNexis,2015

Subject Code: HMAC22I06	Subject Name: PEDAGOGY STUDIES Prerequisite: Nil	Ty/Lb Ty	L 2	T 0	P 0	C 0

L :Lecture T :Tutorial P:ProjectR:ResearchC:CreditsT/L:Theory/Lab

ObjectivesStudentswillbeableto:4.Reviewexistingevidenceonthereviewtopictoinformprogramme design and Policy making undertaken by the DfID, other agencies and researchers.5.Identify critical evidence gaps to guide the development.

COURSEOUTCOMES(COs):Attheendofthiscoursethestudentswouldbeabletoknow

CO1	What pedagogical practices are being used by teachers informal and informal classrooms in developing countries?
CO2	What is the evidence on the effectiveness of the sepedagogical practices, in what conditions, And with what population of learners?
CO3	Howcanteachereducation(curriculumandpracticum)andtheschoolcurriculumand Guidance materials best support effective pedagogy?

Mapping of Course Outcomes with Program Outcomes(POs)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
CO1	1	1	1	1	1	3	1	1	1	1	1	1
CO2	1	1	1	1	1	3	1	1	1	1	1	1
CO3	1	1	1	1	1	3	1	1	1	1	1	1

H/M/L indicates Strength of Correlation 3- High,2-Medium, 1-Low

Category	Basic Sciences	Engineering Sciences	Humanities and Social	Program Core	Program Electives	Open Electives	Practical/Project	Internships /Technical	Soft Skills	Audit course		
										✓		

HMAC22I06	PEDAGOGY STUDIES	2 0 0 0

CourseObjectives:

Students will be able to:

1.Reviewexistingevidenceonthereviewtopictoinformprogrammedesignandpolicymaking under taken by the Df ID, other agencies and researchers.

2.Identifycritical evidence gaps to guide the development.

Syllabus

Units	Content	Hours
1	• **Introduction and Methodology:** • Aimsandrationale,Policybackground,Conceptualframeworkandterminology • Theories of learning, Curriculum, Teacher education. • Conceptual framework ,Research questions. • Overview of methodology and Searching.	6
2	• Thematicoverview:Pedagogicalpracticesarebeingusedbyteachersinformal and informal classrooms in developing countries. • Curriculum, Teacher education.	6
3	• Evidence on the effectiveness of pedagogical practices • Methodologyfortheindepthstage:qualityassessmentofincludedstudies. • Howcanteachereducation(curriculumandpracticum)andtheschoolcurriculumand guidance materials best support effective pedagogy? • Theory of change. • Strength and nature of the body of evidence for effective pedagogical practices. • Pedagogic theory and pedagogical approaches. • Teachers' attitudes and beliefs and Pedagogic strategies.	6
4	• Professionaldevelopment:alignmentwithclassroompracticesandfollow-up support • Peer support • Support from the head teacher and the community. • Curriculum and assessment • Barriers to learning: limited resources and large class sizes	6
5	• **Research gaps and future directions** • Research design • Contexts	6

	• Pedagogy • Teacher education • Curriculum and assessment • Dissemination and research impact.	

Suggested reading

1. Ackers J, Hardman F (2001) Classroom interaction in Kenyan primary schools, Compare, 31 (2):245-261.
2. AgrawalM(2004)Curricularreforminschools:Theimportanceofevaluation,JournalofCurriculumStudies,36(3):361-379.
3. Akyeampong K (2003) Teacher training in Ghana - does it count? Multi-site teacher education research project(MUSTER)country report1.London: DFID.
4. Akyeampong K, Lussier K, Pryor J, Westbrook J (2013) Improving teaching and learning of basic maths and reading in Africa: Does teacher preparation count? International Journal EducationalDevelopment,33(3):272–282.
5. AlexanderRJ(2001)Cultureandpedagogy:Internationalcomparisonsinprimaryeducation.OxfordandBoston: Blackwell.
6. ChavanM(2003)ReadIndia:Amassscale,rapid,'learningtoread'campaign.
7. www.pratham.org/images/resource%20working%20paper%202.pdf.

Subject Code : HMAC22I07	Subject Name : STRESS MANAGEMENT BY YOGA	Ty/Lb /ETL	L	T/ SLr	P/R	C
	Prerequisite : None	**Ty**	**2**	**0**	**0**	**0**

L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits
T/L/ETL : Theory / Lab / Embedded Theory and Lab

OBJECTIVES :
To introduce health psychology and arrive at the introduction to the philosophy and practice of yoga.

COURSE OUTCOMES (Cos) : (3 – 5)
Students completing the course were able to

CO1	Compile the models of health and the psychological component of health
CO2	Classify healthy behavior and health compromising behavior
CO3	Deduce the impact of stress on health and apply effective stress management strategies
CO4	Extrapolate the role of yoga in health care

Mapping of Course Outcomes with Program Outcomes (POs)

COs/POs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	PSO1	PSO2	PSO3
CO1	3	3						3	3			
CO2	3	3	2					3	3			
CO3	3	3	2				1	3	3			
CO4	3	3	2				1	3	3			

Category	Basic Sciences	Engineering Sciences	Humanities & Social Sciences	Program core	Program Electives	Open Electives	Practical / Project	Internships / Technical Skills	Soft Skills	Audit course
										√

Subject Code : HMAC22I07	Subject Name : STRESS MANAGEMENT BY YOGA	Ty/Lb /ETL	L	T/ SLr	P/R	C
	Prerequisite : None	Ty	2	0	0	0

Unit 1 **6 HOURS**

Understanding Stress: Stress and lifestyle disorders: Meaning and definition, development of stress; nature of stressors: Frustration, pressure; Factors predisposing stress: life events and daily hassles; Burnout. Coping with stress: Problem oriented and emotion oriented. Stress management: Meaning and definition; Changing thoughts, behavior and physiological responses.

Unit 2 **10 HOURS**

Yoga Philosophy: Introduction to Yoga and Yogic Practices – Definition, History, Aim and Objectives, Four Paths of Yoga and Principles of Yoga, Hatha Yoga – Distinction between Yoga and Non Yogic Practices, Concept of Yogic diet, Purpose and Utility of Asanas in Hatha Yoga , Introduction to Patanjali,

Unit 3 **14 HOURS**

Yoga in Health Care: Yoga for specific lifestyle disorders: Asthma, Sleeplessness, Diabetes, Blood pressure and Heart Diseases. Research evidence on the impact of yoga intervention on lifestyle disorders. Halasana and Matsyasana for Thyroid, Dhanurasana and Bhujangasana for Polycystic Ovarian Syndrome Disease, Shishuasana and AdhoMukhaSvanasana for Arthritis, SuptaMatsyendrasana and Vrikshasana for Lower back pain, ArdhaMatsyendrasana and Chakrasana for Diabetes, Apanasana and Paschimottanasana for Indigestion and Stomach Disorder, Padmasana and Sirsasana for Migraine, BaddhaKonasana and Sukhasana for Depression, Balasana and Shavasana for Sleeplessness. Evaluation of the applications of psychological knowledge in the area of health and identification of gaps.

Total no. of periods: 30

REFERENCES

- Taylor, S.E (2006). Health Psychology. New Delhi: Tata McGraw Hill
- Serafini, E.P & Smith T.W. (2012). Health Psychology: Bio psychosocial Interventions. New Delhi: Wiley
- Hatha Yoga Pradipika by Swami Svatmarama.
- BKS Iyengar (2013). YOGA - The Path to Holistic Health

Subject Code: HMAC22I08	Subject Name PERSONALITY DEVELOPMENT THROUGH LIFE ENLIGHTENMENT SKILLS	Ty/Lb	L	T	P	C
	Pre requisite :Nil	Ty	2	0	0	0

L:LectureT:Tutorial P:ProjectR:ResearchC:CreditsT/L:Theory/Lab

Objectives To learn to achieve the highest goal happily, To become a person with stable mind, pleasing Personality and determination. To awaken wisdom in student

COURSEOUTCOMES(COs):Attheendofthiscoursethestudentswouldbeabletoknow

CO1	StudyofShrimad-Bhagwad-Geetawillhelpthestudentindevelopinghispersonalityandachieve The highest goal in life
CO2	The person who has studied Geeta will lead the nation and mankind to peace and prosperity
CO3	Study of Neetishatakam will help in developing versatile personality of students.

Mapping of Course Outcomes with Program Outcomes(POs)

Os/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
CO1	1	1	1	1	1	3	1	1	1	1	1	1
CO2	1	1	1	1	1	3	1	1	1	1	1	1
CO3	1	1	1	1	1	3	1	1	1	1	1	1

H/M/L indicates Strength of Correlation H-High ,M-Medium, L-Low

Category	Basic Sciences	Engineering Sciences	Humanities and Social Sciences	Program Core	Program Electives	Open Electives	Practical/Project	Internships /Technical Skill	Soft Skills	Audit course		
										✓		

HMAC22I08	PERSONALITY DEVELOPMENT THROUGH LIFE ENLIGHTENMENT SKILLS	2 0 0 0

Course Objectives

1.Tolearntoachievethehighestgoalhappily

2.Tobecomea person with stable mind, pleasing personality and determination

3.Toawakenwisdomin students

Syllabus

Unit	Content	Hours
1	Neetisatakam-Holistic development of personality • Verses-19,20,21,22(wisdom) • Verses- 29,31,32 (pride& heroism) • Verses-26,28,63,65(virtue) • Verses-52,53,59(dont's) • Verses-71,73,75,78(do's)	10
2	• Approach to day to day work and duties. • ShrimadBhagwadGeeta:Chapter 2-Verses41,47,48, • Chapter 3-Verses13,21,27,35,Chapter6-Verses5,13,17,23,35, • Chapter18-Verses45,46,48.	10
3	• Statements of basic knowledge. • ShrimadBhagwadGeeta:Chapter2-Verses56,62,68 • Chapter 12 -Verses13,14,15,16,17,18 • PersonalityofRolemodel.ShrimadBhagwadGeeta:C hapter2-Verses17,Chapter3-Verses36,37,42, • Chapter 4-Verses18,38,39 • Chapter18–Verses37,38,63	10

Suggeste dreading

1."SrimadBhagavadGita"bySwamiSwarupanandaAdvaitaAshram(Publication

2.Department),Kolkata

3.Bhartrihari'sThreeSatakam(Niti-sringar-vairagya)byP.Gopinath,

4.RashtriyaSanskritSansthanam,NewDelhi.

Subject Code : HMAC22I09	Subject Name :LIFE SKILLS	Ty/Lb /ETL	L	T/ SLr	P/R	C
	Prerequisite : None	**Ty**	**2**	**0**	**0**	**0**

L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits
T/L/ETL : Theory / Lab / Embedded Theory and Lab

OBJECTIVES :

- Understand the positive effect of being open to experiences
- Be familiar with impulse control and pro social behaviour
- Describe emotional intelligence, social intelligence, and integrative thinking for effective Leadership
- Describe basic managerial skills. And self-management skills.

COURSE OUTCOMES (Cos) : (3 – 5)

Students completing the course were able to

CO1	Develop the tendency to accept self and others unconditionally
CO2	Regulate their emotional impulsivity and demonstrate pro social behaviour
CO3	Inculcate emotional and social intelligence and integrative thinking for effective Leadership.
CO4	Demonstrate a set of practical skills such as time management, self-management, handling conflicts, and team leadership.
CO5	Create and maintain an effective and motivated team to work for the society

Mapping of Course Outcomes with Program Outcomes (POs)

Cos/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
CO1			1		3	2	2					
CO2			1		3	2	1		1			
CO3		2	1		3	3	1		2			
CO4	2	2	1		3	3	2		3			
CO5	1	2	1		3	3	2		2			

Category	Basic Sciences	Engg Sciences	Humanities & Social Sciences	Program core	Program Electives	Open Electives	Practical / Project	Internships / Technical Skills	Audit course	Soft Skills
									√	

Subject Code : HMAC22I09	Subject Name :LIFE SKILLS	Ty/Lb /ETL	L	T/ SLr	P/R	C
	Prerequisite : None	**Ty**	**2**	**0**	**0**	**0**

UNIT 1: **6 Hours**

Openness to experience: developing the tendency to accept and appreciate self and others, the Insights, ideas, values, feelings, and behaviors, cultivate willingness to try new things as well as engage in imaginative and intellectual activities, and creative thinking "thinking outside of the box." Skills.

UNIT 2: **6 Hours**

Conscientiousness- developing the ability to regulate their impulse control in order to engage in goal-directed behaviors, managing negative emotions such as anger, worry, and sadness and Developing organized and structured approach

Unit 3: **6 Hours**

Pro social behavior:developingtrust, altruism, kindness, affection, empathetic understanding, Sharing, comforting and cooperating, Assertiveness, emotional expressiveness and social interaction.

Unit 4: **6 Hours**

Innovative leadershipUnderstanding: Concept of emotional and social intelligence, the persona of a leader for deriving holistic inspiration, Drawing insights for leadership, leadership qualities essential to sail through difficult situations, Importance of ethics, Ethical decision-making, Personal and professional moral codes of conduct, Creating a harmonious life.

Unit 5: **6 Hours**

Management Skills : Basic Managerial Skills - Planning for Effective Management, Organize Teams, Delegation of Tasks, Time Management, Conflict and Stress Management. Self-management Skills -Understanding Self-concept, Developing Self-awareness, Self-examination, Self-reflection and introspection, Self-regulation.

Total hours:30 Hours

REFERENCES AND SUGGESTED READINGS

1) A.Pervin& O. P. John (Eds.), Handbook of personality: Theory and research (Vol. 2, pp. 102–138). New York: Guilford Press.
2) Harry Beilin (1982) The Development of Prosocial Behaviour, Academic Press
3) Ashokan, M. S. 2015. Karmayogi: A Biography of E. Sreedharan. London: Penguin.
4) O'Toole, J. 2019. The Enlightened Capitalists: Cautionary Tales of Business Pioneers Who Tried to Do Well by Doing Good. New York Harper Collins
5) Brown, T. 2012. Change by Design. Harper Business, New , New York
6) Lynn A.B. 2015. The Emotional Intelligence Activity Book: 50 Activities for Promoting EQ at Work, Gildan Media Corporation, New York
7) Kelly T., and Kelly D. 2014. Creative Confidence: Unleashing the Creative Potential Within Us All. William Collins Harper Collins Publishers India
8) Kurien, V., and Salve, G. 2012. I Too Had a Dream. Roli Books Private Limited New Delhi
9) Carnegie D. 2018. Overcoming Worry and Stress. New Delhi: Manjul Publishing House.

10) Collins Jim. 2001. Good to Great. New York: Harper Business, 136 Life Skills (JeevanKaushal) Facilitators' Manual 2022
11) Covey, Stephen R. 2020. 30th ed. The 7 Habits of Highly Effective People. New Delhi: Simon & Schuster.
12) Dawkins E.R. 2016. 52 Weeks of Self Reflection—Your Guided Journal of Self Reflection. A B Johnson Publishing, United States
13) Drucker, Peter F. 2006. The Effective Executive. New York: Harper Business.
14) Goleman D. 1995. Emotional Intelligence. New Delhi: Bloomsbury Publishing India Private Limited.
15) Robbins S. P., Coulter M., and Fernandez A. 2019. Management. 14th edition. Noida, India: Pearson Education.

FOREIGN LANGUAGES

Subject Code	Subject Name : **FRENCH**	Ty/ Lb/ ETL/IE	L	T/SLr	P/R	C
HBFL22I01	Prerequisite : Nil	**IE**	**1**	**0/0**	**1/0**	**1**

C: Credits, L: Lecture, T: Tutorial, SLr: Supervised Learning, P: Problem / Practical
R: Research, Ty/Lb/ETL/IE: Theory /Lab/Embedded Theory and Lab/Internal Evaluation

OBJECTIVES

To understand the main idea and some detailed aspects of complex and unfamiliar texts.
Know emerging awareness of aesthetic properties of language and literary style.
Recognize the role of cultural knowledge in understanding written texts.

COURSE OUTCOMES (Cos)
Students completing this course were able to

CO1	Learn to write numbers, alphabets, regular and irregular verbs
CO2	Practice preposition and articles.
CO3	Comprehend model verbs and speak in future
CO4	Familiarize colours, places and create phrases
CO5	Master conjugation and speaking the language

Mapping of Course Outcome with Program Outcome (POs)

Cos/ POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1										3		2
CO2										3		2
CO3										3		2
CO4										3		2
CO5										3		2

3/2/1 Indicates Strength Of Correlation, 3 – High, 2- Medium, 1- Low

Category	Basic Sciences	Engg.Science	Humanities & social Science	Program Core	Program Elective	Open Elective	Practical/Project	Internships/Technical Skills	Soft Skills
			√						

Subject Code	Subject Name : **FRENCH**	Ty/ Lb/ ETL/IE	L	T/SLr	P/R	C
HBFL22I01	Prerequisite : Nil	**IE**	**1**	**0/0**	**1/0**	**1**

UNIT I **6 Periods**

Les Salutations, Les Nombres (1-20), Les alphabets, Les Pronoms Sujets, Les Langues, Les Nationalités, Les Verbes : Parler, être, avoir,

UNIT II **6 Periods**

Les Nombres (21-100), L'heure, Les Pays, Les propositions des pays, Les articles définis, Les articles indéfinis, Les Verbes : s'appeler, Aimer et habiter.

UNIT III **6 Periods**

Les verbes : Aller, Venir, Les Articles Contractés, La Négation, Les Adjectifs Démonstratifs, Futur Prôche, Model Verbs, Adjectifs Possessifs.

UNIT IV **6 Periods**

Les articles partitifs, Les Verbes : Faire, Jouer. La Famille, Les Couleurs, Les lieux dans la ville,

UNIT V **6 Periods**

Les Verbes: Lire, Écrire, Regarder, Voir, Écouter, Entendre

Total periods: 30

REFERENCE BOOKS:

1. Alter Ego A1, Veronique M Kizirian & Annie Berthet, Hachette, 1st Edition
2. Cosmopolite A1, Nathalie Hirschsprung & Tony Tricot, Goyal Publisher 1st edition

HBFL22I01 FRENCH - Details in English for contents of each unit

Unit - I

Introduction to French words through the greetings and simple vocabulary like numbers, languages, nationalities are taught. Concept of conjugation of regular and irregular verbs.

Unit - II

More focus on grammatical elements like prepositions and articles. Various scenarios inclusive of the parts of speech learnt are to be discussed and practiced. Complete vocabulary for numbers and therefore practices how to say time.

Unit - III

Comprehension of demonstrative and possessive adjectives and the concept of model verbs is introduced. Simple understanding of 'Futurprôche' which enables the student to speak in future tense. Building negative sentences with different verbs.

Unit - IV

Learning vocabulary in most common categories like colours, places etc. and picking up on creating French phrases of right construct. Focus primarily on speaking and writing.

Unit - V

Learning essential verbs of regular actions in French that are more frequent in our daily life and thus mastering conjugations and speaking from the top of our heads. More familiarity towards language is therefore attained.

Total periods: 30

TEXT BOOKS:

1. Écho A1, J.Girardet & J.Pecheur, CLE International, 2nd Edition
2. Saison A1, Jean Giraudoux, Goyal publisher, 1st Edition

REFERENCE BOOKS:

1. Alter Ego A1, Veronique M Kizirian & Annie Berthet, Hachette, 1st Edition
2. Cosmopolite A1, Nathalie Hirschsprung & Tony Tricot, Goyal Publisher 1st edition

Subject Code	Subject Name : **GERMAN**	Ty/ Lb/ ETL/IE	L	T/SLr	P/R	C
HBFL22I02	Prerequisite : Nil	**IE**	**1**	**0/0**	**1/0**	**1**

C: Credits, L: Lecture, T: Tutorial, SLr: Supervised Learning, P: Problem / Practical
R: Research, Ty/Lb/ETL/IE: Theory /Lab/Embedded Theory and Lab/Internal Evaluation

OBJECTIVES

To understand the main idea and some detailed aspects of complex and unfamiliar texts.
Know emerging awareness of aesthetic properties of language and literary style.
Recognize the role of cultural knowledge in understanding written texts.

COURSE OUTCOMES (Cos)
Students completing this course were able to

CO1	Learn to write numbers, alphabets, regular and irregular verbs
CO2	Practice preposition and articles.
CO3	Comprehend model verbs and speak in future
CO4	Familiarize colours, places and create phrases
CO5	Master conjugation and speaking the language

Mapping of Course Outcome with Program Outcome (POs)

Cos/ POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1										3		2
CO2										3		2
CO3										3		2
CO4										3		2
CO5										3		2

3/2/1 Indicates Strength Of Correlation, 3 – High, 2- Medium, 1- Low

Category	Basic Sciences	Engg.Science	Humanities & social Science	Program Core	Program Elective	Open Elective	Practical/ Project	Internships/ Technical Skills	Soft Skills
			√						

Subject Code	Subject Name : **GERMAN**	Ty/ Lb/ ETL/IE	L	T/SLr	P/R	C
HBFL22I02	Prerequisite : Nil	**IE**	**1**	**0/0**	**1/0**	**1**

UNIT - I **6 Periods**

Das Alphabet, Die Zahlen von ein -hundert, Begrüßung,Verabschiedung ,Sich Vortstellen , W – Fragen. Grammatik :- W- Frage, Aussagasatz, Verban und Personnelpronomen

UNIT - II **6 Periods**

Genders in Deutsch,,Die Personelpronomen, Definite /Indefinite / Negative Articles, Jemanden kennenlernen,Landkarte. Grammatik – bestimmter Artikel : der,die , das , Nomen: Singular und Plural, aussagesatz, negationartikel

UNIT - III **5 Periods**

Possessivpronomen,Verbkonjugation, Ja/Nein Fragen, Satzstruktur Grammatik : Regelmäßige, Unregelmäßige, hilfsverben- Sein/haben, Unbestimmer Artikel

UNIT - IV **5 Periods**

Wie spät ist es, Tageszeiten, Die, Wochentage, Die Monate, das Wetter, Die Himmelsrichtungen,Die familie, Klassenzimmer – Substantive , Countries and Languages, Negation , Like /Dislike. Grammatik: Akkusative, Verbenmit accusative, wörterorden und lernen, artikelimdativ, Präpositionmit +Dativ

UNIT - V **5 Periods**

Nominativ, Dativ, Accusative, Einkaufen, Im Flugzueg, Im kaufhaus, Jobsuche. Grammatik : Personalpronomen im Akkusativ mich, dich, modelverban müssen,können,wollen

Total periods: 30

TEXT BOOKS & REFERENCE BOOKS:

1. Shritte International, Daniela Niebisch, Fraz Sppeeht, Angela Pude
2. Netzwerk A1, Stefanie Dengler, Paul Rusch, Helen Schmitz, Tanja Siebe

HBFL22I02 GERMAN - Details in English for contents of each unit

Unit - I

Alphabet- Numbers from 1 to 100 - Greetings and Goodbye- Self Introduction W questions - Grammar

Unit - II

Genders in German - Personal Pronoun (For Conjugation) - Definite /Indefinite / Negative Articles - Ask about others - (MAP and Possition of Land) – Grammar

Unit - III

Possessive Pronoun- Verb Conjugation- Yes /No Question - Sentence making in German – Grammar

Unit - IV

what time is it ?, Times of the day - The Week days and Months) - The Weather, Directions - The Family - Substantive , Countries and Languages - Class Room – Substantive Countries and its Languages - Negation , Like /Dislike – Grammar

Unit - V

Accusative - Shopping - In Flight - In departmental store - Job search Grammar

Total periods: 30

TEXT BOOKS & REFERENCE BOOKS:

1. Shritte International, Daniela Niebisch, Fraz Sppeeht, Angela Pude
2. Netzwerk A1, Stefanie Dengler, Paul Rusch, Helen Schmitz, Tanja Sieber

Subject Code	Subject Name : **JAPANESE**	Ty/ Lb/ ETL/IE	L	T/SLr	P/R	C
HBFL22I03	Prerequisite : Nil	**IE**	**1**	**0/0**	**1/0**	**1**

C: Credits, L: Lecture, T: Tutorial, SLr: Supervised Learning, P: Problem / Practical
R: Research, Ty/Lb/ETL/IE: Theory /Lab/Embedded Theory and Lab/Internal Evaluation

OBJECTIVES

To understand the main idea and some detailed aspects of complex and unfamiliar texts.
Know emerging awareness of aesthetic properties of language and literary style.
Recognize the role of cultural knowledge in understanding written texts.

COURSE OUTCOMES (Cos)
Students completing this course were able to

CO1	Learn to write Roumaji script, Able to self intro ducethemselves, Will have knowledge of Hiragana and also able to speak about their Family membres. Count up to 100.
CO2	Able to count up tp 10,000, Will have knowledge of Katakana Alphabets, Will be able identify the body parts. Able to understand pronouns.
CO3	Analyze Varied particles and also the existential verbs. Will be able to count using the concept of Counters.
CO4	Will get knowledge of the two different types of adjectives both I ending and Na ending adjectives and frame different sentences with these two.
CO5	Master the conjugation of 24 forms of the verbs.

Mapping of Course Outcome with Program Outcome (POs)

Cos/ POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1										3		2
CO2										3		2
CO3										3		2
CO4										3		2
CO5										3		2

3/2/1 Indicates Strength Of Correlation, 3 – High, 2- Medium, 1- Low

Category	Basic Sciences	Engg.Science	Humanities & social Science	Program Core	Program Elective	Open Elective	Practical/Project	Internships/Technical Skills	Soft Skills
			√						

Subject Code	Subject Name : **JAPANESE**	Ty/ Lb/ ETL/IE	L	T/SLr	P/R	C
HBFL22I03	Prerequisite : Nil	**IE**	**1**	**0/0**	**1/0**	**1**

UNIT - I **5 Periods**

Introduction, Roumaji, Hiragana, Self Introduction, Family relations,Numbers(1-100)

UNIT - II **5 Periods**

Numbers (101-1000), Numbers (1001-10,000),Katakana, Body parts, and Pronouns

UNIT - III **8 Periods**

Introduction to particles (wa, mo, ka, desu, ni, ga, de), Imasu, Arimasu, Couters

UNIT - IV **5 Periods**

Adjective i-ending, and Na Ending

UNIT - V **7 Periods**

Verbs (24 forms)

Total periods: 3

TEXT BOOKS:

1. Genki, Eri Bnno, Yoka Ikeda, Yutaka Ohno, Chikkao Shinogawa, Kyoko Tokoshiki,The Japanese Publishing Company

REFERENCE BOOKS:

1. Minna No Nihongo, 3A Corporation, Goyal Publication

Subject Code	Subject Name : **ARABIC**	Ty/ Lb/ ETL/IE	L	T/SLr	P/R	C
HBFL22I04	Prerequisite : Nil	**IE**	**1**	**0/0**	**1/0**	**1**

C: Credits, L: Lecture, T: Tutorial, SLr: Supervised Learning, P: Problem / Practical
R: Research, Ty/Lb/ETL/IE: Theory /Lab/Embedded Theory and Lab/Internal Evaluation

OBJECTIVES

To learn, speak, write and do basic conversation in Arabic Language

COURSE OUTCOMES (Cos)
Students completing this course were able to

CO1	Learn alphabets, vowels and gender
CO2	Ask questions, numerbs and counting
CO3	Converse in a public place in Arabic
CO4	Identify and speak about food, weather etc
CO5	Analyze verbs, tenses, singular and plural

Mapping of Course Outcome with Program Outcome (POs)

Cos/ POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1										3		2
CO2										3		2
CO3										3		2
CO4										3		2
CO5										3		2

3/2/1 Indicates Strength Of Correlation, 3 – High, 2- Medium, 1- Low

Category	Basic Sciences	Engg.Science	Humanities & Social Science	Program Core	Program Elective	Open Elective	Practical/ Project	Internships/ Technical Skills	Soft Skills
			√						

Subject Code	Subject Name : **ARABIC**	Ty/ Lb/ ETL/IE	L	T/SLr	P/R	C
HBFL22I04	Prerequisite : Nil	**IE**	**1**	**0/0**	**1/0**	**1**

UNIT - I **6 periods**

Alphabets – Greetings – question words – meeting people first time – introduction – introducing family members

Grammar – Present simple, long and short vowels, masculine and feminine distinctions

UNIT - II **6 periods**

Asking questions -describing city, capital cities, towns countries – numbers and counting – how many – how much – buying and selling

Grammar – negation to present form – moon letters – genitive case – spelling rules for Hamza, Idafa

UNIT - III **6 periods**

Eating and drinking – talking about ethnic foods anf favourite cuisines – communicative phrases at public places – questions with what

Grammar – Group words – past tense – plural and joint cases

UNIT - IV **6 periods**

Describing weather – trips and adventures -camping – school trips

Grammar – future tense, verbs in plural

UNIT - V **6 periods**

Time and everyday routine – making comparison – days of week – comparing past and present

Grammar – Negative statements – pronouns - superlatives

Total periods: 30

TEXT BOOKS & REFERENCE BOOKS:

1. The Essentials Arabic., Rafiel Imad Faynan., Arabic Edition Publisher
2. Gateway to Arabic, Imran.H.Alawiye, Paperback publisher

Subject Code	Subject Name : **CHINESE**	Ty/ Lb/ ETL/IE	L	T/SLr	P/R	C
HBFL22I05	Prerequisite : Nil	**IE**	**1**	**0/0**	**1/0**	**1**

C: Credits, L: Lecture, T: Tutorial, SLr: Supervised Learning, P: Problem / Practical
R: Research, Ty/Lb/ETL/IE: Theory /Lab/Embedded Theory and Lab/Internal Evaluation

OBJECTIVES

This is a beginning level course in Chinese Mandarin, including introduction of phonetics and daily expressions. It is aimed at students with no prior knowledge of Chinese.

COURSE OUTCOMES (Cos)
Students completing this course were able to

CO1	Basic understanding of Chinese Mandarin
CO2	Do conversations of daily living such as greetings
CO3	Acquaint exchange personal information, making an inquiry on time, etc
CO4	Acquire listening, speaking, and reading skills in Chinese Mandarin.
CO5	Use the language in real life scenarios and for everyday conversational communications.

Mapping of Course Outcome with Program Outcome (POs)

Cos/ POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1										3		2
CO2										3		2
CO3										3		2
CO4										3		2
CO5										3		2

3/2/1 Indicates Strength Of Correlation, 3 – High, 2- Medium, 1- Low

Category	Basic Sciences	Engg.Science	Humanities & Social Science	Program Core	Program Elective	Open Elective	Practical/ Project	Internships/ Technical Skills	Soft Skills
			✓						

Subject Code	Subject Name : **CHINESE**	Ty/ Lb/ ETL/IE	L	T/SLr	P/R	C
HBFL22I05	Prerequisite : Nil	**IE**	**1**	**0/0**	**1/0**	**1**

UNIT - I **6 periods**

Introduction of Chinese language Initials and finals, read initials: b, p, m, f, d, t, n, l, g, k, h Be able to read finals: a, o, e, i, u, ü, ai, ei, ao, ou, an, en, ang, new words combined with tones greet people using: How do you do?

UNIT - II **6 periods**

Initials: j, q, x, z, c, s, zhi, chi, shi, r finals: eng, ong, ia, iao, ie, -iu, ian, in, iang, ing, iong, er new words combined with tones greet people using: How are you?

UNIT - III **6 periods**

Finals: ua, uo, uai, ui, uan, uen, un, uang, ueng, üe, üan, ün

New words combined with tones o count numbers count date, month and year greet people using: Are you busy with your work?

UNIT - IV **6 periods**

New words questions with "吗" questions with interrogative pronouns adjectival predicate acquaintance using: May I know your name?

UNIT - V **6 periods**

Sentences with a verbal predicate attributivegenitive use the " 是" sentence acquaintance using: Let me introduce..

Total periods: 30

TEXT BOOKS & REFERENCE BOOKS:

1. The first 100 Chinese Characters, Laurence Mathews, Tuttle Publishers
2. Learning Mandarin Chinese, Version2, Yi Ren, Tuttle Publishers

Subject Code	Subject Name : **RUSSIAN**	Ty/ Lb/ ETL/IE	L	T/SLr	P/R	C
HBFL22I06	Prerequisite : Nil	**IE**	**1**	**0/0**	**1/0**	**1**

C: Credits, L: Lecture, T: Tutorial, SLr: Supervised Learning, P: Problem / Practical
R: Research, Ty/Lb/ETL/IE: Theory /Lab/Embedded Theory and Lab/Internal Evaluation

OBJECTIVES

This is a beginning level course in Chinese Mandarin, including introduction of phonetics and daily expressions. It is aimed at students with no prior knowledge of Chinese.

COURSE OUTCOMES (Cos)
Students completing this course were able to

CO1	Acquaint Phonetics – Alphabets and sounds
CO2	Use different types of nouns and self introduce.
CO3	Identify general vocabulary and greet in the language
CO4	Identify and apply sounds with different stems and word construction
CO5	Construct and speak sentences in the language

Mapping of Course Outcome with Program Outcome (POs)

Cos/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1										3		2
CO2										3		2
CO3										3		2
CO4										3		2
CO5										3		2

3/2/1 Indicates Strength Of Correlation, 3 – High, 2- Medium, 1- Low

Category	Basic Sciences	Engg.Science	Humanities & Social Science	Program Core	Program Elective	Open Elective	Practical/Project	Internships/ Technical Skills	Soft Skills
			√						

Subject Code	Subject Name : **RUSSIAN**	Ty/ Lb/ ETL/IE	L	T/SLr	P/R	C
HBFL22I06	Prerequisite : Nil	**IE**	**1**	**0/0**	**1/0**	**1**

UNIT - I **6 periods**

Phonetics: Alphabets and Sounds, Voice and vowels, Voice and Voiceless – Consonants - Self Intro, Self Name in Russian Language

UNIT - II **6 periods**

Etho construction, ShthoEtho, KmoEtho - Animates and Inanimate nouns

UNIT - III **6 periods**

General Vocabulary, Answering the objects with Etho on interrogatives ShthoEtho and Kmotho? - Greetings of the Day on various timings

UNIT - IV **6 periods**

Alphabets , sounds with Hard stems - Gender of Nouns, Demonstrative Pronouns using vocabulary and simple word constructions - General words on regular us: Excuse me, May I Come in, Excuse me, Thank you and see you again

UNIT - V **6 periods**

Revision of Vocabulary, New Words, Greetings and other Day to day usage of sentences

Total periods: 30

TEXT BOOKS & REFERENCE BOOKS:

1. Russian for begineers, Gateway Guides, Kindle Edition
2. Learn to speak & Write Russian, Vasuda Bhaskar, Chatter Singh Publishers.

Subject Code	Subject Name : **SPANISH**	Ty/ Lb/ ETL/IE	L	T/SLr	P/R	C
HBFL22I07	Prerequisite : Nil	**IE**	**1**	**0/0**	**1/0**	**1**

C: Credits, L: Lecture, T: Tutorial, SLr: Supervised Learning, P: Problem / Practical
R: Research, Ty/Lb/ETL/IE: Theory /Lab/Embedded Theory and Lab/Internal Evaluation

OBJECTIVES

To understand the main idea and some detailed aspects of complex and unfamiliar texts.
Know emerging awareness of aesthetic properties of language and literary style.
Recognize the role of cultural knowledge in understanding written texts.

COURSE OUTCOMES (Cos)
Students completing this course were able to

CO1	Learn to write numbers, alphabets, regular and irregular verbs
CO2	Practice preposition and articles.
CO3	Comprehend model verbs and speak in future
CO4	Familiarize colours, places and create phrases
CO5	Master conjugation and speaking the language

Mapping of Course Outcome with Program Outcome (POs)

Cos/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1										3		2
CO2										3		2
CO3										3		2
CO4										3		2
CO5										3		2

3/2/1 Indicates Strength Of Correlation, 3 – High, 2- Medium, 1- Low

Category	Basic Sciences	Engg.Science	Humanities & Social Science	Program Core	Program Elective	Open Elective	Practical/Project	Internships/Technical Skills	Soft Skills
			√						

Subject Code	Subject Name : **SPANISH**	Ty/ Lb/ ETL/IE	L	T/SLr	P/R	C
HBFL22I07	Prerequisite : Nil	**IE**	**1**	**0/0**	**1/0**	**1**

UNIT - I **5 periods**

Los Saludos y Despedidas, Los Alfabetos, Los Numeros (1-20), Sonidos y Letras: H, C/Qa, G/J, B/V, C/Z, R, R/rr, Ch, G/Gu, Ll, N, Aficiones.

UNIT - II **5 periods**

Los Numeros(21-100), PronombresPersonales: Yo, Tu, El, Eyya, Nosotros, Vosotros, Ustedes, Usted. Ser verbos: Soy, Eres, Es, Somos, Sois, Son. Nacionalidad, Profesiones.

UNIT - III **5 periods**

Singular y Plural,Conversion de Singular a Plural. Masculinoy Feminino, conversion de masculino afeminino. Tener verbos: Tengo, Tienes, Tiene, Tenemos, Teneis, Tienen. Llevarverbos.

UNIT - IV **10 periods**

Vocabulario de Colores, Casa, Bebidas, Ciudad, Clima, Colegio, Comida, Medios, Saludos, Verduras. Articulesdefinidos, Articulesindefinidos.

UNIT - V **5 periods**

Estar verbos: Estoy, Estas, Esta, Estamos, Estais, Estan. Reflexive verbos: Me, Te, Se, Nos, Os, Se. Cuantificadores, Preguntar y Responder.

Total periods: 30

TEXT BOOK:

1. Aula internacional 1, Jaime corpas & Eva Garcia, diffusion, Nueva edicion

REFERENCE BOOK:

1. Grammatica de uso A1-B2, Luis Aragones, Ramon Palencia, smeLe, Nueva edicion

HBFL22I07 SPANISH - Details in English for contents of each unit

UNIT - I

Introduction of Spanish words through the greetings, goodbyes, hobbies. Simple vocabulary like numbers (1 – 20) and alphabets. Pronunciation of H, C/Qa, G/J, B/V, C/Z, R, R/rr, Ch, G/Gu, Ll, N are taught.

UNIT - II

Focusing on grammatical elements like subject pronouns and irregular verbs. Complete vocabulary for numbers, Nationality and professions. Therefore, practice how to say time, phone number, Nationality and profession.

UNIT - III

Singular and plural forms of noun and conversion from singular to plural. Identifying the nouns as masculine or feminine. Conversion of nouns from masculine to feminine. Focusing on Tener and Llevar verbs.

UNIT – IV

Learning vocabulary in most common categories like colours, Houses, Drinks, City, Climate, Foods. Learning both definite and indefinite articles. More focusing on reading, writing and speaking.

UNIT – V

More focusing on grammatical elements like Estar verbs and Reflexive verbs usually used in everyday life, Quantification like much , more .More familiarity towards language is therefore attained.

Total periods: 30

TEXT BOOK:

1. Aula internacional 1, Jaime corpas & Eva Garcia, diffusion, Nueva edicion

REFERENCE BOOK:

1. Grammatica de uso A1-B2, Luis Aragones, Ramon Palencia, smeLe, Nueva edicion