PERIYAR MANIAMMAI INSTITUTE OF SCIENCE & TECHNOLOGY

(Under Section 3 of UGC Act, 1956)

Faculty of Computing Sciences and Engineering

Department of Software Engineering

B.Sc. Animation and Multimedia

Regulation 2018

Semester I

Category	Course Code	Course Name	Credit					Hours				
			L	T	P	SS	Total	L	T	P	SS	Total
AECC 1	XGL101	Communication Skills in English	2	0	0	2	**2**	2	0	0	2	4
LANG	XAM102A / XAM102B	Ariviyal Tamil / Comprehensive English	3	0	0	0	**3**	3	0	0	0	3
CC1-(DSC 2A)	XAM103	Animation Art	2	0	2	0	**4**	2	0	4	0	6
CC2	XAM104	Principles of animation	4	1	0	0	**5**	4	1	0	0	5
CC3-(DSC 3A)	XAM105	Graphics Design	4	0	1	0	**5**	4	0	2	0	6
UMAN 1	XUM106	Human Ethics, Values, Rights and Gender Equality	3	0	0	0	**3**	3	0	0	0	3
		Total	**18**	**1**	**3**	**2**	**22**	**18**	**1**	**6**	**2**	**27**

Total Credits: 22

Semester II

Category	Course Code	Course Name	Credit					Hours				
			L	T	P	SS	Total	L	T	P	SS	Total
AECC2	XGL201	English for Effective Communication	2	0	0	2	**2**	2	0	0	2	4
AECC 3	XES202	Environmental Studies	2	0	0	1	**2**	2	0	0	1	3
CC4	XAM203	Digital Art and Designing	3	0	2	0	**5**	3	0	4	0	7
CC5-(DSC2B)	XAM204	Digital Photography	3	0	2	0	**5**	3	0	4	0	7
CC6-(DSC3B)	XAM205	Visual Design	4	1	0	0	**5**	4	1	0	0	5
		Total	**14**	**1**	**4**	**3**	**19**	**14**	**1**	**8**	**3**	**26**

Total Credits: 19

Semester III

Category	Course Code	Course Name	Credit					Hours				
			L	T	P	SS	Total	L	T	P	SS	Total
SEC1	XAM301	Digital Imaging Skills	1	0	1	0	**2**	1	0	2	0	**3**
CC7	XAM302	Character & Environment Sketching	2	0	2	0	**4**	2	0	4	0	6
CC8-(DSC2C)	XAM303	Audio & Video Editing	4	0	1	0	**5**	4	0	2	0	6
CC9-(DSC3C)	XAM304	2D Animation	2	0	2	0	**4**	2	0	4	0	6
CC10	XAM305	Motion graphics	2	0	2	0	**4**	2	0	4	0	6
GE 1		*Open Elective - To be chosen by student	3	0	0	0	**3**	3	0	0	0	3
UMAN II	XUM306	Disaster Management	3	0	0	0	**3**	3	0	0	0	3
Minor Course * Extra Credit		Drawing skills				0	**1***				0	
		Total	**17**	**0**	**8**	**0**	**25+1***	**17**	**0**	**16**	**0**	**33**

Total Credits: 25+1*

Semester IV

Category	Course Code	Course Name	Credit					Hours				
			L	T	P	SS	Total	L	T	P	SS	Total
SEC2	XAM401	Image Editing Skills	0	0	2	0	**2**	0	0	4	0	4
CC11	XAM402	Compositing Techniques	3	0	2	0	**5**	3	0	4	0	7
CC12-(DSC2D)	XAM403	Basics of Clay modelling	3	0	2	0	**5**	3	0	4	0	7
CC13-(DSC3D)	XAM404	Fundamentals of Cinematography	3	0	2	0	**5**	3	0	4	0	7
GE 2		Open Elective - To be chosen by student	3	0	0	0	**3**	3	0	0	0	3
Minor Course * Extra Credit		Digital Matte Painting				0	1*				0	
		Total	**12**	**0**	**8**	**0**	**20**+1*	**12**	**0**	**16**		**28**

Total Credits: 20+1*

Semester V

Category	Course Code	Course Name	Credit					Hours				
			L	T	P	SS	Total	L	T	P	SS	Total
CC14	XAM501	Web Design	3	0	1	0	**4**	3	0	2	0	5
DSE 1A	XAM502 A	3D Modeling	3	0	1	0	**4**	3	0	2	0	5
	XAM502 B	Motion Capturing	3	0	1	0	**4**	3	0	2	0	5
DSE 2A	XAM503A	Script Writing and Story Board Designing	3	0	1	0	**4**	3	0	2	0	5
	XAM503B	Rigging, Lighting & Rendering	3	0	1	0	**4**	3	0	2	0	5
DSE 3A	XAM504A	Media Aesthetics	3	1	0	0	**4**	3	1	0	0	4
	XAM504B	Media Technologies	3	1	0	0	**4**	3	1	0	0	4
GE 3		Open Elective - To be chosen by student	3	0	0	0	**3**	3	0	0	0	3
Minor Course * Extra Credit		Stop Motion Animation					**1***					
Extra Credit		IPT 21 Days					**2***					
		Total	**15**	**1**	**3**	**0**	**19+3***	**15**	**1**	**6**	**0**	**22**

Total Credits: 19+3*

Semester VI

Category	Course Code	Course Name	Credit					Hours				
			L	T	P	SS	Total	L	T	P	SS	To tal
SEC3	XAM601	Digital Television Production	0	0	2	0	**2**	0	0	4	0	4
CC15	XAM602	3D Animation	3	0	1	0	**4**	3	0	2	0	5
DSE 1B	XAM603 A	Film Making	3	0	1	0	**4**	3	0	2	0	5
	XAM603B	Rotoscoping	3	0	1	0	**4**	3	0	2	0	5
DSE 2B	XAM604A	Games Development	3	0	1	0	**4**	3	0	2	0	5
	XAM604B	Texturing& Shading	3	0	1	0	**4**	3	0	2	0	5
DSE 3B	XAM604	Project Work	0	0	0	0	**6**	0	0	0	0	8
Extra Credit		NSS/NCC/RRC/SPORTS /RRC/YRC										
		TOTAL	**9**	**0**	**5**	0	**20**	**9**	**0**	**10**	0	**27**

Total Credits: 20

Total Credits: 125+5* Credits

Elective I:

Subject Code	Subject Name	L	T	P	C	H
XAM502A	3D Modeling	3	0	1	4	5
XAM502B	Motion Capturing	3	0	1	4	5

Elective II:

Subject Code	Subject Name	L	T	P	C	H
XAM503A	Script Writing and Story Board Designing	3	0	1	4	5
XAM503B	Rigging, Lighting & Rendering	3	0	1	4	5

Elective III:

Subject Code	Subject Name	L	T	P	C	H
XAM504A	Media Aesthetics	3	1	0	4	4
XAM504B	Media Technologies	3	1	0	4	4

Elective IV:

Subject Code	Subject Name	L	T	P	C	H
XAM603A	Film Making	3	0	1	4	5
XAM603B	Rotoscoping	3	0	1	4	5

Elective V:

Subject Code	Subject Name	L	T	P	C	H
XAM604A	Games Development	3	0	1	4	5
XAM604B	Texturing& Shading	3	0	1	4	5

Minor Courses:

Subject Code	Subject Name	L	T	P	C	H
	Drawing skills	0	0	1	1	2
	Digital Matte Painting	0	0	1	1	2
	Stop Motion Animation	0	0	1	1	2

NOTE:

AECC – Ability **E**nhancement **C**ompulsory **C**ourse **DSC– D**epartment **S**pecific **C**ourse

DSE – Discipline **S**pecific **E**lective **GE –** Generic **E**lective

SEC – Skill **E**nhancement **C**ourse **CC** – **C**ore **C**ourse

UMAN – University **MAN**datory

L - Lecture **T- Tutorial** **P – Practical** **C-Credit**

Total Number of subjects proposed with the credits is given below:

S. No.	Type of Subject	Numbers	Total Credit
1.	AECC (Theory & Lab)	3	6
2.	LANG	1	3
3.	Core Course (Theory & Lab)	15	69
4.	DSE (Theory & Lab)	6	26
5.	SEC	3	6
6.	GE	3	9
7.	UMAN	2	6
	Minor courses, IPT & NSS / NCC...	5*	5*
	Total	**33 + 5***	**125 + 5***

Total Credits	AECC(%)	LANG(%)	CC(%)	DSE(%)	SEC(%)	GE(%)	UMAN (%)
125	6(4.8)	3(2.4)	69(55.2)	26(20.8)	6(4.8)	9(7.2)	6(4.8)

XGL101			COMMUNICATION SKILLS IN ENGLISH	L	T	P	SS	C
				2	0	0	2	4
C	P	A		L	T	P	SS	H
1	0.75	0.25		2	0	0	2	4

PREREQUISITE: Nil

	COURSE OUTCOMES	DOMAIN	LEVEL
On the successful completion of this course students would be able to			
CO1	Choose and **identify** different styles to various forms of public speaking skills and presentation skills.	Cognitive	Knowledge
CO2	**Understand** and identify the proper tone of language required in writing and speaking.	Cognitive	Understand
CO3	**Adapting** the speech structures and developing the speech outline.	Psychomotor	Adapting
CO4	Ability to **communicate** and develop presentation skills.	Affective	Reasoning
CO5	**Calibrates** the speaker to face the audience without any anxiety.	Psychomotor	Reasoning

UNIT I	**6**
Introduction to public speaking; functions of oral communication; skills and competencies needed for successful speech making; importance of public speaking skills in everyday life and in the area of business, social, political and all other places of group work	
UNIT II	**6**
Manuscript, impromptu, rememorized and extemporaneous speeches; analyzing the audience and occasion; developing ideas; finding and using supporting materials.	
UNIT III	**6**
Organization of Speech; introduction, development and conclusion; language used in various types of speeches; Adapting the speech structures to the Audience; paralinguistic features	
UNIT IV	**6**
Basic tips; how to present a paper/assignment etc; using visual aids to the speeches; using body language to communicate.	
UNIT V	**6**
Public speaking and speech anxiety, public speaking and critical listening Speech practice (4-6 speeches per student)	

LECTURE	TUTORIAL	SS	TOTAL
30	**-**	**30**	**60**

REFERENCES:

1. Technical Writing – April, 1978, by **Gordon H. Mills** (Author), **John A. Walter** (Author)
Effective Technical Communication: A guide for scientists and Engineers. Author: Barun K. Mitra, Publication: Oxford University press. 2007

XAM102A			அறிவியல் தமிழ்	L	T	P	C
				3	0	0	3
C	P	A		L	T	P	H
2.9	0.1	0		3	0	0	3

PREREQUISITE: Nil

	COURSE OUTCOMES	DOMAIN	LEVEL
After the completion of the course, students will be able to			
CO1	***Recognize(அடையாளம் காணுதல்)***பல்வேறுஅறிவியல் துறைசார்ந்தநுட்பங்கள்,கலைச் சொல்லாக்கஉத்திகள் போன்றவற்றைத் தமிழ்மொழி மூலம் அறிந்துகொள்ளல்.	Cognitive	Remember
CO2	***Choose (தெரிவுசெய்தல்)***வடமொழிவேர்ச்சொற்கள்,புவியியல்,நிலவியல் பற்றிப் பழந்தமிழ் இலக்கியங்கள் மூலம் அறிந்துகொள்ளல்.	Cognitive	Remember
CO3	***Describe(விளக்குதல்)***தொல்காப்பியம் மூலம் அறிவியல் செய்திகளைஉணர்தல்.	Cognitive Psychomotor	Understand Set
CO4	***Apply (பயன்படுத்துதல்)***பல்வேறுகல்வித்துறைசார்ந்தபிரிவுகள்,பல்வேறுகல்வித்துறைசார்ந்தபிரிவுகள் குறித்துதெளிவுபெறல்.	Cognitive	Apply
CO5	***Analyze(பகுத்தல்)***அறிவியல் சிறுகதைகளின் தோற்றம் மற்றும் வளர்ச்சிநிலைநாடகங்களின் பங்குகுறித்துதெளிவுபெறுதல்.	Cognitive	Analyze

அலகு– 1	அறிவியல்தமிழ் அறிமுகம்	9

அறிவியல்தமிழ் - பொறியியல்,தொழில்நுட்பம்,மருத்துவம்,உழவியல். தமிழில் அறிவியல் - தமிழில் நுட்பம். படைப்புப் பணி–சொல்லாக்கஉத்திகள் - நுட்பமானவேறுபாடுகளைஉணர்ந்துசொல்லாக்கம் செய்தல் - கலைச்சொற்கள் - இந்தியமொழிகளுக்குப் பொதுவானகலைச் சொற்களைஉருவாக்குதல் - வடமொழிவேர்ச்சொற்களைமிகுதியாகக் கொண்டிருத்தலைப் பயன்படுத்துதல்.

அலகு– 2	பிறஅறிவியல் துறைகள்	9

புவியியல்,நிலவியல் பற்றிபழந்தமிழ் இலக்கியம் குறிப்பிடும் தகவல்கள் - தொல்காப்பியம் குறிப்பிடும் உயிரியல்,மண்ணியல் பற்றியஅடிப்படைச் செய்திகள் - தமிழ் மருத்துவக் கல்வி அறிவியல் தமிழுக்கு இதழியல் உத்திகள் - வளர் தமிழ்.

அலகு– 3	பல்வேறுகலைகளில் அறிவியல்	9

மொழியியல் கல்வி–கட்டடக் கலைக்கல்வி–சமுதாயக்கல்வி–சேய்மைக்கல்வி–மண்ணியல்,புவியியல்,கணக்கியல் ஆகியவைஇணைந்தகல்வி - இக்காலக் கல்விப் பொதுநிலை–கலை,அறிவியல் - என்பவற்றின் விளக்கங்கள்.

அலகு– 4	அறிவியல் தமிழில் சிறுகதைகளின் பங்கு	9

சிறுகதை -இலக்கணம் உருவாக்கும் உத்திகள் - சிறந்தசிறுகதைகள் - சிறுகதை வகைகள் - நல்லசிறுகதைஉருவாக்கம் - வரலாறு–சமூகம் - மொழிபெயர்ப்புமற்றும் அறிவியல் சிறுகதைகள்.

அலகு–5	அறிவியல் தமிழில் நாடகங்களின் பங்கு	9

நாடகம் - நாடக இலக்கணம், இருவகைநாடகங்கள் - படிப்பதற்குரியநாடகம் - நடிப்பதற்குரியநாடகம் - சரித்திரநாடகம்,சமூகநாடகம் - நகைச்சுவைநாடகங்கள் - அமெச்சூர் நாடகங்கள் - தொழில்முறைநாடகங்கள்.

LECTURE	TUTORIAL	PRACTICAL	TOTAL
45	**---**	**---**	**45**
மேற்பார்வைநூல்கள்:			
1. அறிவியல் தமிழ் - டாக்டர் வா.செ. குழந்தைச்சாமி 2. வளர் தமிழ் - இதழ்கள் 3. இலக்கியவரலாறு–சிறுகதைபற்றியது 4. இலக்கியவரலாறு–புதினம்பற்றியது			

XAM103			ANIMATION ART	L	T	P	C
				2	0	2	4
C	P	A		L	T	P	H
3	1	0		2	0	4	6

PREREQUISITE: 3D animation

COURSE OUTCOMES		DOMAIN	LEVEL
After the completion of the course, students will be able to			
CO1	***Recognize*** the importance of animation.	Cognitive	Remember
CO2	***Demonstrate*** the character drawing.	Cognitive	Understand
CO3	***Analyze*** the storyboard and animatics.	Cognitive	Analyze
CO4	***Formulate*** the frame by frame animation.	Cognitive	Create
CO5	***Organize*** the animation special effects.	Cognitive Psychomotor	Create Set

UNIT I **INTRODUCTION** **6+12**

What is mean by Animation – Why we need Animation – History of Animation – Uses of Animation – Types of Animation – Principles of Animation – Some Techniques of Animation – Animation on the WEB – 3D Animation – Special Effects - Creating Animation.

Lab Practical –I,

1. All Shapes drawing.
2. Stick figure drawing

UNIT II **CHARACTER LIBRARIES** **6+12**

Planning your animation-script-design-storyboards-animatics-animation-animation method-Animation efficiencies-compositing and editing-making your project plan-delivery specifications-format-dimensions- frame rate-aspect ratio-schedule-script-designs-storyboards-character libraries.

Lab Practical –II,

3. Anatomy drawing.
4. Portrait drawing

UNIT III **STORYBOARDS AND ANIMATICS** **6+12**

Storyboards -Drawing storyboards on paper (traditional) –Acting-Drawing digitally-Drawing directly into software. Animatics -Acting in digital boards -Building animatics- Technical issues Aspect ratio - Pixel aspect ratio- Image size-Frame rate- Action safe and title safe - Exporting from After Effects - Importing into animation software.

Lab Practical –III,

5. Full figuredrawing.
6. Illustration and perspective drawing.
7. Storyboard and Animatics drawing.

UNIT IV **FRAME BY FRAME ANIMATION** **6+12**

The character library Animating a scene - First pass: blocking and timing poses -Second pass: in betweening and body acting-Third pass: lip sync . -Lip sync-Fourth pass: eye acting and expressions. Timing and animation-Blocking the animation -Adding breakdowns -Adding inbetweens - Facial animation and lip sync-Using shape tweens.

Lab Practical –IV,

8. Walk cycledrawing.
9. Character drawing.

UNIT V	ANIMATION SPECIAL EFFECTS	6+12

Highlights and shadow modeling-Preparing the shadow model layer - Modeling the silhouette - Water Fire ,Smoke, Debris - Factors that increase file size, length-After Effects is a nondestructive program - Trimming- Pans and zooms - Export features Render queue -Transitions - Sound editing . Filters-Masks, painting, and text tools-Disadvantages of using After Effects.

Lab Practical –IV,

10. Landscapedrawing.
11. Creative drawing.
12. Digital Art.

LECTURE	TUTORIAL	PRACTICAL	TOTAL
30	-	60	90

REFERENCES:

1. Foundation Flash Cartoon Animation by Tim Jones Barry J. Kelly Allan S. Rosson David Wolfe.

Mapping of Course Outcomes (CO) with Programme Outcomes (PO):

B.Sc. A&M	PO							PSO	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**1**	**2**
CO1	2	1	1	1	1	1	1	2	1
CO2	1	1	3	1	1	2	1	2	2
CO3	1	1	2	1	2	1	1	3	1
CO4	2	1	1	1	2	1	1	3	1
CO5	2	2	1	2	2	1	1	2	1
AVG	**2**	**1**	**2**	**1**	**2**	**1**	**1**	**2**	**1**

3–High Relation, 2–Medium Relation, 1–Low Relation, 0–No Relation

XAM 104			PRINCIPLES OF ANIMATION	L	T	P	C
				4	1	0	5
C	P	A		L	T	P	H
4	0	0		4	1	0	5

PREREQUISITE: Nil

COURSE OUTCOMES		DOMAIN	LEVEL
After the completion of the course, students will be able to			
CO1	***Recognize*** the importance of drawing and the animation.	Cognitive	Remember
CO2	***Choose*** the methods to make the drawings for animation.	Cognitive	Remember
CO3	***Describe*** the stages of animation and ***achieve*** the knowledge on animation.	Cognitive	Understand
CO4	***Apply*** the body languages concepts in making animated characters.	Cognitive	Apply
CO5	***Analyze*** the different actions to be performed by the character to make the realistic animation.	Cognitive	Analyze

UNIT I	**INTRODUCTION**	**15**

Drawings with the help of basic shapes, Animal study, Human anatomy, Shading techniques, Live model study, Introduction- Importance of confidence, Difference between "looking at the drawing" and "seeing the drawing", What is observation, Procedure- How to approach, Importance of Guideline- Line of action, Overcome the fear, Drawing for animation.

UNIT II	**MAKE DRAWINGS FOR ANIMATION**	**15**

An Introduction on how to make drawings for animation, Shapes and forms, About 2d and 3d drawings, Caricaturing – fundamentals, Exaggeration, Attitude, Silhouettes, Boundary- breaking exercises and warm ups, gesture drawing, Line drawing and quick sketches, Drawing from observation, memory and imagination.

UNIT III	**STAGES OF ANIMATION**	**15**

Drawing for Animation, Exercises and warm ups on pegging sheet, Quick Studies from real life, Sequential movement drawing, Caricaturing the Action. Thumbnails, Drama and psychological effect, Motion Studies, Drawing for motion.

UNIT IV	**BODY LANGUAGE**	**15**

The Body language, Re-defining the drawings, Introduction to animation production process, Basic Principles in animation.

UNIT V	ACTIONS OF CHARACTERS	15

Squash and stretch, Anticipation, Staging, Straight ahead and pose to pose, Follow through and overlapping action, Slow in and slow out, Arcs, Secondary action, Timing, Exaggeration, Solid drawing, Appeal, Mass and weight, Character acting, Volume, Line of action, Path of action, Walk cycles-animal and human.

LECTURE	TUTORIAL	PRACTICAL	TOTAL
60	15	---	75

REFERENCES:

1. Graphics & Animation Basics , By Suzanne Weixel / Cheryl Morse
2. Basic Animation Ht25 - Walter Foster , By Walter Foster
3. Cartooning Basic Animation Ht25 - Walter Foster , By Walter Foster
4. Computer Graphics & Animation , By PrajapatiAk
5. Introduction To 3d Graphics & Animation Using Maya/Cd ,By Adam Watkins
6. www.animationmentor.com/animation-program/animation-basics.

Mapping of Course Outcomes (CO) with Programme Outcomes (PO):

B.Sc. A&M	PO							PSO	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**1**	**2**
CO1	3	1	2	2	1	2	2	1	2
CO2	2	3	1	2	2	1	2	1	3
CO3	2	1	3	1	1	2	0	1	2
CO4	3	2	2	2	1	0	2	2	2
CO5	3	1	2	1	0	1	1	2	1
AVG	**3**	**2**	**2**	**2**	**1**	**1**	**1**	**1**	**2**

3–High Relation, 2–Medium Relation, 1–Low Relation, 0–No Relation

XAM 105			GRAPHICS DESIGN	L	T	P	C
				4	0	1	5
C	P	A		L	T	P	H
4	0.75	0.25		4	0	2	6

PREREQUISITE: Visual design

	COURSE OUTCOMES	DOMAIN	LEVEL
After the completion of the course, students will be able to			
CO1	***Understand*** and ***recognize*** the Graphic Design concepts and its applications.	Cognitive	Understand Remember
CO2	***Understand*** the elements of design and ***Apply*** it to ***produce*** own shapes and color design.	Cognitive Psychomotor	Understand Apply Set
CO3	***Understand*** *the* principles of design and ***Apply*** it to ***develop*** a page for Website and print media.	Cognitive Psychomotor	Understand Apply Set
CO4	***Understand*** the poster design concepts and ***develop*** posters for advertisement and academic poster presentation.	Cognitive Psychomotor	Understand Apply Set
CO5	***Understand*** and ***equip*** themselves for self-employment and ***develop*** Presentation and Communication Skills.	Cognitive Affective	Understand Remember Receiving Responding

UNIT I	INTRODUCTION TO THE GRAPHIC DESIGN	12+6

Introduction to the Graphic Design Industry - History of Graphic Design - Future of Graphic design - Introduction to the equipment. The introduction of each piece of equipment would be tied to a relevant graphics project.

Lab

Using Photoshop: 1. Color Design
2. Shape Design

UNIT II	ELEMENTS OF DESIGN	12+6

Elements of Design -Colour - Line - Shape - Space- Texture - Value : Principles of Design Balance , Contrast, Emphasis/Dominance ,Harmony ,Movement/Rhythm , Proportion Repetition/ Pattern, Unity , Variety.

Lab

Using Photoshop: 1. Text & Shape Design

UNIT III	TYPOGRAPHY	12+6

Typography -Anatomy of a letter- Typefaces - Typographic Measurement - Typographic Standards - Typographic Guidelines - Creating images for print & web -Formats -Resolution. Raster Vs Vector -Editing Images - Ethics - Copyright laws.

Lab

Using Photoshop:

1. Page Design for Web
2. Page Design for Print

UNIT IV	POSTER DESIGN	12+6

Poster Design - Concept of Poster - Importance of posters - Qualities of a good poster - Project work on poster design - Calendar/Postage stamp design - Pennants/Buntings/Flags.

Lab

Using Photoshop: 1. Advertisement Poster Design
2. Academic Poster Design
3.Calendar Design

UNIT V	GRAPHIC DESIGN CAREERS	12+6

Careers in graphic design - Graphic Design careers and job avenues -Competencies for Employment employable skills - Building an artist portfolio - Setting up graphic design enterprise - Factors to consider - Building a portfolio of works - Meaning and Purpose - Hard and Soft copies.

Lab

Using Photoshop: 1. Personal Portfolio Design
2. Company Portfolio Design

LECTURE	TUTORIAL	PRACTICAL	TOTAL
60	-	30	90

REFERENCES:

1. Thinking with Type: A Primer for Designers: A Critical Guide for Designers,Writers, Editors, & Students Paperback – September 2, 2004 By Ellen Lupton.
2. Jennifer's-Introduction to Typography -An Advanced Communication Design Project-by Jennifer Simmer-Winter Term 2005
3. Typography- A guide to setting perfect type-by James Felici-Second Edition
4. Poster Design -A guide for FIMS students & staff: How to produce effective & attractive scientific posters
5. Policing Cyber crime by Petter Gottschalk-Bookboon.com
6. Portfolio Guidelines- All you need to know about your portfolio
7. Elements of Design (The Basics of Graphic Design)-net material
8. About Graphic Design- e-copy –net material
9. The Visual Display of Quantitative Information Hardcover – January 1, 2001,byEdward R. Tufte

Web Resources:

Poster Design:

1.https://www.ncsu.edu/project/posters/index.html

2.http://www.posterpresentations.com/html/free_poster_templates.html

Cyber crime:

3. http://www.posterpresentations.com/html/free_poster_templates.html

4. www.tutorialspoint.com

Mapping of Course Outcomes (CO) with Programme Outcomes (PO):

B.Sc. A &M	PO							PSO	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**1**	**2**
CO1	3	2	2	1	2	1	1	1	0
CO2	2	3	3	3	2	2	3	3	0
CO3	2	3	3	3	2	2	3	3	0
CO4	2	3	3	3	1	2	3	3	0
CO5	2	3	3	1	3	2	3	1	0
AVG	**2**	**3**	**3**	**2**	**2**	**2**	**3**	**2**	**0**

3–High Relation, 2–Medium Relation, 1–Low Relation, 0–No Relation

XUM106			HUMAN ETHICS, VALUES, RIGHTS AND GENDER EQUALITY	L	T	P	C
				3	0	0	3
C	P	A		L	T	P	H
2.5	0	0.5		3	0	0	3

PREREQUISITE: Nil

	COURSE OUTCOMES	DOMAIN	LEVEL
On the successful completion of this course students would be able to			
CO1	***Relate*** and ***Interpret*** the human ethics and human relationships.	Cognitive	Remember Understand
CO2	**Explain** and **Apply** gender issues, equality and violence against women.	Cognitive	Understand Apply
CO3	***Classify*** and ***Develop*** the identify of human rights and their violations	Cognitive Affective	Analyse Reasoning
CO4	***Classify*** and ***Dissect*** necessity of human rights and report on violations.	Cognitive	Understand Analyse
CO5	***List*** and **respond** to family values, universal brotherhood, fight against corruption by common man and good governance.	Cognitive	Remember

UNIT I	**9**

HUMAN ETHICS AND VALUES: Human Ethics and values - Understanding of oneself and others- motives and needs- Social service, Social Justice, Dignity and worth, Harmony in human relationship: Family and Society, Integrity and Competence, Caring and Sharing, Honesty and Courage, WHO's holistic development - Valuing Time, Co-operation, Commitment, Sympathy and Empathy, Self respect, Self-Confidence, character building and Personality.

UNIT II	**9**

GENDER EQUALITY: Gender Equality - Gender Vs Sex, Concepts, definition, Gender equity, equality, and empowerment. Status of Women in India Social, Economical, Education, Health, Employment, HDI, GDI, GEM. Contributions of Dr.B.R. Ambethkar, ThanthaiPeriyar and Phule to Women Empowerment.

UNIT III	**9**

WOMEN ISSUES AND CHALLENGES: Women Issues and Challenges- Female Infanticide, Female feticide, Violence against women, Domestic violence, Sexual Harassment, Trafficking, Access to education, Marriage. Remedial Measures – Acts related to women: Political Right, Property Rights, and Rights to Education, Medical Termination of Pregnancy Act, and Dowry Prohibition Act.

UNIT IV	**9**

HUMAN RIGHTS: Human Rights Movement in India – The preamble to the Constitution of India, Human Rights and Duties, Universal Declaration of Human Rights (UDHR), Civil, Political, Economical, Social and Cultural Rights, Rights against torture, Discrimination and forced Labour, Rights and protection of children and elderly. National Human Rights Commission and other statutory Commissions, Creation of Human Rights Literacy and Awareness. - Intellectual Property Rights (IPR). National Policy on occupational safety,

occupational health and working environment

UNIT V		9

GOOD GOVERNANCE AND ADDRESSING SOCIAL ISSUES:

Good Governance - Democracy, People's Participation, Transparency in governance and audit, Corruption, Impact of corruption on society, whom to make corruption complaints, fight against corruption and related issues, Fairness in criminal justice administration, Government system of Redressal. Creation of People friendly environment and universal brotherhood.

LECTURE	TUTORIAL	PRACTICAL	TOTAL
45	-	-	45

REFERENCES:

1. Aftab A, (Ed.), Human Rights in India: Issues and Challenges, (New Delhi: Raj Publications, 2012).
2. Bajwa, G.S. and Bajwa, D.K. Human Rights in India: Implementation and Violations (New Delhi: D.K. Publications, 1996).
3. Chatrath, K. J. S., (ed.), Education for Human Rights and Democracy (Shimala: Indian Institute of Advanced Studies, 1998).
4. Jagadeesan. P. Marriage and Social legislations in Tamil Nadu, Chennai: Elachiapen Publications, 1990).
5. Kaushal, Rachna, Women and Human Rights in India (New Delhi: Kaveri Books, 2000)
6. Mani. V. S., Human Rights in India: An Overview (New Delhi: Institute for the World Congress on Human Rights, 1998).

XGL201			ENGLISH FOR EFFECTIVE COMMUNICATION	L	T	P	SS	C
				2	0	0	2	2
C	P	A		L	T	P	SS	H
1.5	0	0.5		2	0	0	2	4

PREREQUISITE: Nil

	COURSE OUTCOMES	DOMAIN	LEVEL
On the successful completion of this course students would be able to			
CO1	Ability to **identify** the features of a technical project report and Knowledge on the linguistic competence to write a technical report	Cognitive	Create
CO2	Ability to ***integrate*** both technical COURSE skill and language skill to write a project.	Cognitive	Understand
CO3	Confidence to **present** a project in 10 to 15 minutes	Cognitive	Create
CO4	The learner ***identifies*** and absorbs the pronunciation of sounds in English Language and learns how to mark the stress in a word and in a sentence properly	Cognitive	Create
CO5	The program enables the speaker speaks clearly and fluently with confidence and it trains the learner to listen actively and critically.	Psychomotor	Perception

UNIT I	**6**
Basic principles of good technical writing, Style in technical writing, out lines and abstracts, language used in technical writing: technical words, jargons etc	
UNIT II	**6**
Special techniques used in technical writing: Definition, description of mechanism, Description of a process, Classifications, division and interpretation	
UNIT III	**6**
Report/ project layout the formats: chapters, conclusion, bibliography, annexure and glossary, Graphics aids etc - Presentation of the written project 10 – 15 minutes	
UNIT IV	**6**
Sounds of English Language; vowels, consonants, diphthongs , word stress, sentence stress, intonation patterns, connected speech etc. - Vocabulary building – grammar, synonyms and antonyms, word roots, one-word substitutes, prefixes and suffixes, idioms and phrases.	
UNIT V	**6**
Reading comprehension – reading for facts, meanings from context, scanning, skimming, inferring meaning, critical reading, active listening, listening for comprehension etc.	

LECTURE	TUTORIAL	SS	TOTAL
30	-	30	60

REFERENCES:

1. Technical Writing – April, 1978, by **Gordon H. Mills** (Author), **John A. Walter** (Author).
2. **Effective Technical Communication**: A guide for scientists and Engineers. Author: Barun K. Mitra, Publication: Oxford University press. 2007.

Software for lab:
English Teaching software (Young India Films)

XES202			ENVIRONMENTAL STUDIES	L	T	SS	C
				2	0	1	2
C	P	A		L	T	SS	H
1.5	0	0.5		2	0	1	3

PREREQUISITE: Nil

	COURSE OUTCOMES	DOMAIN	LEVEL
On the successful completion of this course students would be able to			
CO1	***Describe*** the significance of natural resources and ***explain*** anthropogenic impacts.	Cognitive	Remember Understand
CO2	***Illustrate*** the significance of ecosystem, biodiversity and natural geo bio chemical cycles for maintaining ecological balance.	Cognitive	Understand
CO3	***identify*** the facts, consequences, preventive measures of major pollutions and ***recognize*** the disaster phenomenon	Cognitive Affective	Reasoning Receiving
CO4	***Explain*** the socio-economic, policy dynamics and ***practice*** the control measures of global issues for sustainable development.	Cognitive	Understand Analyze
CO5	***Recognize*** the impact of population and the concept of various welfare programs, and ***apply*** the modern technology towards environmental protection.	Cognitive	Understand Apply

UNIT I	**INTRODUCTION TO ENVIRONMENTAL STUDIES AND ENERGY**	**6**

Definition, scope and importance – Need for public awareness – Forest resources: Use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forests and tribal people – Water resources: Use and over-utilization of surface and ground water, flood, drought, conflicts over water, dams-benefits and problems – Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies – Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies – Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources, case studies – Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification – Role of an individual in conservation of natural resources – Equitable use of resources for sustainable lifestyles.

UNIT II	**ECOSYSTEMS AND BIODIVERSITY**	**6**

Concept of an ecosystem – Structure and function of an ecosystem – Producers, consumers and decomposers – Energy flow in the ecosystem – Ecological succession – Food chains, food webs and ecological pyramids – Introduction, types, characteristic features, structure and function of the (a) Forest ecosystem (b) Grassland ecosystem (c) Desert ecosystem (d) Aquatic ecosystem (ponds, streams, lakes, rivers, oceans, estuaries) – Introduction to Biodiversity – Definition: genetic, species and ecosystem diversity - Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.

UNIT III	**ENVIRONMENTAL POLLUTION**	**6**

Definition – Causes, effects and control measures of: (a) Air pollution (b) Water pollution (c) Soil pollution (d) Marine pollution (e) Noise pollution (f) Thermal pollution (g) Nuclear hazards – Solid waste

management: Causes, effects and control measures of urban and industrial wastes – Role of an individual in prevention of pollution – Pollution case studies – Disaster management: flood, earthquake, cyclone and landslide.

UNIT IV	ENERGY AND WATER CONSERVATION	6

Urban problems related to energy – Water conservation, rain water harvesting, watershed management – Resettlement and rehabilitation of people; its problems and concerns, climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust, Wasteland reclamation – Consumerism and waste products – Environment Protection Act – Air (Prevention and Control of Pollution) Act – Water (Prevention and control of Pollution) Act – Wildlife Protection Act – Forest Conservation Act – Issues involved in enforcement of environmental legislation – Public awareness

UNIT V	HUMAN POPULATION AND THE ENVIRONMENT	6

Population growth, variation among nations – Population explosion – Family welfare programme – Environment and human health – Human rights – Value education - HIV / AIDS – Women and Child welfare programme– Role of Information Technology in Environment and human health – Case studies.

LECTURE	SS	PRACTICAL	TOTAL
30	15	-	45

TEXT BOOKS

1. Miller T.G. Jr., Environmental Science, Wadsworth Publishing Co, USA, 2000.
2. Townsend C., Harper J and Michael Begon, Essentials of Ecology, Blackwell Science, UK, 2003
3. Trivedi R.K and P.K.Goel, Introduction to Air pollution, Techno Science Publications, India, 2003.

REFERENCES:

1. Trivedi R.K., Handbook of Environmental Laws, Rules, Guidelines, Compliances and Standards, Vol. I and II, Enviro Media, India, 2009.
2. Cunningham, W.P.Cooper, T.H.Gorhani, Environmental Encyclopedia, Jaico Publ., House, Mumbai, 2001.
3. S.K.Dhameja, Environmental Engineering and Management, S.K.Kataria and Sons, New Delhi, 2012.
4. Sahni, Disaster Risk Reduction in South Asia, PHI Learning, New Delhi, 2003.
5. Sundar, Disaster Management, Sarup& Sons, New Delhi, 2007.
6. G.K.Ghosh, Disaster Management, A.P.H.Publishers, New Delhi, 2006.

E RESOURCES

1. http://www.e-booksdirectory.com/details.php?ebook=10526
2. https://www.free-ebooks.net/ebook/Introduction-to-Environmental-Science
3. https://www.free-ebooks.net/ebook/What-is-Biodiversity
4. https://www.learner.org/courses/envsci/unit/unit_vis.php?unit=4
5. http://bookboon.com/en/pollution-prevention-and-control-ebook
6. http://www.e-booksdirectory.com/details.php?ebook=8557

XAM203			DIGITAL ART AND DESIGNING	L	T	P	C
				3	0	2	5
C	P	A		L	T	P	H
3	2	0		3	0	4	7

PREREQUISITE: Animation Art

COURSE OUTCOMES		DOMAIN	LEVEL
After the completion of the course, students will be able to			
CO1	***Recognize*** the concept of design principles.	Cognitive	Remember
CO2	***Sketch*** an art using different tools.	Cognitive	Apply
CO3	***Examine*** various perspectives of drawing.	Cognitive	Apply
CO4	***Describe*** the various methods of drawings.	Cognitive	Remember
CO5	***Design*** a fine art using appropriate properties and methodologies.	Cognitive Psychomotor	Analyze Set

UNIT I	INTRODUCTION	9+12

The creative impulse - Looking at life and art – thinking about life and art : recording and communicating - understanding art-Line, communication, and the impulse to order – characteristics of line –directionality of line-line and shape – line and value – line and texture – interpretation of the quality of line – closure and continuity – the expressive language of line.

Lab Practical –I,

1. Basic drawing and all line drawings.
2. Texture creative drawing.
3. Stick figure drawing.

UNIT II	SHAPES	9+12

Shapes - terms with shape – types of shape – positive and negative shapes – the shaped canvas – shape as icon. Value: Shades of gray – descriptive and expressive properties of value.

Lab Practical –II,

13. All shapes drawing.
14. Still life drawing.
15. Creative Repeat drawing.

UNIT III	COLOR AND LIGHT	9+12

Color and light – properties of color – color mixing- color and Principles of Design – color schemes – other uses of color Texture: Types of Texture – texture and design – texture as subject-Space-actual Space – multiple perspectives – amplified perspective – parallel perspective.

Lab Practical –II,

16. Perspective drawings, Basic Colors.
17. Color wheel-hue, saturation, value.
18. Perspective drawings.

UNIT IV	ACTUAL MOTION	9+12

Actual motion – implied motion - illusion of motion – time and motion in film and video – Unity and Variety: Ways to achieve unity – unity with variety - conceptual and symbolic unity and disunity.

Lab Practical –II,

19. Layout drawing.
20. Storyboard and animatics drawing.
21. Pen drawing.

UNIT V	EMPHASIS AND FOCAL POINT	9+12

Emphasis and focal point- Relationships between emphasis and focal point – methods of creating emphasis and focal point – multiple focal points – degree of emphasis – absence of focal point- Balance and Rhythm: actual balance and pictorial balance – pictorial balance – types of balance – achieving balance in asymmetrical compositions – all over pattern – imbalance – types of rhythm - Scale – proportion.

Lab Practical –II,

22. Life study drawing.
23. Nature study drawing.
24. Creative drawing.

LECTURE	TUTORIAL	PRACTICAL	TOTAL
45	-	60	105

REFERENCES:

1. Louis Fichner Rathus, 2007, Foundations of art & design, Wadsworth Publishing Co Inc.
2. Alan Pipes, 2004, Foundations of art + design, Laurence King Publishing.
3. www.slideshare.net.
4. www.proko.com

Mapping of Course Outcomes (CO) with Programme Outcomes (PO):

B.Sc. A&M	PO							PSO	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**1**	**2**
CO1	3	2	1	0	1	1	1	1	1
CO2	2	2	3	2	1	2	2	1	1
CO3	1	1	2	1	2	1	1	1	1
CO4	1	1	2	1	2	3	1	1	1
CO5	1	1	2	1	2	2	1	1	1
AVG	**2**	**1**	**2**	**1**	**2**	**2**	**1**	**1**	**1**

3–High Relation, 2–Medium Relation, 1–Low Relation, 0–No Relation

XAM204			DIGITAL PHOTOGRAPHY	L	T	P	C
				3	0	2	5
C	P	A		L	T	P	H
3	2	0		3	0	4	7

PREREQUISITE: Nil

	COURSE OUTCOMES	DOMAIN	LEVEL
	After the completion of the course, students will be able to		
CO1	***Recognize*** the concept of Photography.	Cognitive	Remember
CO2	***Know*** an art using different type of photography.	Cognitive	Apply
CO3	***Examine*** various digital image and processing.	Cognitive	Apply
CO4	***Describe*** the various methods of image retouching	Cognitive	Remember
CO5	***Design*** a photo story for visualization.	Cognitive Psychomotor	Analyze Set

UNIT I	INTRODUCTION	9+12

Basics of Photography –Aperture - Shutter Speed – ISO - Balancing Exposure - Scene Modes - Exposure Compensation – Histogram - RGB/CMYK Color Model - Basic White Balance - Depth of field - Half Press Focus - Composition (Rule of Thirds).

Lab: Rule of Thirds

Composition

UNIT II	TYPES OF PHOTOGRAPHY	9+12

Travel Photography & Focusing and Bracketing - Portraiture Photography & Flash Photography - Sports & Nature photography - Macro Photography & Panning and Metering Modes - Outing Portrait - Night Photography & Photography Effect - Night & Events Outing - Basic Studio processing.

Lab: Landscape

Candid Shots

UNIT III	DIGITAL IMAGE AND PROCESSING	9+12

Digital image method of storing and processing digital image:Raster and Vector method - Representation of digital image: Resolution – Pixel Depth - – Pixel Aspect Ratio – Dynamic Colour Range – File Size – Colour Models – Image Compression – File Formats – Calculating image resolution for outputs.

Lab: Portraits

Panorama

UNIT IV	DIGITAL RETOUCHING & IMAGE ENHANCEMENT	9+12

Image size – Resolution – Selection tools and techniques – History – Retouching tools – Layers

– Photo mounting - techniques – Incorporation of text into picture. Digital Manipulation: Applying selective effects to images and filters with masks and different digital darkroom effects.

Lab: Images Retouching

UNIT V	PHOTO STORY VISUALIZATION	9+12

Visualization - Concept development - Creativity - One line story - Composition - Camera Movements - Shot - Scene - Atmosphere and Mood - Light and Color

Lab: Stop motion animation

LECTURE	TUTORIAL	PRACTICAL	TOTAL
45	-	60	105

REFERENCES:

1. Galer.M, 2015, "Introduction to Photography", First Edition, Focal Press, France.
2. Miller 2008 "Digital Story telling" Focal Press (Elsevier)
3. Julian Calder, John C Carrett - "The 35 mm Photographer's hand book", Marshall edition London,1999
4. John Cant Antine and Julia Valice - " The Thames –" Hudson manual of Professional Photography", Thames- Hudson, 1983.
5. Tom Ang- " Digital Photography", Mitchell Beazley, Octupus Publishing group Ltd London. UK 2001.
6. Anchell.S, 2015, "Digital Photo Assignments", First Edition, Focal Press, France.

Mapping of Course Outcomes (CO) with Programme Outcomes (PO):

B.Sc. A&M	PO							PSO	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**1**	**2**
CO1	3	2	1	0	1	1	1	1	1
CO2	2	2	3	2	1	2	2	1	1
CO3	1	1	2	1	2	1	1	1	1
CO4	1	1	2	1	2	3	1	1	1
CO5	1	1	2	1	2	2	1	1	1
AVG	**2**	**1**	**2**	**1**	**2**	**2**	**1**	**1**	**1**

3–High Relation, 2–Medium Relation, 1–Low Relation, 0–No Relation

XAM205			VISUAL DESIGN	L	T	P	C
				4	1	0	5
C	P	A		L	T	P	H
4	1	0		4	1	0	5

PREREQUISITE: Nil

COURSE OUTCOMES		DOMAIN	LEVEL
After the completion of the course, students will be able to			
CO1	***Recognize*** the visual effects basics and its types.	Cognitive	Remember
CO2	***Summarize*** and ***Classify*** the fluid and fire effects with other effects.	Cognitive Psychomotor	Understand Perception
CO3	***Comparing*** the paint effects and liquid effects with other effects.	Cognitive Cognitive	Understand Analyze
CO4	***Implementing*** and ***applying*** special effects with Visual Effects.	Cognitive	Understand
CO5	***Experimenting*** and ***checking*** the visual effects in 2D and 3D effects.	Cognitive	Create

UNIT I	INTRODUCTION	15

Visual Effects- Description- Types- Particles – Analysis- Size- Sand Effects – Smoke Effects Fire Effects – Cloud Effects – Snow Effects.

UNIT II	FLUID EFFECTS	15

Fluid Effects-Coloring- designing Clouds Background – Designing Fog Effects – Explosion Effects– Fire Effects with flames - Space Effects and designs- Designing Thick Smoke.

UNIT III	PAINT EFFECTS	15

Designing Paint Effects – Coloring paints- Designing Trees and green effects – Designing Weather and seasons –Effects on seasons- Designing Glass image – Designing Different glass reflection- Designing Glow Effects – Liquid Effects and Reflection design.

UNIT IV	SPECIAL EFFECT	15

Special effect – Acquisition shooting progress – common types of special effects – Designing effects of Hair and shape – Designing Fur Effects- Designing Clothes and effects.

UNIT V	VISUAL EFFECTS TOOL AND ADVANCED FUNCTIONS	15

Visual Effects Tool and advanced functions– Converting images from 2D to 3D Pictures – Creating 3D Effects- Differentiation 2D effects and 3D effects.

LECTURE	TUTORIAL	PRACTICAL	TOTAL
60	15		75

REFERENCES:

1. Visual Effects Cinematography Zoran Perisic, The Morgan Kaufmann Series in Computer Graphics,2012.
2. The Art and Science of Digital Compositing (The Morgan Kaufmann Series in Computer Graphics) by Ron Brinkmann ,2011.Doug sahlin, Flash MX Action script for designers, Wiley publishing, 2002.
3. Visual effect Society (VES), Jeffrey A. Okun, Susan Zwerman, 2010, Elsevier inc.

Mapping of Course Outcomes (CO) with Programme Outcomes (PO):

B.Sc. A&M	PO							PSO	
	1	2	3	4	5	6	7	1	2
CO1	2	2	2	2	2	2	2	1	1
CO2	2	2	3	2	3	2	2	1	1
CO3	2	2	2	3	2	2	2	1	1
CO4	2	2	2	2	2	2	2	2	1
CO5	3	2	2	3	2	2	3	3	1
AVG	2	2	2	2	2	2	2	1	1

3–High Relation, 2–Medium Relation, 1–Low Relation, 0–No Relation

XAM301			DIGITAL IMAGING SKILLS	L	T	P	C
				1	0	1	2
C	P	A		L	T	P	H
1	0.75	0.25		1	0	2	3

PREREQUISITE: Nil

COURSE OUTCOMES		DOMAIN	LEVEL
After the completion of the course, students will be able to			
CO1	***Describe and Express*** basic concepts in Digital imaging.	Cognitive	Remember Understand
CO2	***Identify and Interpret*** fundamentals of image file formats.	Cognitive	Remember Understand
CO3	***Compose and Formulate*** digital image production	Psychomotor Affective	Origination Organization
CO4	***Identify and Explain*** the common image production	Cognitive	Knowledge Evaluation
CO5	***Initiate and Organize a*** colour image processing and compression.	Psychomotor Affective	Origination Organization

UNIT I	**DIGITAL IMAGING BASICS**	**3+6**

What is digital imaging - What is image -Bitmaps and Pixmaps - Representing grey levels or color – RGB Colour space – Digital output media – Image as surface – Usage of different colours – Computing negative image – Contrast and brightness.
Lab:
Image Restoration

UNIT II	**IMAGE FORMATS**	**3+6**

Raster graphics and vector graphics – Vector graphics format – Raster graphics format – File formats
Lab:
File formats saving

UNIT III	**DIGITAL IMAGE PRODUCTION**	**3+6**

Resolution – PPI – Pixels – DPI – Lossy vs Loseless – RGB vs CMYK – Production of digital images – Image file size.
Lab:
Creating images

UNIT IV	**COMMON IMAGE EDITING**	**3+6**

Cropping – Resizing – Batch processing – Removing red eye – File management – ACDSee, Picasa – Rasterising.
Lab:
Image manipulation

UNIT V	**COLOUR IMAGE PROCESSING AND COMPRESSION**	**3+6**

Colour Fundamentals – colour models – colour transformation – image sharpening – noise removal– Compression – meaning – various methods of compression – Exporting output.
Lab:
Colour correction

LECTURE	TUTORIAL	PRACTICAL	TOTAL
15	0	30	45

REFERENCES:

1. Michale Langford "Basic Photography",FocalPressOxford Auckland Boston Johannesburg Melbourne New Delhi (UNIT : I, II and III)
2. David E Elkins , "The Camera Assistant's Manual "Focal PressOxford Auckland Boston Johannesburg Melbourne New Delhi (UNIT : IV and V)
3. David Samuelson,2009 , "Motion Picture Camera Techniques"
4. Verne Carlson,2003 ,"The Professional Lighting Handbook"
5. Blain Brown,2003,"The Filmmakers Pocket Reference"

Mapping of Course Outcomes (CO) with Programme Outcomes (PO):

B.Sc. A&M	PO							PSO	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**1**	**2**
CO1	2	2	3	2	2	1	1	1	2
CO2	2	2	3	2	2	1	1	1	2
CO3	2	1	2	1	1	1	1	1	2
CO4	1	1	1	2	1	2	2	1	2
CO5	3	2	2	3	3	1	1	1	2
AVG	**2**	**2**	**2**	**2**	**2**	**1**	**1**	**1**	**2**

3–High Relation, 2–Medium Relation, 1–Low Relation, 0–No Relation

XAM302			CHARACTER & ENVIRONMENT SKETCHING	L	T	P	C
				2	0	2	4
C	P	A		L	T	P	H
2	2	0		2	0	4	6

PREREQUISITE: Animation Art

COURSE OUTCOMES		DOMAIN	LEVEL
After the completion of the course, students will be able to			
CO1	***Recognize*** the significance of Pencil Drawing.	Cognitive	Remember
CO2	***Express*** the different ways of line drawing perspective in Pencil drawing.	Cognitive	Understand
CO3	***Employ*** the understanding of the lights in Pencil drawing.	Cognitive	Apply
CO4	***Utilize*** the various shading methods effectively in making the realistic drawings.	Cognitive	Apply
CO5	***Design*** and ***Draw*** the drawings using different types of pencils.	Cognitive Psychomotor	Create Set

UNIT I	**HISTORY OF PENCIL DRAWING**	**6+12**

Materials and Tools: Choosing the Right Kind and Quality-Pencil, Eraser, Drawing Pad, Drawing board, Paper Stumps or Cone Blenders, Pencil, Ruler Sharpener. BASICS IN DRAWING AND SKETCHING-The Different types of Pencil Grips-Tripod Grip, Extended Grip, Underhand Grip, And Overhand Grip.

Lab Practical –I

1. Basic drawing
2. Human Anatomy drawing
3. Landscape drawing

UNIT II	**LINES PERSPECTIVE**	**6+12**

Lines-Flat Lines, Accent Lines, Contour Lines, Scumble/Scribbling, Cross Hatch Line ,Smudge Pointillism. Basic Perspectives in Drawing- An Introduction on Perspectives - Linear perspective, Zero Point Perspective, One Point perspective ,Two Point Perspective ,Three-Point perspective, Isometric Perspective ,Atmospheric Perspective. Basic Drawing Shapes.

Lab Practical –II

4. All Shapes drawing
5. Perspective drawing

UNIT III	**LIGHTING**	**6+12**

Basic Elements of Light, Shadows, and Shading - Light, Shadows and Shadow Box. Constructing a Simple Shadow box, Kinds and Quality of Light, Hard Light, Soft light. Basic Elements of Shading - The Highlight or Full Light, The Cast Shadow, The Halftone The Reflected Light, The Shadow Edge.

Lab Practical –III

1. Still life Drawings.
2.Outdoor drawing

UNIT IV	**SHADING**	**6+12**

Different Shading Techniques - Regular Shading, Irregular Shading, Circular Shading, directional Shading. Add Tones and Values -Tips on Tones and Values, Examples on Shading.

Lab Practical –IV

1. Types of Shade, Tones
2. Color, Color wheel, Hue, Saturation, value.

UNIT V	**FINISHING TOUCHES**	**6+12**

Erasing and Dusting, Mixed Media Applications -Watercolor Pencils, Oil Colored Pencils, Drawing with Pencils in Oil Painting, Pen and Ink Drawing, Wall Painting, Cartoon Drawing , Tips to Draw Faster.

Lab Practical –V

1. Water color work
2.Oil color work
3. Pen &Ink Drawing

LECTURE	**TUTORIAL**	**PRACTICAL**	**TOTAL**
30	**-**	**60**	**90**

REFERENCES:

1. Pencil Drawing - A Beginner's Guide (e-book) – http://nicheempires.com.
2. Basic Drawing Techniques by Richard Box Pub: Winsor &Newton, (U.S.A)
3.The Complete Book of drawing techniques -a professional guide for the artist by Peter Stanyer.
4. Still Life by Sanjay Shelar, JyotsanaPrakashan(India).Pub.
5. Drawing and Anatomy by Victor Perard , Kingsport Press Pub(U.K).
6. https://in.pinterest.com/explore/environment-sketch
7. www.craftsy.com / Online Classes/Art & Photo.

Mapping of Course Outcomes (CO) with Programme Outcomes (PO):

B.Sc. A&M	**PO**							**PSO**	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**1**	**2**
CO1	3	2	3	2	2	1	2	1	2
CO2	2	3	2	2	1	2	0	1	1
CO3	2	2	3	1	2	1	1	2	3

CO4	3	2	1	3	1	2	2	1	1
CO5	2	1	3	2	0	1	1	2	3
AVG	**2**	**2**	**3**	**2**	**1**	**1**	**1**	**1**	**2**

3–High Relation, 2–Medium Relation, 1–Low Relation, 0–No Relation

XAM 303			**AUDIO AND VIDEO EDITING**	**L**	**T**	**P**	**C**
				4	**0**	**1**	**5**
C	**P**	**A**		**L**	**T**	**P**	**H**
4	**1**	**0**		**4**	**0**	**2**	**6**

PREREQUISITE: Computer Fundamentals

COURSE OUTCOMES		**DOMAIN**	**LEVEL**
After the completion of the course, students will be able to			
CO1	***Recognize*** the basics and objectives of editing.	Cognitive	Remember
CO2	***Discuss*** the various types of editing.	Cognitive	Understand
CO3	***Explain*** 2D and 3D graphics.	Cognitive	Apply
CO4	***Classify*** various elements of audio.	Cognitive	Analyze
CO5	***Describe*** the procedure for format conversion.	Psychomotor	Perspective

UNIT I **INTRODUCTION** **12+6**

Concept and Objectives of Editing, Software and tools, Continuity and Jerk Enter and Exit in Frame, Title, Credits and Sounds. Sound editing, mixing sound, laying sound tracks, syncing sound and picture. Capturing video. Editing techniques for News, Documentary and Fiction and Ad Film.

Lab

1. Touring in to software
2. Setting up a project
3. Workspace

UNIT II **ELEMENTS OF THE EDITING** **12+6**

Picture transitions and their use, Elements of the editing, motivation, information, shot composition sound, camera angle, continuity. Types of the editings, action edit, and screen position edit, form edit, dynamic edit. Do's and don'ts of editing. Voice over and sound bytes, dubbing and mixing of sound. Computer hardware for editing.

Lab

1. Settings, Preferences and Managing Assets
2. Creating Videos
3. Creating Audios

UNIT III **ON LINE EDITING** **12+6**

On line editing in a multi-camera TV programme production. TV Graphics and Animation:

Theory and Practice Elements of 2D Graphic Elements of 3D Graphics. 3D Modeling. 3D Animation. Special effects creation, Environmental special effects Lighting camera and texturing. Introduction to virtual sets. Film Analysis: The Editor's point of view Extensive sound recording, video editing, graphics and animation practical's. Participation in production exercises.

Lab

1. Adding Transitions
2. Exporting frames, clips and sequences
3. Applying Effects, Color Correction, and Opacity

UNIT IV	INTRODUCTION TO SOUND	12+6

Sound, Digital sound files, different sound formats, midi and digital audio, creating digital audio files, sound producing, sound extracting, Advantages and disadvantages of midi and digital, choosing between midi and Digital audio. Linking files: Sound for the World Wide Web, adding the sound to your multimedia project, production tips, audio recording, keeping track of your sound, testing and evaluation.

Lab

1. Adding audio effects
2. Editing and mixing audio
3. Adding video effects

UNIT V	RECORD CLIPS AND EDITING	12+6

Sound recording, editing digital recording, trimming, splicing and assembly, volume adjustments, format conversion, re sampling or downloading, fade-ins and fade - outs, equalization, time stretching, digital signal processing, reverting sound, making midi audio, audio file formats.

Lab

1. Creating Dynamic titles
2. Applying specialized editing tool
3. Integrating software with other applications

LECTURE	TUTORIAL	PRACTICAL	TOTAL
60	-	30	90

REFERENCES:

1. Editing Today: Smith, Ron F. and O'Connell, L.M, Published 2003, Blackwell Publishing
2. Nonlinear Editing: Media Mannel; Morris, Patrick, Published 1999 Focal Press.
3. Basic Elements of Filmmaking II Handbook, UW-Milwaukee Department of Film, 2004 Rob Danielson.
4. Audio system guide Video and film production by Chris Lyons, A shure Educational Publication
5. Filmmaking Guide by Tom Barrance ref:www.intofilm.org
6. http://www.amazon.in/Digital-Audio-Editing-Correcting-Enhancing/dp/0415829585
7. http://www.apress.com/9781484216477
8. http://www.amazon.com/Editing-Digital-Video-Complete-Technical/dp/0071406352

9. http://www.amazon.com/Audio-Video-Editing-Books/b?ie=UTF8andnode=15375301
10. http://www.amazon.in/The-Technique-Film-Video-Editing/dp/0240813979
11. https://opensource.com/resources/ebook/video-editing

Mapping of Course Outcomes (CO) with Programme Outcomes (PO):

B.Sc. A&M	**PO**							**PSO**	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**1**	**2**
CO1	3	1	2	2	2	1	1	1	1
CO2	2	1	2	1	2	1	1	2	1
CO3	1	1	1	1	1	1	1	3	1
CO4	1	0	1	1	2	1	1	1	1
CO5	1	1	2	1	1	2	3	2	1
AVG	**2**	**1**	**2**	**1**	**2**	**1**	**1**	**2**	**1**

3–High Relation, 2–Medium Relation, 1–Low Relation, 0–No Relation

XAM304			2D ANIMATION	L	T	P	C
				2	0	2	4
C	P	A		L	T	P	H
2	1.75	0.25		2	0	4	6

PREREQUISITE: Nil

	COURSE OUTCOMES	DOMAIN	LEVEL
After the completion of the course, students will be able to			
CO1	***Recognize*** the significance of 2D Animation.	Cognitive	Remember
CO2	***Summarize*** the knowledge on animation software and ***detect*** about the animation software.	Cognitive Psychomotor	Understand Perception
CO3	***Manipulate*** the symbols and text to animate, and ***identify*** and tested the animated symbols and text.	Cognitive Affective	Application Receiving
CO4	***Know*** about the action script used in animation software.	Cognitive	Understand
CO5	***Design*** and test the animation in web.	Cognitive	Create

UNIT I	INTRODUCTION TO 2D ANIMATION	6+12

Basic Animation – Principles of Animation - Animation Types – 2D Animation – Understanding - Animation workflow - 2D animation software's – Introduction to animation software.

Lab:

1. Tweening
2. Bouncing ball Animation

UNIT II	GETTING STARTED	6+12

Understanding about the Timeline – Organizing about the Timeline – using of tools panel –preview the animated movie – modify the content and stage – saving your movie– publishing your movie –- understanding strokes and fills - creating with shapes – editing shapes – working with graphics.

Lab:

1. Character Design
2. Walk cycle – Frame by frame

UNIT III	MANIPULATING SYMBOLS AND ANIMATE	6+12

Create the Symbols – Editing and managing symbols – change the size, position and color effects with instances – applying filter with special effects – Animation – Animating position– changing the pacing and timing – Animating transparency – filter – transformation – changing the path of the

motion – nested animation – testing the animation.

Lab:

1. Bone animation
2. Run Cycle

UNIT IV	ACTION SCRIPT	6+12

Introduction to Action script – Language basics – Data types –working with display object –error handling – networking basics and security – programming vector, bitmap graphics –Scripting animation – deploying flash on web.

Lab:

1. Bird Cycle
2. Animal cycle

UNIT V	WORKING WITH AUDIO, VIDEO AND CONTROLLING FLASH CONTENT AND PUBLISH FLASH DOCUMENT	6+12

Import sound files – edit sound files – audio and video encoding options – use cue points – embed video– Load and display external files – Control the movie clip timeline – test document – publish the document – publish project for web –Test project with mobile interactions – other 2d animation tools.

Lab:

1. .Pyrotechniques
2. Environmental animation

LECTURE	TUTORIAL	PRACTICAL	TOTAL
30	-	60	90

REFERENCES:

1. Cartoon Animation (How to Draw and Paint series) by Preston Blair.
2. Adobe Flash Professional CS6 Classroom in a Book, by adobe systems
3. Doug sahlin, Flash MX Action script for designers, Wiley publishing, 2002.
4. Roger braunstein, Action script 3.0 Bible, Second edition, Wiley publishing inc, 2010.
5. www.w3schools.com
6. www.tutorialspoint.com

Mapping of Course Outcomes (CO) with Programme Outcomes (PO):

B.Sc. A&M	PO							PSO	
	1	2	3	4	5	6	7	1	2
CO1	2	1	1	1	1	2	1	1	1
CO2	3	2	2	2	2	2	2	2	1
CO3	2	2	2	2	3	2	2	2	1
CO4	3	2	2	2	2	2	2	3	1
CO5	3	3	3	3	3	3	3	3	1

AVG	**3**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**1**

3–High Relation, 2–Medium Relation, 1–Low Relation, 0–No Relation

XAM305			**Motion Graphics**	**L**	**T**	**P**	**C**
				2	**0**	**2**	**4**
C	**P**	**A**		**L**	**T**	**P**	**H**
2	**1.75**	**0.25**		**2**	**0**	**4**	**6**

PREREQUISITE: Nil

	COURSE OUTCOMES	**DOMAIN**	**LEVEL**
After the completion of the course, students will be able to			
CO1	***Define*** and ***describe*** the scope of the motion graphics industry.	Cognitive	Remember
CO2	***Demonstrate*** unique characteristics motion graphics as conveyed by design principles such as form, legibility and context.	Cognitive Psychomotor	Understand Perception
CO3	***Manipulate*** the symbols and text to animate, and ***identify*** and tested the animated symbols and text.	Cognitive Affective	Application Receiving
CO4	***Know*** about the action script used in animation software.	Cognitive	Understand
CO5	***Design*** and test the animation in web.	Cognitive	Create

UNIT I	**INTRODUCTION TO MOTION GRAPHICS**	**6+12**

A Brief history of motion graphics, Motion graphics in Film and Television, Motion graphics in Interactive Media, Motion graphics in the environment, difference between static graphics and time-based motion graphics.

Lab:

Create a Kinetic info graphics

UNIT II	**MOTION LITERACY**	**6+12**

The Language of motion, Spatial considerations, temporal considerations, coordinating movement, visual properties, image considerations, Live Action Considerations, Typographic considerations, Integrating Images, Live-Action, and Type.

Lab:

Multiplaning a single image

UNIT III	**DESIGN BOARDS**	**6+12**

A brief history of Style Frames, Background of style frames, Visual patterns, Stylistic guides, The importance of Design Boards, Using Design Boards, Authors Reflection, Unified Visual Aesthetic, Developing concepts- Creative Briefs- Types, need, Concept Development.

Lab:

Create a Infographics with motion/ animation main timeline and buttons

UNIT IV	PICTORIAL COMPOSITION	6+12

		L	T	P	C

Space and composition: An overview, principles of composition, constructing space, Image making and Design for motion, Composition- Hierarchy of Visual importance, Positive space, negative space, symmetry and asymmetry, value, color, contrast, depth.

Lab:

Supply storyboards and/or initial designs that depict the look and feel, flow, and overall execution of your project.

UNIT V	CINEMATIC CONVENTIONS, THUMBNAIL SKETCHES, AND HAND DRAWN STORYBOARDS	6+12

Cinematic convention, cinematic elements of design board, Thumbnail sketches, hand-drawn storyboards-working with story boards, story board and continuity, storyboard usage.

Lab:

Communicate with using Special Effects, such as virtual 3D, lighting & camera

LECTURE	TUTORIAL	PRACTICAL	TOTAL
30	-	60	90

REFERENCES:

1. Jon S. Krasner, "Motion Graphic Design: Applied History and Aesthetics", Focal Press, 2008
2. Austin Shaw, "Design for Motion: Fundamentals and Techniques of Motion Design", Focal Press, 2016
3. Ian Crook, Peter Beare, "Motion Graphics- Principles and Practices from the Ground Up", first edition, 2015

Mapping of Course Outcomes (CO) with Programme Outcomes (PO):

B.Sc. A&M	PO							PSO	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**1**	**2**
CO1	2	1	1	1	1	2	1	1	1
CO2	3	2	2	2	2	2	2	2	1
CO3	2	2	2	2	3	2	2	2	1
CO4	3	2	2	2	2	2	2	3	1
CO5	3	3	3	3	3	3	3	3	1
AVG	**3**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**1**

3–High Relation, 2–Medium Relation, 1–Low Relation, 0–No Relation

				3	0	0	0
C	P	A		L	T	P	H
2.75	0	0.25		3	0	0	3

PREREQUISTE: Nil

Course Outcomes		Domain	Level
CO1	***Understand*** and ***Recognize*** the concepts of disaster	Cognitive	Understand Remember
CO2	***Recognize and describe*** the causes and effects of disaster	Cognitive	Understand Remember
CO3	***Describe*** the various approaches of risk reduction	Cognitive	Remember
CO4	***Demonstrate*** the inter-relationship between disaster and development	Cognitive	Understand
CO5	Discuss hazard and vulnerability profile of India and respond to drills related to relief	Cognitive Affective	Remember Response

UNIT - I	INTRODUCTION TO DISASTERS	6

Concepts and definitions- Disaster, Hazard, Vulnerability, Resilience, Risks

UNIT - II	DISASTERS: CLASSIFICATION, CAUSES, IMPACTS	12

Differential impacts- in terms of caste, class, gender, age, location, disability Global trends in disasters, urban disasters, pandemics, complex emergencies, Climate change

UNIT - III	APPROACHES TO DISASTER RISK REDUCTION	10

Disaster cycle - its analysis, Phases, Culture of safety, prevention, mitigation and preparedness community based DRR, Structural- nonstructural measures, roles and responsibilities of- community, Panchayati Raj Institutions/Urban Local Bodies (PRIs/ULBs), states, Centre, and other stake-holders.

UNIT - IV	INTER-RELATIONSHIP BETWEEN DISASTERS AND DEVELOPMENT	6

Factors affecting Vulnerabilities, differential impacts, impact of Development projects such as dams, embankments, changes in Land-use etc. Climate Change Adaptation. Relevance of indigenous knowledge, appropriate technology and local resources

UNIT - V	DISASTER RISK MANAGEMENT IN INDIA	11

Hazard and Vulnerability profile of India Components of Disaster Relief: Water, Food, Sanitation, Shelter, Health, Waste Management Institutional arrangements (Mitigation, Response and Preparedness, DM Act and Policy, Other related policies, plans, programmes and legislation).

The project / fieldwork to understand vulnerabilities work on reduction of disaster risk and build a cultural safety.

LECTURE	TUTORIAL	PRACTICAL	TOTAL
45			45

TEXT BOOKS:

1. Coppola P Damon, "Introduction to International Disaster Management, Butterworth-Heinemann, 2015
2. K. N. Shastri, "Disaster Management in India", Pinnacle Technology, 2012
3. Gupta Anil K, Sreeja S. Nair, "Environmental Knowledge for Disaster Risk Management, NIDM, New Delhi, 2011
4. Lee Allyn Davis, "Natural Disasters", Infobase Publishing, 2010

5. Andharia J, "Vulnerability in Disaster Discourse", JTCDM, Tata Institute of Social Sciences Working Paper no. 8, 2008

REFERENCES:

1. Alexander David, Introduction in 'Confronting Catastrophe', Oxford University Press, 2000
2. Carter, Nick 1991. Disaster Management: A Disaster Manager's Handbook. Asian Development Bank, Manila Philippines.

WEB SITES AND WEB RESOURCES:

1. NIDM Publications at http://nidm.gov.in- Official Website of National
2. Institute of Disaster Management (NIDM), Ministry of Home Affairs,
3. http://cwc.gov.in , http://ekdrm.net , http://www.emdat.be ,
4. http://www.nws.noaa.gov , http://pubs.usgs.gov , http://nidm.gov.ini
5. http://www.imd.gov.ini

Table 1: Mapping of CO with GA

Course outcomes	GA1	GA2	GA3	GA4	GA5	GA6	GA7	GA8	GA9	GA10	GA11	GA12
CO1	1					3	2	1				1
CO2	1					3	2	1				1
CO3	1					3	2	1				1
CO4	1					3	2	1				1
CO5	1					3	2	1				1
Total	**5**					**15**	**10**	**5**				**5**
Scaled	**1**					**3**	**2**	**1**				**1**

XAM 401	IMAGE EDITING SKILLS	L	T	P	C

				0	0	2	2
C	P	A		L	T	P	H
1	1	0		0	0	4	4

PREREQUISITE: Digital Imaging Skills

COURSE OUTCOMES		DOMAIN	LEVEL
After the completion of the course, students will be able to			
CO1	***Identify*** and ***describe*** the concept & objectives of Editing and software tools available.	Cognitive	Understand Remember
CO2	***Create*** new images using various effective tools using software packages.	Cognitive	Understand Remember Apply
CO3	***Develop*** their Knowledge and skills in image editing.	Cognitive Psychomotor	Apply Respond
CO4	***Renovate*** the damaged images files and export the files in various formats.	Cognitive	Remember Apply
CO5	***Create*** GIF animation, Business card, Advertisement Banner, Poster Presentation Banner.	Cognitive Psychomotor	Create organization

UNIT I INTRODUCTION — 12

Visual Design: Elements, Forms, Space, Time, Movements, Balance, Symmetry, Rhythm, Unity, Contrast and Scale. Visual Design Principles and its Functionality, Interactive Design: Characteristics of digital media interfaces**.**

Lab

1. Create a Paper work for a Advertising agency and a Commercial Organization on Logo, Visiting card, Letter head, Envelope and Poster design
2. Create a Paper work on 3 Dimensional Logos

UNIT II COLORS AND TYPOGRAPHIC — 12

About Colors and Typographic concepts for print, interactive and web media.

Lab

1. Create a Home page for a Advertising agency
2. Create a Button, Banner for WebPages

UNIT III MANAGING COLOURS — 12

Fundamentals of media elements and concepts of digital image editing. Getting to Know the Photoshop Interface, Using the Photoshop tools, Vector and Pixel, Bit Depth, Resolution, Image Color Corrections, Image Corrections, Black and white to Color Conversion.

Lab

1. Take a candid Black and white photo and convert that into color photo
2. Create a Logo, Visiting card, Letter head , Envelope and Poster design for Adverting agency and Commercial organization.

UNIT IV DIGITAL EFFECT — 12

Working with text objects, masks and Layer, Brushes, Paths, Graphics creation - brand and corporate identity manual, poster, brochure, label artwork presentation. Creative Logo Making, Filters and Blending Effects, 3D in Photoshop.

Lab

1. Create a Pamphlet
2. Create a CD label and CD cover design

UNIT V	CONVERSION TO WEB	12

Creating web based Layout, Converting files to web and print, Compositing Image Techniques, File Merge, Save, Import and Export techniques, Tips and Tricks in Photoshop.

Lab:

1. Create a Calendar design
2. Create a Dangler design (Front and back) for a new mobile.

LECTURE	TUTORIAL	PRACTICAL	TOTAL
-	-	60	60

REFERENCES:

1. Peter Bauer, 2013,"Photoshop CC for Dummies", John Wiley & Sons, Inc.NJ
2. Adobe Creative Team, 2015, Adobe Photoshop CC in a classroom, Adobe Press published Pearson Education.
3. Martin Evening, 2015, The Adobe Photoshop CC, Adobe Press published Pearson Education.
4. Lesa Snider, 2013, Photoshop CC The Missing Manual, O'Reilly Media
5. Matt Kloskowski, 2012, Photoshop Compositing Secrets, Peachpit Press.
6. Derek Lea, 2009, Creative Photoshop CS4-Digital Illustration and Art Techniques Elsevier Press
7. http://www.freebookcentre.net/graphics-design-books/photoshop-ebooks-download.html
8. http://www.fromdev.com/2014/08/free-photoshop-tutorials-ebooks-learning-resources.html
9. http://psd.tutsplus.com/
10. http://tv.adobe.com/product/photoshop/
11. http://www.freebookcentre.net/graphics-design-books/photoshop-ebooks-download.html
12. http://it-ebooks.info/tag/photoshop/

Mapping of Course Outcomes (CO) with Programme Outcomes (PO):

B.Sc. A&M	PO							PSO	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**1**	**2**
CO1	2	2	2	2	2	1	1	2	2
CO2	2	3	3	3	3	1	1	3	2
CO3	2	3	3	3	3	1	1	3	2
CO4	2	3	3	3	3	1	1	3	2
CO5	2	3	3	3	3	1	1	3	2
AVG	**2**	**3**	**3**	**3**	**3**	**1**	**1**	**3**	**2**

3–High Relation, 2–Medium Relation, 1–Low Relation, 0–No Relation

XAM402			COMPOSITING TECHNIQUES	L	T	P	C
				3	0	2	5
C	P	A		L	T	P	H
3	2	0		3	0	4	7

PREREQUISITE: Audio and Video Editing

COURSE OUTCOMES		DOMAIN	LEVEL
After the completion of the course, students will be able to			
CO1	***Recognize*** the basic concepts of logical effects.	Cognitive	Remember
CO2	***Select*** the various techniques to create an effective scene.	Cognitive	Apply
CO3	***Examine*** various color correction and image optimization.	Cognitive	Apply
CO4	***Classify*** the various unreal effects.	Cognitive	Understand
CO5	***Analyze*** a right motion tracking tools to produce an effective scene.	Cognitive Psychomotor	Analyze Set

UNIT I **INTRODUCTION** **9+12**

Composite in After Effects-A Basic Composite-Get Settings Right-The User Interface: Use It like a Pro-Effects in After Effects: Plug-ins and Animation Presets-Output: Render Queue and Alternatives-Assemble Any Shot Logically- The Timeline-Dreaming of a Clutter-Free Workflow-Timing: Key frames and the Graph Editor-Shortcuts Are a Professional Necessity-Animation: It's All About Relationships-Accurate Motion Blur-Timing and Retiming

Lab:

1. Exercise using plug-in and animation
2. Exercise using the timeline
3. Exercise using motion blur

UNIT II **COLOR CORRECTION** **9+12**

Color Correction-Color Correction and Image Optimization-Levels: Histograms and Channels-Curves: Gamma and Contrast-Hue/Saturation: Color and Intensity-Compositors Match Colors-Beyond the Ordinary, Even Beyond After Effects- Rotoscoping and Paint-Roto Brush and Refine Edge-Articulated Mattes-Refined Mattes: Feathered, Tracked-Paint and Cloning-Avoid Roto and Paint

Lab:

1. Exercise using color correction
2. Exercise using Rotoscoping
3. Exercise using cloning

UNIT III **CAMERA AND OPTICS** **9+12**

The Camera and Optics-The Unreal After Effects Camera-3D and CINEMA 4D-The Camera Tells the Story-Don't Forget Grain-Real Cameras Distort Reality-Train Your Eye- Climate and the Environment-Particulate Matter-Sky Replacement-Fog, Smoke, and Mist-Billowing Smoke-Wind and Ambience-Precipitation

Lab:

1. Exercise using Camera 3D
2. Exercise using Sky Replacement
3. Creating fog, Smoke and Mist effects

UNIT IV	PYROTECHNICS	9+12

Pyrotechnics: Heat, Fire, Explosions-Firearms-Energy Effects-Heat Distortion-Fire-Explosions-Advanced Color Options and HDR-What Is High Dynamic Range, and Does Film Even Still Exist?-Linear HDR Compositing: Life like-Linear LDR Compositing, Color Management and LUTs-Beyond Theory into Practice

Lab:

1. Creating Heat, Fire, Explosions effects
2. Creating Heat Distortion-Fire-Explosions
3. Exercise using Linear HDR Compositing

UNIT V	EFFECTIVE MOTION TRACKING	9+12

Effective Motion Tracking-Track a Scene with the 3D Camera Tracker-Warp Stabilizer VFX: Smooth Move-The Point Tracker: Still Useful-Mocha AE Planar Tracker: Also Still Quite Useful-Camera Integration- Selections: The Key to Compositing-Beyond A Over B: How to Combine Layers-Edges on Camera -Transparency and How to Work with It-Mask Options and Variable Mask Feather-Mask Modes and Combinations-Animated Masks-Composite With or Without Selections: Blending Modes-Share a Selection with Track Mattes-Right Tool for the Job.

Lab:

1. Exercise to track a scene with 3D Camera tracker
2. Exercise using masks and animated masks
3. Exercise Blended Modes

LECTURE	TUTORIAL	PRACTICAL	TOTAL
45	-	60	105

REFERENCES:

1. Mark Christiansen Visual Effects and Compositing STUDIO TECHNIQUES Adobe® After Effects® CC
2. www.slideshare.net.
3. www.proko.com

Mapping of Course Outcomes (CO) with Programme Outcomes (PO):

B.Sc. A&M	PO							PSO	
	1	2	3	4	5	6	7	1	2
CO1	1	0	2	1	2	1	2	3	2
CO2	1	1	2	1	1	1	2	1	1
CO3	1	0	1	1	1	1	1	1	1

CO4	1	1	2	1	2	1	1	1	1
CO5	1	1	2	1	2	2	2	1	3
AVG	**2**	**1**	**3**	**2**	**3**	**2**	**3**	**2**	**3**

3–High Relation, 2–Medium Relation, 1–Low Relation, 0–No Relation

XAM403			BASICS OF CLAY MODELING	L	T	P	C
				3	0	2	5
C	P	A		L	T	P	H
3	2	0		3	0	4	7

PREREQUISITE: Nil

	COURSE OUTCOMES	DOMAIN	LEVEL
	After the completion of the course, students will be able to		
CO1	***Recognize*** how the study of clay relates to animation disciplines.	Cognitive	Remember
CO2	***Relate*** knowledge of the character design in clay materials and process.	Cognitive	Analyze
CO3	***Interpret*** design principles in their individual projects.	Cognitive	Understand
CO4	***Establish*** using clay modeling to build basic shapes.	Cognitive	Create
CO5	***Apply*** techniques for working in stop motion animation.	Cognitive Psychomotor	Apply Set

UNIT I	**INTRODUCTION**	**9+12**

Clay animation: concepts and types – clay tools – Armature – clay modeling process.

Lab

1. Geometrical drawing

UNIT II	**BASIC SHAPES IN CLAY**	**9+12**

Geometrical shapes in clay – Background in clay- Vehicles in clay – Buildings in clay.

Lab

1.shapes creation

2.Creative Making

UNIT III	**CHARACTER DESIGNING IN CLAY**	**9+12**

Model sheet of character-Humana body parts in clay – Animal models in clay – Fruits and vegetables – complete human figure in clay model.

Lab

1.Human models shapes creation.

2.Animal and fruits models creation.

UNIT IV	**CLAY ANIMATION**	**9+12**

Cartoon designing in clay – Hair style in clay – Face mask in clay – case study making a indoor/outdoor with environment & characters in clay.

Lab

1. Own Character creation.

2. Set Design creation.		
UNIT V	**STOP MOTION ANIMATION**	**9+12**

Making of film using stop motion technique - Adding visual & Sound Effects - Digital Editing

Lab

1. Stop Motion creation.
2. . Stop Motion or Clay Animation Short film Creation.

LECTURE	TUTORIAL	PRACTICAL	TOTAL
45	**-**	**60**	**105**

REFERENCES:

1. The Advanced art of stop motion animation by Ken.A.Priebe by cengage learning
2. A sculptor's Guide to Tools and Materials Second edition by Bruner F. Barrie
3. http://thevirtualinstructor.com/blog/sculpting-materials-for-beginners
4. http://www.chalkstreet.com/clay-modeling-and-pottery-for-beginners/
5. ebook - Clay Modelling for Beginners: An Essential Guide to Getting Started in the Art of Sculpting Clay

Mapping of Course Outcomes (CO) with Programme Outcomes (PO):

B.Sc. A&M	PO							PSO	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**1**	**2**
CO1	3	2	3	2	2	2	1	2	2
CO2	3	2	3	2	2	1	1	2	2
CO3	3	2	2	2	1	1	1	2	2
CO4	3	2	2	3	1	1	1	2	3
CO5	3	2	2	2	1	1	1	2	3
AVG	**3**	**2**	**2**	**2**	**1**	**1**	**1**	**2**	**2**

3–High Relation, 2–Medium Relation, 1–Low Relation, 0–No Relation

XAM404			FUNDAMENTALS OF CINEMATOGRAPHY	L	T	P	C
				3	0	2	5
C	P	A		L	T	P	H
3	1.75	0.25		3	0	4	7

PREREQUISITE: Audio and Video Editing

COURSE OUTCOMES		DOMAIN	LEVEL
After the completion of the course, students will be able to			
CO1	***Describe and Express*** basic concepts in photography.	Cognitive	Remember Understand
CO2	***Identify and Interpret*** fundamentals of cinematography.	Cognitive	Remember Understand
CO3	***Compose and Formulate*** various photographs and videos	Psychomotor Affective	Origination Organization
CO4	***Identify and Explain*** the responsibilities of crew members in a camera department.	Cognitive	Knowledge Evaluation
CO5	***Initiate and Organize a*** screen play and shoot a short film.	Psychomotor Affective	Origination Organization

UNIT I	FUNDAMENTALS OF CINEMATOGRAPHY	9+12

What is cinematography - Persistence of vision – Frame rate – Intermittent mechanism – reflex viewfinder – Viewing screens – Film magazine – Film and digital camera layout. What is film – history – Photographic process – colour negative film – grain and graininess.

Lab
Shooting at various frame rates.

UNIT II	LENSES AND DIGITAL CAMERA	9+12

Lenses : Aperture and f – numbers – depth of field – how depth of field works – Depth of focus – lens care - **Cameras using film** – Essential components – Camera types –How view camera works –How direct viewfinder camera works –How reflex camera works - **Digital Camera** –overview how images are captured –film verses digital imaging routes – CCD limits to your final print size -Storing exposed shots on memory cards disk – point and shoot low end camera – high end camera shoots.

Lab
Shooting with various lens and focal lengths

UNIT III	LIGHTING PRINCIPLES AND FILM PROCESSING	9+12

Lighting principles and equipments- Basic characteristics of lighting – lighting equipment – Practical lighting problems - **Film Processing** – Equipments and general preparation – Processing black and white negatives –Processing chromomeric – **Digital image manipulation** Hardware -software programs – learning the ropes –working on pictures.

Lab
Shooting indoor and outdoor with various lighting techniques

UNIT IV	COLOUR TEMPERATURE AND CAMERA FILTERS	9+12

What is colour temperature – filters and mired shift values – the colour temperature meter – colour film – correction lamp – white balance **- Filters –** Colour compensation filters – colour correction filters – skin tone warmer –colour effects – various kinds of filters.

Lab
Shooting with various white balances in camera and using filters.

UNIT V	**PRINCIPLES AND OPERATIONS**	**9+12**

Director of photography- Camera Operator – First Assistant Camera man – Second Assistant Camera man – Loader – SD or HD video production- **Second Assistant Camera man** - Clapper loader- focus puller – crew protocol - Choosing and ordering expendable – Preparation of camera equipment - Preparation of camera truck – Preparation of dark room – Production – Magazine – slate – Post production – wrapping equipments.

Lab
Using various shots, angles and camera movements and create an advertisement.

LECTURE	**TUTORIAL**	**PRACTICAL**	**TOTAL**
45	**-**	**60**	**105**

REFERENCES:

1. Michale Langford "Basic Photography",FocalPressOxford Auckland Boston Johannesburg Melbourne New Delhi (UNIT : I, II and III)
2. David E Elkins , "The Camera Assistant's Manual "Focal PressOxford Auckland Boston Johannesburg Melbourne New Delhi (UNIT : IV and V)
3. David Samuelson,2009 , "Motion Picture Camera Techniques"
4. Verne Carlson,2003 ,"The Professional Lighting Handbook"
5. Blain Brown,2003,"The Filmmakers Pocket Reference"

Mapping of Course Outcomes (CO) with Programme Outcomes (PO):

B.Sc. A&M	**PO**							**PSO**	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**1**	**2**
CO1	2	2	3	2	2	1	1	1	2
CO2	2	2	3	2	2	1	1	1	2
CO3	2	1	2	1	1	1	1	1	2
CO4	1	1	1	2	1	2	2	1	2
CO5	3	2	2	3	3	1	1	1	2
AVG	**2**	**2**	**2**	**2**	**2**	**1**	**1**	**1**	**2**

3–High Relation, 2–Medium Relation, 1–Low Relation, 0–No Relation

XAM 501			WEB DESIGN	L	T	P	C
				3	0	1	4
C	P	A		L	T	P	H
3	0.75	0.25		3	0	2	5

PREREQUISITE: Nil

COURSE OUTCOMES		DOMAIN	LEVEL
After the completion of the course, students will be able to			
CO1	***Recognize*** the significance of Web Technology.	Cognitive Psychomotor	Remember Perception
CO2	***Express*** the knowledge on HTML, CSS and JavaScript in Web Design.	Cognitive	Understand
CO3	***Employ*** the understanding of the Client side scripts and actively ***participate*** in teams for the creation of web pages.	Cognitive Affective	Apply Respond
CO4	***Utilize*** the web designing tools effectively in the real world applications.	Cognitive	Apply
CO5	***Design***and ***Establish*** the Website.	Cognitive Psychomotor	Create Set

UNIT I	**INTRODUCTION TO WEB TECHNOLOGY**	**9+6**

Basics of Internet – World Wide Web – Web Server – Proxy Server – Web Browsers – IP Address – Domain Name – HTTP – Uniform Resource Locator – Concept of Tier – Web Pages – Static Web Pages – Dynamic Web Pages – Search Engine – Search Tools.

Lab:1. Usage of Microsoft Interdev.
2. Downloading Templates.

UNIT II	**HTML**	**9+6**

HTML Basics – HTML Editor – HTML CSS – Links – Images – Tables – Lists - Frames - HTML forms and Input tags.

Lab:1. Formatting tags, ordered list and unordered list.
2.Tables, frame, image map and hyperlink.

UNIT III	**CSS**	**9+6**

CSS Basics – Texts and Fonts – Links, Lists and Tables – Background, Border and Outline – Position – Dimension and Display.

Lab:1.Font, color and style
2. Background and Links

UNIT IV	**JAVASCRIPT**	**9+6**

Java Script Basics – Functions – Objects – Events – Scope – Strings – Numbers – Date – Arrays – Conditional and Looping Statements – Forms.

Lab:1.Form Validation
2. Looping and Conditional Statements

UNIT V	**WEB APPLICATIONS**	**9+6**

Free Website Creation – Getting Server Space - Case Studies: College Website – Blog Creation – Online Education – Career Guidance.

Lab: Website Creation

LECTURE	TUTORIAL	PRACTICAL	TOTAL
45	**-**	**30**	**75**

REFERENCES:

1. AchyutS.Godbole, AtulKahate, "Web Technologies TCP/IP To Internet Application Architectures", First Edition, Tata McGraw-Hill Publishing Company Limited, 2003.
2. N.P. Gopalan, J.Akilandeswari, "Web Technology: A Developer's Perspective", Second Edition, PHI Learning Private Limited, 2014.
3. Thomas A. Powell, "HTML & CSS: The Complete Reference", Fifth Edition, Tata McGraw Hill Education Private Limited, New Delhi, 2010.
4. Thomas A. Powell, Fritz Schneider, "JavaScript: The Complete Reference", Second Edition, Tata McGraw Hill Education Private Limited, New Delhi, 2008.
5. www.w3schools.com
6. www.tutorialspoint.com

Mapping of Course Outcomes (CO) with Programme Outcomes (PO):

B.Sc. A&M	PO						PSO		
	1	**2**	**3**	**4**	**5**	**6**	**7**	**1**	**2**
CO1	2	0	1	0	1	0	1	0	0
CO2	2	2	1	1	0	1	1	0	0
CO3	1	2	1	2	1	1	2	0	0
CO4	0	1	2	2	1	0	1	0	0
CO5	1	2	2	3	2	1	1	0	0
AVG	**1**	**1**	**1**	**2**	**1**	**1**	**1**	**0**	**0**

3–High Relation, 2–Medium Relation, 1–Low Relation, 0–No Relation

XAM 502A			3D MODELLING	L	T	P	C
				3	0	1	4
C	P	A		L	T	P	H
3	1	0		3	0	2	5

PREREQUISITE: 3D Animation

	COURSE OUTCOMES	DOMAIN	LEVEL
After the completion of the course, students will be able to			
CO1	***Understand*** the definition of Computer Based Animation and Modeling. Experiment with the geometrical 2D and 3D shapes.	Cognitive Psychomotor	Understand Remember
CO2	***Understand and Apply*** 2Dmodeling in simple objects with lines and connect with compound objects.	Cognitive	Understand Remember Apply
CO3	***Design***3D modeling with 3d objects.	Cognitive Psychomotor	Apply Respond
CO4	***Identify*** different types of lighting and cameras and Apply in real world application.	Cognitive	Remember Apply
CO5	***Creating and Applying*** standard materials, adding material details with maps, creating compound materials.	Cognitive Psychomotor	Create organization

UNIT I	**COMPUTER-BASED ANIMATION**	**9+6**

Definition of Computer-based Animation, Basic Types of Animation: Real Time ,Non-real-time, Definition of Modeling, Creation of 3D objects. Exploring the Max Interface, Controlling & Configuring the Viewports, Customizing the Max Interface & Setting Preferences, Working with Files, Importing & Exporting, Selecting Objects & Setting Object Properties, Duplicating Objects, Creating & Editing Standard Primitive & extended Primitives objects, Transforming objects, Pivoting, aligning etc.

Lab:

1. Introduction to 3D Studio Max.
2. Exploring the Max Interface
3. Creating & Editing Standard Primitive Objects

UNIT II	**2D SPLINES & SHAPES& COMPOUND OBJECT**	**9+6**

Understanding 2D Splines& shape, Extrude & Bevel 2D object to 3D, Understanding Loft & terrain, Modeling simple objects with splines, Understanding morph, scatter, conform, connect compound objects, blobmesh, Boolean , Pro-boolean& pro-cutter compound object.

Lab:

1. 2D Splines, Shapes & Compound Objects.
2. Understanding 2D Splines & Shape
3. Convert 2D to 3D object using extrude, bevel, loft, terrain etc.

UNIT III	**3D MODELLING**	**9+6**

Modeling with Polygons, using the graphite, working with XRefs, Building simple scenes, Building complex scenes with XRefs, using assets tracking, deforming surfaces & using the mesh modifiers, modeling with patches & NURBS

Lab:

1. 3D Modeling

2. Modeling with polygon objects
3. Building Simple & Complex Scene

UNIT IV	**LIGHTING & CAMERA**	**9+6**

Configuring & Aiming Cameras, camera motion blur, camera depth of field, camera tracking, using basic lights & lighting Techniques, working with advanced lighting, Light Tracing, Radiosity, video post, mental ray lighting etc.

Lab:

1. Lighting & Camera
2. Configuring & Aiming Cameras
3. Using Camera Motion Blur & Depth of Field

UNIT V	**TEXTURING**	**9+6**

Using the material editor & the material explorer, creating & applying standard materials, adding material details with maps, creating compound materials & material modifiers, unwrapping UVs & mapping texture, using atmospheric & render effects etc.

Lab:

1. Texturing with Max
2. Using Material Editor
3. Create & Apply standard material
4. Material Modifier

LECTURE	**TUTORIAL**	**PRACTICAL**	**TOTAL**
45	**-**	**30**	**60**

REFERENCES:

1. TedBoardman, 3d'sMax5Fundamentals, Techmedia"2004,
2. Michele Busquet, Modeling, Animate with 3d'smax6, "Many world, 2006.
3. Michael E. Mortenson, 3D Modeling, Animation, and Rendering, Create space,2010.
4. Boris Kulagin, "3ds Max 8 from Modeling to Animation, BPB,2006.
5. Michael G., 3D Modeling and Animation, IRM Publishing,2005
6. Lance Flavell, Beginning Blender: Open Source 3D Modeling, Animation, and Game Design, Apress, 2010.

Mapping of Course Outcomes (CO) with Programme Outcomes (PO):

B.Sc. A&M	**PO**							**PSO**	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**1**	**2**
CO1	2	2	2	2	2	1	1	2	2
CO2	2	3	3	3	3	1	1	3	2
CO3	2	3	3	3	3	1	1	3	2
CO4	2	3	3	3	3	1	1	3	2
CO5	2	3	3	3	3	1	1	3	2
AVG	**2**	**3**	**3**	**3**	**3**	**1**	**1**	**3**	**2**

3–High Relation, 2–Medium Relation, 1–Low Relation, 0–No Relation

XAM502B			MOTION CAPTURING	L	T	P	C
				3	0	1	4
C	P	A		L	T	P	H
3	1	0		3	0	2	5

PREREQUISITE: 3D Animation

COURSE OUTCOMES		DOMAIN	LEVEL
After the completion of the course, students will be able to			
CO1	***Recognize*** the importance of Mocap.	Cognitive	Remember
CO2	***Demonstrate*** the 3D character.	Cognitive	Understand
CO3	***Analyze*** the retargeting and skeletal editing.	Cognitive	Analyze
CO4	***Formulate***the composing and decomposing motions.	Cognitive	Create
CO5	***Organize*** the hand and facial motion capture**.**	Cognitive Psychomotor	Create Set

UNIT I	INTRODUCTION	9+6

An overview and history of motion capture-history of mocap-early attempts-rotoscoping-beginning of digital mocap-types of mocap-optical mocap systems-magnetic mocap systems –mechanical mocap systems-preproduction-importance of preproduction-precapture planning-script-story board-shot list-animatic-preparation for capture-capture volume-capture schedule.

Lab:

1. Represent different poses and motions.

UNIT II	PIPELINE	9+6

Setting up a skeleton for a 3D character-calibrations-system calibration-subject calibration-capture sessions-audio and video references-organization-preventing occlusions-cleaning and editing data-cleaning marker data-types of data-labeling and identifying-data cleaning methods-applying marker data to the skeleton.

Lab:

2. Cleaning motion data

UNIT III	SKELETAL EDITING	9+6

Retargeting - reducing need for retargeting - scaling a skeleton - fixing foot sliding - working on the spine blending motion - inverse kinematics - floor contact-rigid body - looping motion – poses – data application - a Stick with two markers - a stick with three markers - flexible objects.

Lab:

3. Knee and hip joint motion editing

UNIT IV	DECOMPOSING AND COMPOSING MOTIONS	9+6

Mapping multiple motions-decomposing and composing upper and lower body motions-synchronizing upper and lower body motions –breaking motion apart-mocap as forward kinematics animation -keyframe animation with inverse kinematics-integrating mocap animation and key-frame animation.

Lab:

4. Karata and jump motions

UNIT V	HAND AND FACIAL MOTION CAPTURE	9+6

Anatomy of a hand- rig and marker set for the hand – rigid hand-mitten- mitten with an independent thumb –mitten with stretches-ultimate-capturing hands –facial motion capture-anatomy of face-camera setup and capture-facial rig- marker set –facial data stabilization – facial data editing.

Lab:

5. Facial Expression Estimations

LECTURE	TUTORIAL	PRACTICAL	TOTAL
45	-	30	75

REFERENCES:

1. MoCap for Artists: Workflow and Techniques for Motion Capture Paperback – Import, 9 May 2008 by Midori Kitagawa (Author), Brian Windsor (Author)
2. Understanding Motion Capture for Computer Animation (eBook) by AlbertoMenache ,2010,Elsevier Trade Monographs (Verlag).978-0-12-381497-5 (ISBN)
3. Motion Capture in Performance: An Introduction By Matt Delbridge,2015,Palgrave Macmillan Publishers,St Martin's Press,175,FifthAvenue,Newyork.

Mapping of Course Outcomes (CO) with Programme Outcomes (PO):

B.Sc. A&M	PO							PSO	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**1**	**2**
CO1	2	1	1	1	1	1	1	2	1
CO2	1	1	3	1	1	2	1	2	2
CO3	1	1	2	1	2	1	1	3	1
CO4	2	1	1	1	2	1	1	3	1
CO5	2	2	1	2	2	1	1	2	1
AVG	**2**	**1**	**2**	**1**	**2**	**1**	**1**	**2**	**1**

3–High Relation, 2–Medium Relation, 1–Low Relation, 0–No Relation

XAM503A			SCRIPT WRITING AND STORY BOARD DESIGNING	L	T	P	C
				3	0	1	4
C	P	A		L	T	P	H
3	1	0		3	0	2	5

PREREQUISITE:Nil

	COURSE OUTCOMES	DOMAIN	LEVEL
After the completion of the course, students will be able to			
CO1	***Recognize*** the significance of Script writing.	Cognitive	Remember
CO2	***Express*** the different ways of Story preparation in Script.	Cognitive	Understand
CO3	***Employ*** the understanding of the Writing skills in Story board designing.	Cognitive	Apply
CO4	***Utilize*** the various advertising methods effectively in making the realistic shooting spot.	Cognitive	Apply
CO5	***Design*** and ***Draw*** the story board writing using different types of subjects.	Cognitive Psychomotor	Create Set

UNIT I	**SCRIPT**	**9+6**

Script: concept, forms and utility, Basic principles of writing a script -Importance of script writing.

Lab:

Script for a short film

UNIT II	**STORY**	**9+6**

Writer and Producer- Researching the script -Story Development ,Plots in script.

Lab:

Story Board for a comic story

UNIT III	**WRITING**	**9+6**

Descriptive writing ,Analytical writing -Writing fiction - Writing script for video programmes, Concept of Shooting Script.

Lab:

Script - film review

UNIT IV	**ADVERTISING**	**9+6**

Script writing for theatre, Script writing for Advertising -Script writing for planetarium.

Lab:

Script and story board for a given situation

UNIT V	**STORY BOARD**	**9+6**

Introduction to Storyboard- Parts of storyboard --Advantages of storyboarding

Interactive Storyboarding -Designing of Storyboard exercise.

Lab: **Screen play**			
LECTURE	**TUTORIAL**	**PRACTICAL**	**TOTAL**
45	**-**	**30**	**75**

REFERENCES:

1. Chawdhary, Nirmalkumar, How to write film screenplay, Kanishka publishers, distributers, New Delhi- 110002,– 2009,ISBN 978-81-8457-112-7.
2. Rubenstein, Paul Max, Martin Jo Maloney, Writing For the Media, Film Television, Video And Radio, Prentive Hall,– Englewood Clifts, New Jersey 07632, 1988, ISBN: 0-13-971508-7-01
3. Whitaker, Harold, John Halas, Updated by Tom Sito, Timing for Animation, Focal Press Elsevier, New York & Singapore, 2009 ISBN: 978-0-240-52160-2.

Mapping of Course Outcomes (CO) with Programme Outcomes (PO):

B.Sc. A&M	**PO**								**PSO**	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**1**	**2**
CO1	3	2	3	2	2	1	2	1	1	2
CO2	2	3	2	2	1	2	0	0	1	1
CO3	2	2	3	1	2	1	1	2	2	3
CO4	3	2	1	3	1	2	2	1	1	1
CO5	2	1	3	2	0	1	1	2	2	3
AVG	**2**	**2**	**2**	**2**	**1**	**1**	**1**	**1**	**1**	**2**

3–High Relation, 2–Medium Relation, 1–Low Relation, 0–No Relation

XAM503B			RIGGING, LIGHTING & RENDERING	L	T	P	C
				3	0	1	4
C	P	A		L	T	P	H
3	0.75	0.25		3	0	2	5

PREREQUISITE: Nil

	COURSE OUTCOMES	DOMAIN	LEVEL
	After the completion of the course, students will be able to		
CO1	***Describe and Express*** basic concepts in Rigging	Cognitive	Remember Understand
CO2	***Identify and Interpret*** animating neck and head.	Cognitive	Remember Understand
CO3	***Compose and Formulate*** various lighting techniques.	Psychomotor Affective	Origination Organization
CO4	***Identify and Explain*** the various camera techniques.	Cognitive	Knowledge Evaluation
CO5	***Initiate and Organize a*** rendering for output.	Psychomotor Affective	Origination Organization

UNIT I	**RIGGING**	**9+6**

Introduction – Automation vs Customization – Joints and Bones – ekCharacterToolKit.mel – Creating and Naming the joint hierarchy – Creating Spine – renaming spine.
Lab:
Creating joints and Bones for character

UNIT II	**NECK AND HEAD**	**9+6**

Adding the Neck and Head Joints – Adding the jaw and mouth joints – Creating arm joints – Finishing the skeleton – Orienting the Skeleton – Creating character group – Blending the IK Spine.
Lab:
Creating joints for head and neck

UNIT III	**LIGHTING**	**9+6**

Basics of Lighting – Types of light – Creating and Positioning light objects – Manipulating light parameters - Observe the lighting – IPR -Render rear window – Adjusting shadows – Attribute editor – Render Setting window – Adding ambient light
Lab:
Lighting an object

UNIT IV	**CAMERA TECHNIQUE**	**9+6**

Types of camera – camera setting and resolution – types of movement – angles and shots.
Lab:
Camera movements for an object.

UNIT V	**RENDERING**	**9+6**

Choosing a rendering method – Render a single frame – Render a sequence of frames interactively – Batch render a still or animation – render with several processors – render multiple scenes – render a region of your scene – Render titles in the Maya software renderer.
Lab:
Render the created object

LECTURE	**TUTORIAL**	**PRACTICAL**	**TOTAL**
45	**-**	**30**	**75**

REFERENCES:

1. Adam Watkins "Getting Started in 3D with Maya", Focal Press, United Kingdom.
2. Todd Palamar "Mastering Autodesk Maya" Sysbex, Canada.

Mapping of Course Outcomes (CO) with Programme Outcomes (PO):

B.Sc. A&M	**PO**							**PSO**	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**1**	**2**
CO1	2	2	3	2	2	1	1	1	2
CO2	2	2	3	2	2	1	1	1	2
CO3	2	1	2	1	1	1	1	1	2
CO4	1	1	1	2	1	2	2	1	2
CO5	3	2	2	3	3	1	1	1	2
AVG	**2**	**2**	**2**	**2**	**2**	**1**	**1**	**1**	**2**

3–High Relation, 2–Medium Relation, 1–Low Relation, 0–No Relation

XAM504A			MEDIA AESTHETICS	L	T	P	C
				3	1	0	4
C	P	A		L	T	P	H
4	0	0		3	1	0	4

PREREQUISITE: Nil

COURSE OUTCOMES		DOMAIN	LEVEL
After the completion of the course, students will be able to			
CO1	***Recognize*** and ***Express*** media aesthetics and light	Cognitive	Remember Understand
CO2	***Identify*** and ***Interpret*** lighting and color	Cognitive	Remember Understand
CO3	***Compose*** and ***Formulate*** various colors	Cognitive	Create
CO4	***Compare*** and ***classify*** media screens	Cognitive	Analyze
CO5	***Identify*** and ***Interpret*** depth and volume of a picture	Cognitive	Remember Understand

UNIT I	**INTRODUCTION**	**12**

Applied media Aesthetics definition – Applied Aesthetics and contextualism – context and perception – medium as structural agent – Applied media aesthetics methods. Light - The Nature of light – Lighting purposes and functions – The nature shadows - Outer orientation functions – Inner orientation functions.

UNIT II	**LIGHTING AND COLOR**	**12**

Lighting – Standard lighting techniques – Chiaroscuro lighting - Flat lighting – Media enhanced and media generated lighting – Single and Multiple Camera lighting – Color – What is color? How we perceive color – How we mix color – Relativity of color – Colors and feeling – Color energy.

UNIT III	**COLOR COMPOSITION AND VISUAL APPROACHES**	**12**

Functions and Compositions of colors – Informational Function of color – Compositional function of color - Desaturation Theory - Area- Aspect ratio - Object size – image size Deductive and inductive visual approaches.

UNIT IV	**SCREEN FORCES**	**12**

Forces within the screen - Horizontal and vertical directions – magnetism of the frame – Asymmetry of the frame – Figure and ground psychological closure -Vectors – Interplay of screen forces – stabilizing the field through distribution of Graphic mass and magnetic force – Stabilizing the field through distribution of vectors – Stages of balance - object framing g – Extending the field with multiple screen -Diving the screen.

UNIT V	**DEPTH AND VOLUME**	**12**

Depth and volume – z axis – graphics depth factors – Major graphication devices - Building screen volume - Volume duality - z axis Articulation - z axis blocking -Spatial paradoxes.

LECTURE	**TUTORIAL**	**PRACTICAL**	**TOTAL**
45	**15**	**0**	**60**

REFERENCES:

1. Applied media Aesthetics 3rd edition

Mapping of Course Outcomes (CO) with Programme Outcomes (PO):

B.Sc.	**PO**							**PSO**	
A &M	1	2	3	4	5	6	7	1	2
CO1	2	1	2	1	1	1	1	2	2
CO2	2	1	1	1	1	1	1	2	2
CO3	2	1	2	1	2	1	1	2	2
CO4	2	2	1	1	1	2	2	2	2
CO5	2	1	1	1	1	1	1	2	2
AVG	**2**	**1**	**1**	**1**	**1**	**1**	**1**	**2**	**2**

3–High Relation, 2–Medium Relation, 1–Low Relation, 0–No Relation

XAM504B			MEDIA TECHNOLOGIES	L	T	P	C
				3	1	0	4
C	P	A		L	T	P	H
4	0	0		3	1	0	4

PREREQUISITE: Nil

COURSE OUTCOMES		DOMAIN	LEVEL
After the completion of the course, students will be able to			
CO1	***Recognize*** the concept of media production and the process and technically know-how.	Cognitive	Remember
CO2	***Illustrate*** and communicate ideas in the form of production in various media.	Cognitive	Analysis
CO3	***Create*** and communicate ideas visually in the form of media.	Cognitive	Create
CO4	***Understand*** the basic of production in print, radio, television and internet media.	Cognitive	Understand
CO5	***Examine*** the basic knowledge about media production.	Cognitive	Apply

UNIT I	**INTRODUCTION**	**12**
Various types of media - Paper, Television, Radio and Internet – History of media.		
UNIT II	**PRINT MEDIA**	**12**
Print media professional designing tools for News paper, magazine, brochures, advertisements, booklets, business cards, book covers- Image and text effects.		
UNIT III	**RADIO MEDIA**	**12**
How radio broadcasting works, radio studio, radio programme formats, radio play documentary, news, interviews, discussions, writing for radio, editing for radio.		
UNIT IV	**TELEVISION MEDIA**	**12**
Television production process, Electronic news gathering, basic steps of production, script writing and editing principles.		
UNIT V	**INTERNET MEDIA**	**12**
Internet – e-books, e-magazines, portals, web advertisements.		

LECTURE	TUTORIAL	PRACTICAL	TOTAL
45	15	-	60

REFERENCES:

1. Charles convonor, Designing for Print, Second Edition,John Wiley & Sons
2. Gorham Kindem and Robert B.Musburger, Introduction to Media Production: The path to digital

production, Elsevier publication 2009
3. Lynnee Schafer Gross, Electronic Media Introduction, McGraw Hill, 2009
4. https://en.wikipedia.org/wiki/Media_(communication)
5. https://www.studyblue.com/notes/b/media-and-culture-an-introduction-to-mass-communication

Mapping of Course Outcomes (CO) with Programme Outcomes (PO):

B.Sc. A&M	PO							PSO	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**1**	**2**
CO1	3	2	3	2	1	1	2	1	2
CO2	2	2	2	1	1	1	2	1	2
CO3	2	1	2	1	1	1	2	1	1
CO4	3	2	3	2	1	1	2	1	2
CO5	2	2	2	1	1	1	2	1	2

3–High Relation, 2–Medium Relation, 1–Low Relation, 0–No Relation

XAM 601			DIGITAL TELEVISION PRODUCTION	L	T	P	C
				0	0	2	2
C	P	A		L	T	P	H
1	1	0		0	0	4	4

PREREQUISITE: Compositing

COURSE OUTCOMES:

Course Outcomes		Domain	Level
After the completion of the course, students will be able to			
CO1:	***Recognize*** about the digital media.	Cognitive	Remember
CO2:	***Summarize*** the shooting progress	Cognitive	Understand
CO3:	**Identify** the editing and sharing in movies.	Cognitive	Understand
CO4:	***Implementing*** the advanced in movies.	Cognitive	Understand
CO5:	***Experimenting*** the movie maker tools to create the quality in movies.	Cognitive Psychomotor	Create Set

UNIT I	INTRODUCTION	12

Digital media – Idea of Movie creation – Preproduction – Planning - story script - Production – Shooting progress – Post production – introduction to Movie maker.

Lab

1. Installing movie maker

UNIT II	SHOOTING PROGRESS	12

Director – Assistant Producer – Production Manager – basic camera work - three way shooting – lighting – trailer preparation. – organize your clips

Lab

1. Capture video from device.
2. Organize the videos from the movie maker

UNIT III	EDITING AND SHARING	12

Adding – arranging – splitting – trimming – combining – Edit audio tracks – Narration recording – Adjust – Save your movie – sharing

Lab

1. Splitting videos
2. Adding audio
3. Finish your movie

UNIT IV	ADVANCED IN MOVIE	12

Working with still images – Adding sound effect – video transition – Video Effects

Lab

1. Video transition
2. Video effects

UNIT V	PLAYING MOVIES	12

Playing with movies – audacity – creating movie with quality sound effects – creating skins for videos.

Lab:

1. Create skin for videos.
2. Audacity for narration for quality sound.

LECTURE	TUTORIAL	PRACTICAL	TOTAL
-	-	60	60

REFERENCES:

1. Digital Television Production, Jeremy orleber, 2002, Arnold publishing.
2. Television production Handbook, Herbert zettl, 11 edition, Wordsworth, cengage learning 2006.
3. Microsoft windows movie maker handbook, John M'Chalak, Seth McEvoy.

Mapping of Course Outcomes (CO) with Programme Outcomes (PO):

B.Sc.	PO							PSO	
A&M	1	2	3	4	5	6	7	1	2
CO1	2	1	1	1	1	2	1	1	1
CO2	3	2	2	2	2	2	2	2	1
CO3	2	2	2	2	3	2	2	2	1
CO4	3	2	2	2	2	2	2	3	1
CO5	3	3	3	3	3	3	3	3	1
AVG	3	2	2	2	2	2	2	2	1

3–High Relation, 2–Medium Relation, 1–Low Relation, 0–No Relation

XAM 602			3D ANIMATION	L	T	P	C
				3	0	1	4
C	P	A		L	T	P	H
3	0.75	0.25		3	0	2	5

PREREQUISITE: 2D Animation

	COURSE OUTCOMES	DOMAIN	LEVEL
After the completion of the course, students will be able to			
CO1	***Recognize*** the significance of 3D animation basics.	Cognitive Psychomotor	Remember Perception
CO2	***Observe*** and ***Express*** the knowledge on using different modeling techniques in designing 3D animation.	Cognitive Psychomotor	Understand Perception
CO3	***Listen*** and ***Employ*** the animated objects and manipulate rigging the objects.	Cognitive Psychomotor Affective	Apply Perception Response
CO4	***Utilize*** texturing methods to ***improve*** the designing character for the realistic applications.	Cognitive Psychomotor Affective	Apply Mechanism Respond
CO5	***Design*** and ***Establish*** the lighting, shadow and camera for shading the surface and improve the performance by using dynamics.	Cognitive Psychomotor	Create Originate

UNIT I	**INTRODUCTION**	**9+6**

User Interface – Creating, Manipulating and viewing objects- viewing 3D scene –Components and attributes

Lab:

1.Making a logo using Objects

2. Design an Ice-cream Cone

UNIT II	**MODELING**	**9+6**

Polygonal Modeling – Modeling a polygonal mesh – NURBS Modeling – revolving a curve to create a surface – Lofting screen to create surface – Subdivision surfaces – Modeling a subdivision surface

Lab:

1. Use modeling methods for designing

UNIT III	**RIGGING AND ANIMATION**	**9+6**

Key frames and graph editor - set driven key – path animation – Non linear animation – Inverse kinematics

Lab:

1. Create simple animation

2. Rigging Simple Character

UNIT IV	**CHARACTER SET UP AND TEXTURING**	**9+6**

Skeleton and kinematics – smooth skinning – cluster and blend shape deformers - UV texture mapping

Lab:

1. Applying texturing to the Objects

2. Using fluid dynamics

UNIT V	**RENDERING AND DYNAMICS**	**9+6**

Rendering a scene – shading surfaces – lights shadows and cameras – Global Illumination – caustics- Particles emitter and fields - Rigid bodies and dynamics.

Lab:

1. Designing simple animation using particles and dynamics

LECTURE	TUTORIAL	PRACTICAL	TOTAL
45	-	30	75

REFERENCES:

1. Getting started with Maya, Autodesk Maya 2011
2. The Animator's Survival Kit: A Manual of Methods, Principles, and Formulas for Classical, Computer, Games, Stop Motion, and Internet Animators by Richard Williams
3. Oliver Villa, "Learning Blender: A Hands-On Guide to Creating 3D Animated Characters", Second Edition, Addition Wesley Learning, 2014.
4. www.creativebloq.com/3d-tips/maya-tutorials-1232745
5. www.cdschools.org/cdhs/site/default.asp.
6. www.animationmentor.com/tutorials/free-maya-basic-animation-tutorials.html
7. www.blenderartists.org.

Mapping of Course Outcomes (CO) with Programme Outcomes (PO):

B.Sc. A&M	PO							PSO	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**1**	**2**
CO1	2	2	2	1	2	1	1	2	1
CO2	1	1	1	2	2	2	1	1	1
CO3	1	2	2	2	1	1	2	1	1
CO4	1	2	1	2	2	1	1	2	1
CO5	2	1	3	2	2	1	1	2	1
AVG	**1**	**2**	**2**	**2**	**2**	**1**	**1**	**2**	**1**

3–High Relation, 2–Medium Relation, 1–Low Relation, 0–No Relation

XAM603A			FILM MAKING	L	T	P	C
				3	0	1	4
C	P	A		L	T	P	H
3	0.75	0.25		3	0	2	5

PREREQUISITE: 2D Animation, 3D Animation

COURSE OUTCOMES		DOMAIN	LEVEL
After the completion of the course, students will be able to			
CO1	***Observe*** the basics of Animation and ***Perceive*** the process of Film Making.	Cognitive Psychomotor	Remember Perception
CO2	***Interpret*** the knowledge on Pre Production activity.	Cognitive	Understand
CO3	***Employ*** the understanding of Production activity	Cognitive	Apply
CO4	***Utilize*** the awareness of Post Production activity and ***Achieve*** the good quality in the Pre Production, Production and Post Production of Film Making.	Cognitive Psychomotor	Apply Set
CO5	***Contribute*** more actions in ***Design***ing the Animated Movie.	Cognitive Affective	Create Respond

UNIT I	**ANIMATION BASICS – I**	**9+6**

The Bouncing Ball – Generic Walks – Personality Walks – Generic Runs –Key Generic Run Stages – Additional Pointers for Runs – Head-on Runs – Quadruped Walks – Weight – Standard Rubber Ball – Ping-Pong Ball – Bowling Ball – Comparing the three versions.

Lab:
1.Making a Motion tween and shape tween using Simple Objects
2. Create a Bouncing ball.

UNIT II	**ANIMATION BASICS – II**	**9+6**

Anticipation – The Benefits of Anticipation – Anticipations are for everything - Dialog – Body Language – Facial Animation - Lip Synching – Two-Character Dialog – Final Project – Staggers – Successive Breakouts of Joints – Eye Blinks – Eyebrows.

Lab:
1. Anticipation method using Simple Character.
2. Create a Character design and dialog.

UNIT III	**ANIMATED FILM PRODUCTION – I**	**9+6**

Production Challenge – Exploring Ideas, Storytelling and Scriptwriting – Concept Art, Viz Dev and Camera Maps – Character Design – Thumbnails – Storyboards.

Lab:
1. Storyboard drawings.
2. Create a Concept art.

UNIT IV	**ANIMATED FILM PRODUCTION – II**	**9+6**

Filmmaking Techniques – Audio Record – Animatic and Bacher Boards – Backgrounds and Environment Layouts – Color Script – Audio Breakdown – Block in Key Poses - Placement and Timing.

Lab:
1.Create a background layout and designing .
2. Create a Animatics Drawing.

UNIT V	**ANIMATED FILM PRODUCTION – III**	**9+6**

Two-Dimensional In-Betweening – Rolling, Flipping and Pencil Testing – Clean-up – Scanning – Background and Environments – Coloring – Compositing – Rendering – Final Edit.

Lab:
1.Walk Cycle in Simple Character.
2. Advertisement or Story in 2d animation. (30 seconds duration)

LECTURE	TUTORIAL	PRACTICAL	TOTAL
45	**-**	**30**	**75**

REFERENCES:

1. Tony White, How to make animated films, Focal Press, Elesvier, 2009.
2. Kit Laybourne, The Animation Book: A complete guide to animated film making – from flip-books to sound cartoons to 3D animation, Crown Publishing Group, 1998.
3. Mark Simon, Producing Independent 2D Character Animation: Making and Selling a Short Film, Focal Press, Elesvier, 2003.
4. https://en.wikibooks.org/wiki/Movie_Making_Manual

Mapping of Course Outcomes (CO) with Programme Outcomes (PO):

B.Sc. A&M	PO							PSO	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**1**	**2**
CO1	1	0	3	0	1	1	2	3	0
CO2	1	2	0	1	1	0	1	0	2
CO3	1	2	0	2	1	0	1	0	2
CO4	1	2	0	1	3	1	1	0	2
CO5	2	3	2	2	3	2	1	1	0
AVG	**1**	**2**	**1**	**1**	**2**	**1**	**1**	**1**	**1**

3–High Relation, 2–Medium Relation, 1–Low Relation, 0–No Relation

XAM603B			ROTOSCOPING	L	T	P	C
				3	0	1	4
C	P	A		L	T	P	H
3	0.75	0.25		3	0	2	5

PREREQUISITE: Compositing Technique

	COURSE OUTCOMES	DOMAIN	LEVEL
	After the completion of the course, students will be able to		
CO1	***Describe and Express*** basic concepts in Rotoscoping.	Cognitive	Remember Understand
CO2	***Identify and Interpret*** Key framing Technique.	Cognitive	Remember Understand
CO3	***Compose and Formulate*** various Object mode transforms	Psychomotor Affective	Origination Organization
CO4	***Identify and Explain*** the Tracking and Roto methods	Cognitive	Knowledge Evaluation
CO5	***Initiate and Organize a*** rotoscoping in human figure.	Psychomotor Affective	Origination Organization

UNIT I	**BASICS OF ROTOSCOPING**	**9+6**

Introduction – origin of roto – modern roto –rotoscoping software – roto tools – silhouette – user interface – Adobe After effects – User Interface – Mocha – User Interface.

Lab:

Rotoscoping using roto brush tool in After effects.

UNIT II	**KEY FRAMING TECHNIQUE**	**9+6**

Establish specifics – shot Length – Edge and Shape – Motion Path – Keying – Timeline key framing – Bifurcation – Incremental Key frames – Motion Based Roto.

Lab:

Key frame rotoscoping

UNIT III	**OBJECT MODE TRANSFORMS**	**9+6**

Organizing the comp – Transitioning between shapes – Pivot points – Bounding boxes in after effects – Individual Points – Key frame placement and types.

Lab:

Adding effects to roto

UNIT IV	**TRACKING AND ROTO**	**9+6**

Tracking and scale – tracking and rotation – multiple transforms – corner pinning averaging tracks – Stabilizing footage – Review.

Lab:

Wrap Stabilizing a video.

UNIT V	**ROTO AND HUMAN FGURE**	**9+6**

Remember your anatomy – Isolating Extremities – Hands – Joints – Overlap – Fixer Shapes – Faces and Head – Human Movements – Clothing - Review.

Lab:

Rotoscoping a human figure

LECTURE	TUTORIAL	PRACTICAL	TOTAL
45	0	30	75

REFERENCES:

1. Benjamin Bratt"Rotoscoping Techniques and tools for the aspiring artist" Focal Press, United

Kingom.
2. Adam Watkins “Getting Started in 3D with Maya”, Focal Press, United Kingdom.
3. Todd Palamar “Mastering Autodesk Maya” Sysbex, Canada.

Mapping of Course Outcomes (CO) with Programme Outcomes (PO):

B.Sc. A&M	PO							PSO	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**1**	**2**
CO1	2	2	3	2	2	1	1	1	2
CO2	2	2	3	2	2	1	1	1	2
CO3	2	1	2	1	1	1	1	1	2
CO4	1	1	1	2	1	2	2	1	2
CO5	3	2	2	3	3	1	1	1	2
AVG	**2**	**2**	**2**	**2**	**2**	**1**	**1**	**1**	**2**

3–High Relation, 2–Medium Relation, 1–Low Relation, 0–No Relation

XAM604A			GAMES DEVELOPMENT	L	T	P	C
				3	0	1	4
C	P	A		L	T	P	H
3	1	0		3	0	2	5

PREREQUISITE: 2D Animation & 3D Animation

	COURSE OUTCOMES	DOMAIN	LEVEL
After the completion of the course, students will be able to			
CO1	***Identify*** the basic principles, concepts and process of gaming	Cognitive	Analyze
CO2	***Identify*** all the components of a game and their functions.	Cognitive	Remember
CO3	***Demonstrate*** their competency by building game using Blender and Python	Cognitive	Understand
CO4	***Explain*** the basic of production process for the game	Cognitive	Apply
CO5	***Formulate*** with the concepts, tools and techniques for working in game design and development	Cognitive Psychomotor	Create Set

UNIT I **INTRODUCTION** **9+6**

Introduction to computer game design – Types of games, Understanding hardware – Network requirements.

Lab:

1. Mario game
2. Car Race game

UNIT II **GAME ENGINE & CODE STRUCTURE** **9+6**

Introduction to computer game engine Blender/Torque – File structures – Modeling – Scene development – Code structure python.

Lab:

1. Angry birds game
2. Music game

UNIT III **PRODUCTION PROCESS** **9+6**

Pre production for the game terminology, story board and concepts – Post production for the game techniques, peer to peer working, updating process.

Lab:

1. Hunting game
2. Shooting game

UNIT IV **GAME DESIGN & DEVELOPMENT** **9+6**

Utilize an object, character, events, instances and actions animations in a game – backgrounds and rooms usage in a game.

Lab:

1. Cricket game
2. Billiards game

UNIT V	AUDIO VISUAL DESIGN	9+6

Audio design - Understanding sound and effects in a game – adding sounds and effects in a game.

Lab:

1. Chess game
2. Carom game

LECTURE	TUTORIAL	PRACTICAL	TOTAL
45	-	30	75

REFERENCES:

1. Introduction to Game Development by Steve Rabin Charles River Media, May 2005
2. Beginning Blender: Open Source 3D Modeling, Animation, and Game Design by Lance Flavell
3. The Art of Game design by Jesse Schell, CRC Press
4. http://www.cs.uncc.edu/~tbarnes2/GameDesign/

Mapping of Course Outcomes (CO) with Programme Outcomes (PO):

B.Sc. A&M	PO							PSO	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**1**	**2**
CO1	2	2	2	1	1	1	2	1	2
CO2	2	2	2	1	1	1	2	1	2
CO3	2	1	2	1	1	1	2	1	1
CO4	3	2	3	2	1	1	2	1	2
CO5	3	2	3	2	1	1	2	1	2
AVG	**2**	**2**	**2**	**1**	**1**	**1**	**2**	**1**	**2**

3–High Relation, 2–Medium Relation, 1–Low Relation, 0–No Relation

XAM604B			TEXTURING AND SHADING	L	T	P	C
				3	0	1	4
C	P	A		L	T	P	H
3	1	0		3	0	2	5

PREREQUISITE: Rigging, Lighting & Rendering and 3D Animation

COURSE OUTCOMES		DOMAIN	LEVEL
After the completion of the course, students will be able to			
CO1	***Recognize*** the significance of Light colour.	Cognitive	Remember
CO2	***Express*** the different ways light types for shading	Cognitive	Understand
CO3	***Employ*** the understanding of the lights and shadows.	Cognitive	Apply
CO4	***Utilize*** the various texturing methods.	Cognitive	Apply
CO5	***Design*** and ***Draw*** the 3D Projections	Cognitive Psychomotor	Create Set

UNIT I	UNDERSTANDING LIGHTING, COLOR, AND COMPOSITION	9+6

Understanding the Art of Lighting- 1-Point Lighting, 2 -Point Lighting, 3-Point Lighting, Understanding Color and Composition- Color Theory, Checking Color Calibration, Color Temperature, Setting a White Point, Applying the Golden Mean, Rule of Thirds.

Ex:

1.Introduction about Maya, Photoshop

2.Create a simple model using maya

UNIT II	APPLYING THE CORRECT MAYA LIGHT TYPE	9+6

Maya Light Types- Using Spot Lights, Directional Lights, Ambient Lights, Point Lights, Using Area, Volume Lights. Linking and Unlinking Lights, Light Fog and Light Glow, Environment and Volume Fog, Chapter Tutorial: Lighting an Interior.

Ex:

1.Create a texture using photoshop

2.Apply a texture to a model

UNIT III	CREATING HIGH-QUALITY SHADOWS	9+6

Rendering Depth Maps, Understanding Depth Maps , Refining Depth Maps ,Solving Light Gap Errors ,Comparing Shadows, Raytracing Shadows, Linking and Unlinking Shadows, Creating Effects Shadows, Shadowing with Light Fog, Shadowing with Paint Effects. Shadowing with Maya- Fur, in Cloth, the Toon System. Chapter Tutorial: Lighting a Flickering Fire Pit with Shadows.

Ex:

1.Create a soda bottle model and apply texture

UNIT IV	APPLYING THE CORRECT MATERIAL AND 2D TEXTURE	9+6

Reviewing Shading Models and Materials-Lambert ,Shading with Phong ,Shading with Blinn , Shading with Phong E , Shading with the Anisotropic Material ,Shading with a Shading Map ,

Shading with a Surface Shader , Shading with Use Background.Reviewing 2D Textures- Applying Cloth , Applying Water , Applying Perlin Noise , Applying Ramps, Bitmaps, and Square Textures.Mastering Extra Map Options , Setting the Filter Type ,Shifting Color with Invert and Color Remap , Stacking Materials and Textures , Mastering the Blinn Material -Re-Creating Wood , Re-Creating Metal , Re-Creating Plastic.Chapter Tutorial: Re-Creating Copper with Basic Texturing Techniques.

Ex:

1. Unwrap a text and apply a texture, shading.
2. Unwrap human hand and add texture.

UNIT V	**APPLYING 3D TEXTURES AND PROJECTIONS**	**9+6**

Exploring 3D Textures- Applying Random Textures, Natural Textures, Granular Textures, Abstract Textures, and Environment Textures. 2D Texture Projection Options, Placing Placement Boxes and Projection Icons, Convert To File Texture Tool, Chapter Tutorial: Creating Skin with Procedural Textures.

Ex:

1.Unwrap human Head and whole human body then add texture, shading.
2,Create a model house unwrap and apply texture & shading.

LECTURE	**TUTORIAL**	**PRACTICAL**	**TOTAL**
45	**-**	**30**	**75**

REFERENCES:

1. Lee Lanier "Advanced Maya Texturing and Lighting" Autodesk Maya Press, Second Edition, United Kingdom.

Mapping of Course Outcomes (CO) with Programme Outcomes (PO):

B.Sc. A&M	**PO**							**PSO**	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**1**	**2**
CO1	3	2	3	2	2	1	2	1	2
CO2	2	3	2	2	1	2	0	1	1
CO3	2	2	3	1	2	1	1	2	3
CO4	3	2	1	3	1	2	2	1	1
CO5	2	1	3	2	0	1	1	2	3
AVG	**2**	**2**	**3**	**2**	**1**	**1**	**1**	**1**	**2**

3–High Relation, 2–Medium Relation, 1–Low Relation, 0–No Relation