

FACULTY OF LIBERAL ARTS AND MEDIA STUDIES



Scheme and Syllabus B.Sc. Animation and Multimedia (Semester I – VI)

Session w.e.f 2018-2021



VISION

“J.C. Bose University of Science and Technology, YMCA Faridabad aspires to be a nationally and internationally acclaimed leader in technical and higher education in all spheres which transforms the life of students through integration of teaching, research and character building.

MISSION

- To contribute to the development of science and technology by synthesizing teaching, research and creative activities.
- To provide an enviable research environment and state-of-the art technological exposure to its scholars.
- To develop human potential to its fullest extent and make them emerge as world class leaders in their professions and enthuse them towards their social responsibilities.

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FACULTY OF LIBERAL ARTS AND MEDIA STUDIES

VISION

The department aims to make a place at both national and international level by producing high quality ethically rich computer engineers and IT professionals conversant with the state-of-the-art technology with the ability to adapt the upcoming challenges in information technology and their applications to cater to the ever changing industrial and societal needs. It endeavours to establish itself as a centre of excellence in teaching and research to produce skilled human resources for sustainable nation's growth and having technological impact on the people's life.

MISSION

- To provide the future leaders in the area of computer application and information technology through the development of human intellectual potential to its fullest extent.
- To enable the students to acquire globally competence through problem solving skills and exposure to latest developments in area of computer application and information technologies.
- To educate the students about their professional and ethical responsibilities.

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ABOUT THE PROGRAM

Animation and Multimedia program has now the strength, vigour and potential to step in as an exciting opportunity in terms of an academic choice and career especially for students with innate creativity and the flair to do something new and unconventional. The department is highly equipped with latest software and audio visual studio, and state of art lab for animation course.

This degree provides a solid foundation in core Graphic and Multimedia, Creative Visualization and animation and film production skills. Through the academic program, students also develop excellent written and oral communication skills; learn to work as a team and project management.





FACULTY OF LIBERAL ARTS AND MEDIA STUDIES
B.SC. IN ANIMATION AND MULTIMEDIA PROGRAMME

PROGRAMME EDUCATION OBJECTIVES

PEO1	To solidify foundation of design, animation, visual effects, gaming and problem solving methodology for effective implementation in the area of animation and multimedia.
PEO2	To impart advance knowledge about various sub-domains related to the field of animation and multimedia like game design and development.
PEO3	To acquaint students about upcoming technologies like augmented reality and virtual reality
PEO4	To inculcate effective communication skills combined with professional & ethical attitude.

PROGRAMME OUTCOMES

PO1	Apply the knowledge of designing, animation, visual effects, gaming to communicate any simple or complex information or message to the society or a particular group of people.
PO2	Visualize creatively to lead any communication, education or entertainment project
PO3	Design solutions for complex visual communicating problems with knowledge and practice of latest software, technology as well as strong academic knowledge of visual art and communication.
PO4	Provide high quality e-learning design and solutions to enhance cognitive skills of children and adult pupils.
PO5	Create audio visual or virtual models for complicated training programs in fields such as medical, defense, engineering, science and research.
PO6	Apply foundation and practical skills to initiate an entrepreneurship which creates number of job opportunities for the society.
PO7	Apply ethical principles and commit to professional ethics and responsibilities and norms of the educational and entertainment practices.



CHOICE BASED CREDIT SYSTEM SCHEME

Program Core Courses (PCC)			
Sr. N.	Name the Subject	No. of Lectures / Tutorial	No. of Credits
1.	Fundamentals of Information and Web Technology (FIWT)	4	4
2.	Mathematics - 1	4	4
3.	Fundamentals of Visual Art	4	4
4.	Communication Techniques for Production-I	4	4
5.	Introduction to Art for Animation	4	4
6.	Introduction to Programming Languages and Computer Graphics	4	4
7.	Advance Art for Animation	4	4
8.	Basics of Photography & Film Studies	4	4
9.	Computer Based 2D Animation	4	4
10.	Communication Techniques for Production - II	4	4
11.	Visual Art III	4	4
12.	Creative Writing	4	4
13.	Fundamentals of Audio & Video	3	3
14.	Traditional Animation III	4	4
15.	Psychology for Interactive Media	4	4
16.	Visual Art IV	4	4
17.	Advertising and New Media	3	3
18.	Fundamentals of Compositing & Visual Effects	4	4
19.	Fundamentals of Rigging, Skinning and Animation	4	4
20.	Visual Art V	4	4



21.	Sociology for Animation	4	4
22.	Advance 2D Animation	4	4
23.	Visual Art VI	4	4
24.	Communication Project	4	4
25.	2D Animation Case Study	4	4
Total Credits		98	98

Skill Enhancement Courses (SEC) :Labs

Sr. No.	Name the Lab	No. of contact hours	No. of Credits
1.	Fundamentals of Information and Web Technology Lab	4	2
2.	Visual Art Lab	4	2
3.	Traditional Animation Lab-I	8	4
4.	Computer Programming & Graphics Lab	4	2
5.	Advanced Computer Graphics Lab	4	2
6.	Traditional animation Lab-II	8	4
7.	Graphics and Visual Design Lab III	2	1
8.	3D Designing Lab II	8	4
9.	Fundamentals of Audio & Video Lab	3	2
10.	Digital 2D Animation II Lab	2	1
11.	Graphics & Animation Lab	4	2
12.	Fundamentals of Compositing & Visual Effects Lab	4	2
13.	Fundamentals Rigging, Skinning and Animation Lab	4	2



14.	Fundamentals of Game Designing Lab	4	2
15.	Graphics and Visual Design Lab IV	4	2
16.	Advance 2D Animation Lab	4	2
17.	Graphics Designing Portfolio	3	2
Total credits		74	38

Discipline Specific Elective (DSE)			
Sr. No.	Name the Subject	No. of contact hours	No. of Credits
DSE Group	Advance Compositing & VFX + Advance Compositing & VFX Lab	4+8	4+4
	3D Animation +3D Animation Lab	4+8	4+4
	Game Documentation + Game Design Lab II	4+8	4+4

Skill Enhancement Course (SEC) : Projects			
Sr. No.	Name the Lab	No. of contact hours	No. of Credits
1	Major Project	16	8

**General Elective Course (Courses offered by Animation and Multimedia)**

Sr. No	Code	Name the Subject
1	GEC-1	Photoshop
2	GEC-2	Drawing and sketching
3	GEC-3	3D Modelling
4	GEC-4	Photo Editing
5	GEC-5	Video Editing

Mandatory Audit Course(MAC) (Mandatory to Qualify)

Sr. No	Code	Name the Subject	No. of contact hours
1.	AUD01	German-1	2
2.	AUD02	German-2(With German-1 as prerequisite)	2
3.	AUD03	French-1	2
4	AUD04	French-2(With French-1 as prerequisite)	2
5	AUD05	Sanskrit-1	2
6	AUD06	Sanskrit-2(With Sanskrit-1 as prerequisite)	2
7	AUD07	Personality Development	2
8	AUD08	Interview and Group discussion skills	2
9	AUD09	Yoga and Meditation	2
10	AUD10	Art of living/Living Skills	2
11	AUD11	Contribution of NSS towards Nation/role of NSS	2
12	AUD12	Physical Education	2



J.C. BOSE UNIVERSITY OF SCIENCE AND TECHNOLOGY, YMCA, FARIDABAD
SYNOPSIS OF
SCHEME OF STUDIES & EXAMINATIONS
3 YEARS B.SC ANIMATION AND MULTIMEDIA SEMESTER I-VI (2018-2021)

Total Credits: 151+ 4 to 6 credits (MOOCH)

Total Theory Subjects: 24

Total Labs including Seminars, Projects and Mooch course): 20

Industrial Training: 1 (in between 4th and 5th semester 2months internship)

Industrial Training: 2 (In 6th semester 6 months internship)

Total Teaching Schedule:

Lectures	Practical	Seminar	Tutorial	Total
93	97	1	-	191

Total Marks:

Sessional	End Term	Total
1140	2910	4050

Itemized Break-up:

	No.	Hours	Marks	Credits
Theory Subjects	24	93	2400	93
Labs	17	97	1300	48
Seminar	1	2	50	2
Projects	1	16	300	8
Industrial Training	1	8 months	-	-
MOOCH	1	4		4 to 6
Total			4050	151+ 4 to 6

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B.Sc. Animation and Multimedia
(Semester I)

Paper Code	Course	Course Requirements (Hrs)	Credits	University Exams	Internal Assessments	Total
B.Sc.(A)-18-101	Fundamentals of Information and Web Technology (FIWT)	4	4	75	25	100
B.Sc.(A)-18-102	Mathematics - 1	4	4	75	25	100
B.Sc.(A)-18-103	Fundamentals of Visual Art	4	4	75	25	100
B.Sc.(A)-18-104	Communication Techniques for Production-I	4	4	75	25	100
B.Sc.(A)-18-105	Introduction to Art for Animation	4	4	75	25	100
B.Sc.(A)-18-106	Fundamentals of Information and Web Technology Lab	4	2	35	15	50
B.Sc.(A)-18-107	Visual Art Lab	4	2	35	15	50
B.Sc. (A)-18-108	Traditional Animation Lab-I	8	4	70	30	100
	Total	36	28	515	185	700

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B.Sc. Animation and Multimedia
(Semester II)

Paper Code	Course	Course Requirements (Hrs)	Credits	University Exams	Internal Assessments	Total
B.Sc.(A)-18- 201	Introduction to Programming Languages and Computer Graphics	4	4	75	25	100
B.Sc. (A)- 18-202	Advance Art for Animation	4	4	75	25	100
B.Sc.(A)-18- 203	Basics of Photography & Film Studies	4	4	75	25	100
B.Sc.(A)-18- 204	Computer Based 2D Animation	4	4	75	25	100
B.Sc.(A)-18- 205	Communication Techniques for Production - II	4	4	75	25	100
B.Sc.(A)-18- 206	Computer Programming & Graphics Lab	4	2	35	15	50
B.Sc.(A)-18- 207	Advanced Computer Graphics Lab	4	2	35	15	50
B.Sc.(A)-18- 208	Traditional animation Lab-II	8	4	70	30	100
	Total	36	28	515	185	700



B.Sc. Animation and Multimedia
(Semester III)

PAPER CODE	COURSE	REQUIREMENT (HOURS)	CREDITS	UNIVERSITY EXAMS	INTERNAL ASSESSMENT	TOTAL	Course Type
BSC-AM-19-301	Visual Art III	4	4	75	25	100	PCC
BSC-AM-19-302	Creative Writing	4	4	75	25	100	
BSC-AM-19-303	Fundamentals of Audio & Video	3	3	75	25	100	
BSC-AM-19-304	Traditional Animation III	4	4	75	25	100	
BSC-AM-19-305	Psychology for Interactive Media	4	4	75	25	100	
BSC-AM-19-306	Graphics and Visual Design Lab III	2	1	35	15	50	SEC
BSC-AM-19-307	3D Designing Lab II	8	4	70	30	100	
BSC-AM-19-308	Fundamentals of Audio & Video Lab	3	2	35	15	50	
BSC-AM-19-309	Digital 2D Animation II Lab	2	1	35	15	50	
	TOTAL	34	28	550	200	750	

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B.Sc. Animation and Multimedia
(Semester IV)

PAPER CODE	COURSE	REQUIREMENT (HOURS)	CREDITS	UNIVERSITY EXAMS	INTERNAL ASSESSMENT	TOTAL	Course Type
BSC-AM-19-401	Visual Art IV	4	4	75	25	100	PCC
BSC-AM-19-402	Advertising and New Media	3	3	75	25	100	
BSC-AM-19-403	Fundamentals of Compositing & Visual Effects	4	4	75	25	100	
BSC-AM-19-404	Fundamentals of Rigging, Skinning and Animation	4	4	75	25	100	
BSC-AM-19-405	Graphics & Animation Lab	4	2	70	30	100	SEC
BSC-AM-19-406	Fundamentals of Compositing & Visual Effects Lab	4	2	35	15	50	
BSC-AM-19-407	Fundamentals Rigging, Skinning and Animation Lab	4	2	35	15	50	
BSC-AM-19-408	Fundamentals of Game Designing Lab	4	2	35	15	50	
	General Elective	3	3	75	25	100	GEC
	TOTAL	34	28	550	200	750	



B.Sc. Animation and Multimedia
(Semester V)

PAPER CODE	COURSE	REQ UIRM ENT (HOU RS)	CRED ITS	UNIVER SITY EXAMS	INTER NAL ASSE SMENT	TOTA L	Cours e Type
BSC-AM-19-501	Visual Art V	4	4	75	25	100	PCC
BSC-AM-19-502	Sociology for Animation	4	4	75	25	100	
BSC-AM-19-503	Advance 2D Animation	4	4	75	25	100	
BSC-AM-19-504	Elective (Chosen from list of electives)	4	4	75	25	100	DSE
BSC-AM-19-505	Graphics and Visual Design Lab IV	4	2	35	15	50	SEC
BSC-AM-19-506	Advance 2D Animation Lab	4	2	35	15	50	
BSC-AM-19-507	DS Elective Lab	8	4	70	30	100	DSE
	TOTAL	32	24	440	160	600	

Electives/ DS Elective Lab

BSC-AM-19- 504-1 Advance Compositing and VFX
BSC-AM-19- 507-1 Advance Compositing and VFX Lab

BSC-AM-19- 504-2 3D Animation
BSC-AM-19- 507-2 3D Animation Lab

BSC-AM-19- 504-3 Game Design & Documentation
BSC-AM-19- 507-3 Game Design Lab II



B.Sc. Animation and Multimedia
(Semester VI)

PAPER CODE	COURSE	REQUIREMENT (HOURS)	CREDITS	UNIVERSITY EXAMS	INTERNAL ASSESSMENT	TOTAL	Course Type
BSC-AM-19-601	Visual Art VI	4	2	35	15	50	SEC
BSC-AM-19-602	Communication Project	4	2	35	15	50	
BSC-AM-19-603	2D Animation Case Study	4	2	35	15	50	
BSC-AM-19-604	Major Project: Show Reel	16	8	200	100	300	
BSC-AM-19-605	Graphics Design Portfolio	3	2	35	15	50	
BSC-AM-19-606	AR/VR	2	2	-	50	50	Seminar
	TOTAL	33	18	340	210	550	

Industrial Training: 2 (In 6th semester 6 months internship)

Major Project: Procedure for Annual Examination and continuous Assessment of:

1. Project Evaluation 25 Marks
2. Project Seminar 25 Marks
3. Project Viva 50 Marks

(B) University Assessment Mark

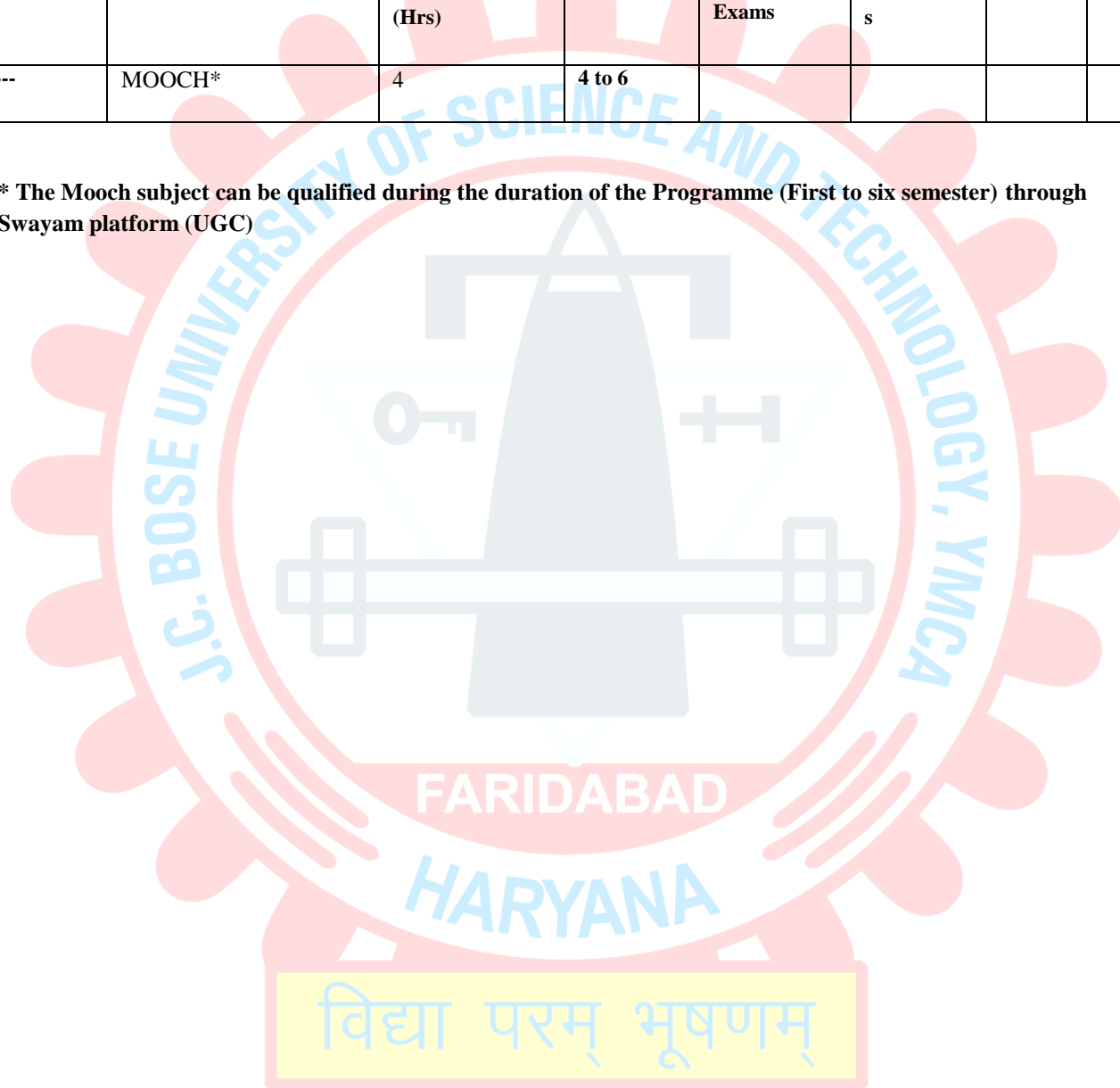
1. Assessment by Institute Faculty 50 Marks
2. Assessment by Industrial Guide 100 Marks
3. Conduct Marks 50 Marks

TOTAL 300 Marks

One MOOCH Subject to be qualified in any semester of B.Sc. Animation and Multimedia

Paper Code	Course	Course Requirements (Hrs)	Credits	University Exams	Internal Assessments	Total	Course Type
-----	MOOCH*	4	4 to 6				

* The Mooch subject can be qualified during the duration of the Programme (First to six semester) through Swayam platform (UGC)





SEMESTER I



B.Sc. (Animation and Multimedia) 1st Semester

CODE: B.Sc. (A)-18-101

SUBJECT NAME: Fundamentals of Information and Web Technology**NO OF CREDITS: 4**L P
4 0

SESSIONAL: 25

THEORY EXAM: 75

TOTAL: 100

NOTE: Question paper has two parts. Part-1 has 10 questions each of 2 marks. It covers the entire syllabus. Attempt any four questions out of six from Part-2.

UNIT I: AN OVERVIEW OF COMPUTER SYSTEM AND OPERATING SYSTEMS

Fundamentals: Evolution of computers, Hardware organization of a computer. Introduction to microprocessors. Input/output Devices, Input/output ports and connectors. Different Number Systems:- Decimal Number System, Binary Number System, Octal Number System, Hexadecimal Number System, and their inter- conversions. Operating System Basics: Introduction to Operating system, Functions of an Operating Systems, Classification of Operating Systems.

UNIT II: BASIC INTRODUCTION TO PROGRAMMING LANGUAGES:

Machine

Language, Assembly Languages, High level Languages, Types of high level languages, Compiler, Interpreter, Assembler, Loader, Linker, Relationship between Compiler, Loader and Linker.

UNIT III: BASIC INTRODUCTION TO COMPUTER NETWORKS:

Data

Communication, modulation, Network devices, LAN, LAN topologies, WAN, OSI Reference model Introduction to Internet and protocols: TCP/IP ref. model.

UNIT IV: Internet and WWW: Hypertext Transfer Protocol (HTTP), URL, HTML: Internet Language, Understanding HTML, Create a Web Page, Linking to other Web Pages, Publishing HTML Pages, Text Alignment and Lists, Text Formatting Fonts Control, E-mail Links and link within a page, Creating HTML Forms.

REFERENCES

1. Fundamental of Information Technology by A. Leon & M.Leon.
2. Fundamentals of Computers and Programming with C by A. K. Sharma Dhanpat Rai publications
3. Computer Networks (4th Edition) by Andrew S. Tanenbaum

B.Sc. (Animation and Multimedia) 1st Semester
 CODE: B.Sc. (A)-18-102
SUBJECT NAME: Mathematics for Animation

NO OF CREDITS: 4

L	P
4	0

SESSIONAL: 25	
THEORY EXAM: 75	
TOTAL:	100

NOTE: Question paper has two parts. Part-1 has 10 questions each of 2 marks. It covers the entire syllabus. Attempt any four questions out of six from Part-2.

UNIT I: 2D Coordinate Geometry: Cartesian and Polar coordinate system, Distance, Formula, Equation of Line, Circle, Ellipse etc.

UNIT II: 3D Coordinate Geometry: 3D coordinate System, Equation of Line, Circle, Ellipse and their attributes, Colour and Greyscale Levels, Area fill Attributes, Character Attributes, Bundled Attributes, Anti-aliasing. Basic of Transformations: translation, Scaling, Rotation etc.

UNIT III: Three-Dimensional Concepts: Three Dimensional Display Methods, 3D Transformations, Parallel Projection and Perspective Projection.

UNIT IV: Matrices and Vectors: Matrix definition and storage. Basic operations on Matrices: Addition, Multiplication, Transpose etc. Vectors and scalars, magnitude and direction of a vector. Direction cosines and direction ratios of a vector. Types of vectors (equal, unit, zero, parallel and collinear vectors), position vector of a point, negative of a vector, components of a vector, addition of vectors, multiplication of a vector by a scale.

REFERENCES

1. Plastock: Theory & Problem of Computer Graphics, Schaum Series.
2. M. D. Raisinghania, Vector Calculus, S Chand Co. Pvt. Ltd., 2013.
3. B Spain, Vector Analysis, ELBS, 1994.

B.Sc. (Animation and Multimedia) 1st Semester
 CODE: B.Sc. (A)-18-103
SUBJECT NAME: Fundamentals of Visual Art

NO OF CREDITS: 4

L	P
4	0

SESSIONAL: 25

THEORY EXAM: 75

TOTAL: 100

NOTE: Question paper has two parts. Part-1 has 10 questions each of 2 marks. It covers the entire syllabus. Attempt any four questions out of six from Part-2.

UNIT I: Introduction to Visual Design: Introduction- Visual Hierarchy- Line type- Line Weight- Colour Selection - Legibility & Readability- Page Layout –

UNIT II: Elements and Principles of Design: Elements of Design - Line - Color - Shape - Categories - Texture - Space – Form

Principles of design: unity, harmony, balance, rhythm, contrast, dominance, and gradation. (Using Gestalt Principles)

UNIT III: Graphic, Print & Traditional Art: Colour Scheme, Introduction to graphic designing, Types of Layout, Understanding Fonts, Express Typography, Hand Drawn and mix media

UNIT IV: Basic of Web Designing: Introduction to templates, Banner Designing, Introduction to web Ads,

References:

1. Universal principles of design by William led well
2. Design element: A graphic style manual by Timothy Samara
3. Geometry of design by Kimberly Elam
4. The principles of beautiful web design by Jason beaird

B.Sc. (Animation and Multimedia) 1st Semester

CODE: B.Sc. (A)-18-104

SUBJECT NAME: Communication Techniques for production I**NO OF CREDITS: 4**

L	P
4	0

SESSIONAL: 25

THEORY EXAM: 75

TOTAL: 100

NOTE: Question paper has two parts. Part-1 has 10 questions each of 2 marks. It covers the entire syllabus. Attempt any four questions out of six from Part-2.

UNIT I: Introduction to Communication: Definition and Importance of communication, Effective communication, Interpersonal (2 way process) of communication, Effective Communication, Introduction EC IO, Sender-Receiver Paradigm, Types of communication, Internal & External communication, Grape Wine Theory, Advertising, Advocacy, Mass Communication,

UNIT II: Aspects of Communication Verbal & Non Verbal, Written Communication in details, MEHRABIAN principle, Body language, Gesture, Expression, Space, Protocol, Decorum

UNIT III: Principles of Communication 1H5W in content writing, Inverted Pyramid, Targeting & Profiling Audience, Protocols of Communication

UNIT IV: Types of Communication Channels & Mediums of Communication, Types of Media, Introduction to new Aspects of Media, Digital Media, Aspect of communication in Animation, Development & Participation in communication, Interactive Communication through Gaming, Educating through communication.

Reference:

1. Communication for Business by Suparna Dutta
2. Kewal J Kumar: Mass Communication in India
3. IyerVenkat, Mass Media Laws And Regulations in India- Published by AMIC, 2000

B.Sc. (Animation and Multimedia) 1st Semester

CODE: B.Sc. (A)-18-105

SUBJECT NAME: Introduction to Art for Animation**NO OF CREDITS: 4**

L	P
4	0

SESSIONAL: 25

THEORY EXAM: 75

TOTAL: 100

NOTE: Question paper has two parts. Part-1 has 10 questions each of 2 marks. It covers the entire syllabus. Attempt any four questions out of six from Part-2.

Unit I- Introduction to Animation (History of Animation): Origin of The Art of Walt Disney style, Studies of animation movies, Study of animation style and industry (Disney, Indian, Japanese), Study of old master work and style (Disney, Japanese and Indian).

Unit 2-Types of Animation: Traditional Animation. (2D, Cel, Hand Drawn), 2D Animation. (Vector-Based), 3D Animation. (CGI, Computer Animation).

Unit 3- Introduction to Perspectives: One point, two point, three point perspective. Interior and exterior design using perspective, Understanding Backgrounds (outdoor study).

Unit 5- Introduction to Light & shade: Pencil shading techniques, Colour & Value, Colour & mediums, Composition 2D & 3D

Unit 4-Anatomy & Body Language: Study of human anatomy and study of animal anatomy using heads & basic shapes.

References:

1. The World History of Animation by Stephen Cavalier
2. Sketching for Beginners: Step-by-step Guide to Getting Started With Your Drawing
3. Perspective Made Easy (Dover Art Instruction)
4. Anatomy & Drawing by Victor Perard
5. Figure made is easy by Aditya Chari
6. Anatomy of the Artist – Thompson & Thompson.

B.Sc. (Animation and Multimedia) 1st Semester

CODE: B.Sc. (A)-18-106

SUBJECT NAME: Fundamentals of Information and Web Technology Lab**NO OF CREDITS: 2**L T P Total
0 0 4 4Internal Practical: 15 Marks
External Practical: 35 Marks
Total: 50 Marks
Duration of Exam: 3 Hours

S. No.	Practical
1	Introduction to computer, its peripherals, Maintenance of computers using antiviral programs, formatting computers, Handling of computer files and folders use of DOS command, directory & file name & path.
2	Introduction to various packages and software's and Installation of software on Computer.
3	Use of MS DOS commands including system commands, creation of batch files and various editors. System booting, Formatting disk, back process, File making and protecting files, Directory, file name and path.
4	Word Basics: Starting Word, Creating Documents, Parts of Word Window, Some 'Don'ts', Formatting Features, Menus, Commands, Toolbars and their Icons, Mail merge, Creating different sections in word file.
5	Excel Basics :The interface, Auto-complete Formatting , Basic calculations, Charts and Pivot, Tables, Charts, Pivot tables, Conditionals and Lookup Tables, Conditional functions, IF functions, Lookup functions, Conditional Formatting and Lists , Conditional formatting, Sorting lists, Filtering lists, Drop-Down Lists and Dynamic Charts, Drop-down lists, OFFSET function, Dynamic chart.
6	Scanning, Saving and Printing of documents
7	Power Point Basics: Introduction, Toolbars, Their Icons and Commands.
8	Using design software's, paint brush, toolbar and various commands.
9	Develop static pages (using Only HTML) of an online Book store. The website should consist the following pages: Home page, Registration and user Login User Profile Page and Books catalogue Shopping Cart and Order Conformation
10	To create the several frames using HTML and display to the web browser.

B.Sc. (Animation and Multimedia) 1st Semester

CODE: (B.Sc. (A)-18- 107)

SUBJECT NAME: Visual Art Lab**NO OF CREDITS: 2**

L T P Total

0 0 4 4

Internal Practical: 15 Marks

External Practical: 35 Marks

Total : 50 Marks

Duration of Exam: 3 Hours

S. No.	Practical
1	Layout Designing
2	Design a illustration
3	Design a vector art
4	Design a letterhead
5	Design a logo
6	Design a pamphlet/Flyer/Brochure.
7	Design a poster
8	Design a headline for different industries
10	Design your favourite cartoon character.
11	To create own text A to Z
12	To create Text for different Style and medium
13	Product illustration

References:

1. Adobe CC Classroom in a Book (2017) by Andrew Faulkner
2. Adobe Photoshop CC for Dummies by Peter Bauer
3. CorelDRAW X8 in Simple Steps

B.Sc. (Animation and Multimedia) 1st Semester
 CODE: B.Sc. (A)-18- 108
SUBJECT NAME: Traditional Animation Lab 1 Lab

NO OF CREDITS: 4

L T P Total 0
 0 8 8

Internal Practical: 30 Marks
 External Practical: 70 Marks
 Total : 100 Marks
 Duration of Exam: 3 Hours

S. No.	Practical
1.	Basic Sketching for Develop Drawing Skill using many techniques
2.	Quick rapid sketching and gesture drawing
3.	Flip book design
4.	Understanding Classical Animation & Principles of Animation
4. 1	Time and Space
4.2	Slow Out & Slow In
4.3	Squash & Stretch
4.4	Arc
4.5	Follow Through & Overlapping Action
5	Experimental Animation

References:

4. Sketching for Beginners: Step-by-step Guide to Getting Started With Your Drawing
5. Timing for animation by Harold Whitaker
6. Animation survival kit by Richard Williams
7. The Art of Stop-Motion Animation Ken A. Priebe
8. Cartoon Animation by Preston Blair
9. Cartooning: Animation 1 with Preston Blair: Learn to Animate Cartoons Step by Step



SEMESTER II

B.Sc. (Animation and Multimedia), 2nd semester

CODE: B.Sc. (A) -18-201

SUBJECT NAME: Programming Languages and Computer Graphics**NO OF CREDITS: 4**

L	P
4	0

SESSIONAL:	25
THEORY EXAM:	75
TOTAL:	100

NOTE: Question paper has two parts. Part-1 has 10 questions each of 2 marks. It covers the entire syllabus. Attempt any four questions out of six from Part-2.-

Unit-I: AN OVERVIEW OF C: Constants, Variables and Data types, operators and Expressions, managing I/O operations, Decision Making and branching, Decision Making and looping, Arrays, Character Arrays and Strings, User Defined Functions.

UNIT II: POINTERS IN C: Introduction, Understanding Pointers, Accessing the address of a variable, Declaring Pointer Variables, Initialization of Pointer Variables, Accessing a variable through its pointer.

UNIT III: An Introduction Graphics System: Computer Graphics and Its Types, Application of computer graphics, Graphics Systems : Video Display Devices, Raster Scan Systems, Random Scan Systems, Graphics Monitors and Work Stations, Input Devices, Hard Copy Devices, Graphics Software.

UNIT IV: Output Primitives and Attributes of Output Primitives : Output Primitive Points and Lines, Line Drawing Algorithms, Circle Generating Algorithms, Scan-Line Polygon Fill Algorithm, Inside-Outside tests, Boundary-Fill Algorithm, Flood Fill Algorithm, Cell Array, Character Generation.

Unit-V: Two-dimensional Geometric Transformations: Basic Transformations, Matrix Representation and Homogeneous Coordinates, Composite Transformations, Reflection and Shearing. Two-Dimension Viewing : The viewing Pipeline, Window to view port coordinate transformation, Clipping Operations, Point Clipping, Line Clipping, Polygon Clipping, Text Clipping, Exterior Clipping.

REFERENCES

1. Gill, Nasib Singh : Essentials of Computer and Network Technology, Khanna Books Publishing Co., New Delhi
2. Donald Hearn and M. Pauline Baker : Computer Graphics, PHI Publications.
3. Plastock: Theory & Problem of Computer Gaphics, Schaum Series.
4. Foley & Van Dam : Fundamentals of Interactive Computer Graphics, Addison-Wesley.
5. Newman : Principles of Interactive Computer Graphics, McGraw Hill.



B.Sc. (Animation and Multimedia), 2nd semester
 CODE: B.Sc. (A) -18-202

SUBJECT NAME: Advance Art for Animation

NO OF CREDITS: 4

L P
 4 0

SESSIONAL: 25
 THEORY EXAM: 75
 TOTAL: 100

NOTE: Question paper has two parts. Part-1 has 10 questions each of 2 marks. It covers the entire syllabus. Attempt any four questions out of six from Part-2.

UNIT I: Introduction to Volume Construction: Volume Construction, Balance, Muscles study, human and animal part study, Foreshortening

UNIT II: Advance Perspective Drawing (Introduction to Perspective - Different types of Perspective - Different types of Eye Levels)

UNIT III: Introduction to Cartoon Character (Cartoon volume construction - Anatomy of Cartoon Character - Drawing for Animation Characters)

Unit IV: Introduction to fantasy design: Drawing from imagination, types of creatures, Foreshortening in background art.

References:

1. Figure Study Made Easy By- Aditya Chari -- Grace Publication
2. Perspective By Milind Mulik -- Jyotsna Prakashan
3. Animal Anatomy for Artists – The Elements of Form – Eliot Gold finger - Oxford University Press.
4. University Press.
5. How to draw drawing from imagination by Scott Robertson

B.Sc. (Animation and Multimedia), 2nd semester
 CODE: B.Sc. (A) -18-203
SUBJECT NAME: Basics of Photography & Film Studies

NO OF CREDITS: 4

L P
 4 0

SESSIONAL: 25
 THEORY EXAM: 75
 TOTAL: 100

NOTE: Question paper has two parts. Part-1 has 10 questions each of 2 marks. It covers the entire syllabus. Attempt any four questions out of six from Part-2.

UNIT I: History: Brief History of Photography and chronicle of Development of Camera.

UNIT II: Camera fundamentals: Working of Camera: Components, Functions & Types of Camera, Camera and lens, Element of photography, Understating light, Compositing rules.

UNIT III: Essentials of screen: Camera angles, Shot sizes, Camera movements, Compound Movements.

UNIT IV: Film appreciation: What is film, Theme, Story and screen play, what is cinematography, Sound and editing, Short film, Documentary and feature film, Movie genres, Western film, History of Indian cinema, Others forms, Impact of film in society and Analysis.

References:

1. The beginner's photography guide by Chris Gatcum
2. Digital photography for beginners by Angela Pierce
3. Film direction Shot by shot, by Steve Katz

B.Sc. (Animation and Multimedia), 2nd semester
 CODE: B.Sc. (A) -18-204
SUBJECT NAME: Computer Based 2D Animation

NO OF CREDITS: 4

L P
 4 0

SESSIONAL: 25
 THEORY EXAM: 75
 TOTAL: 100

NOTE: Question paper has two parts. Part-1 has 10 questions each of 2 marks. It covers the entire syllabus. Attempt any four questions out of six from Part-2.

UNIT I: Overview of Flash: Workspace ,Setting stage dimensions, working with panels, panel layouts, Setting stage dimensions, working with panels, panel layouts, Object Selection, working with objects & transforming Objects

Unit II: Vector Animation: Introduction to vectors, working with vector and bitmap graphics, beginning to advanced animation techniques, working with layer, masking

Unit III: Actionscript: understating Actionscript, different templates, Actionscript in web designing, controls of movie, Actionscript in gaming.

Unit IV: Animation: Time line, Tweening, implementing animation principles.

References:

1. Flash Professional Bible Published by Wiley Publishing (Robert R & Snow D.)
2. Labrecque: Learn Adobe Ani CC Mul by Joseph Labrecque and Rob Schwartz
3. Adobe Animate CC Classroom in a book (2018)

B.Sc. (Animation and Multimedia), 2nd semester
 CODE: B.Sc. (A) -18-205

SUBJECT NAME: Communication Techniques for Production - II

NO OF CREDITS: 4

L P
 4 0

SESSIONAL: 25
 THEORY EXAM: 75
 TOTAL: 100

NOTE: Question paper has two parts. Part-1 has 10 questions each of 2 marks. It covers the entire syllabus. Attempt any four questions out of six from Part-2.

UNIT I: Advance Concepts of Communication: Rules of Written Communication, Barriers, Documentation.

UNIT II: Letter and Report Writing in Detail: Letter Writing, Commercial Writing, Office Correspondence, Report Writing, Fundamentals and Types of Report Writing, Objectives, Reference & Bibliography

UNIT III: Electronic Communication & Social Media: Understanding concepts of E-mail, Appropriate Format, Structuring Body & Content, Attachments, Mail Protocols, Forwarding & Bulk Mails, Social Media & Advertising, Writing for Blogs, Websites & Social Media, Impact & effects of Punch Lines

UNIT IV: Developing Effective Content: History of Communication, Writing Paragraphs, Essay, Content Expansion, Synopsis & Abstract, Designing Flow Chart, Effective communication in PPT

Reference Books:

1. Business for communication by Suparna Dutta
2. IyerVenkat, Mass Media Laws And Regulations in India- Published by AMIC, 2000
3. Introduction to mass Communication : Medial Literacy & Culture By Stanley Baran The Tata McGraw Hill
4. The Media in your life -By Jean Folkerts & Stephen Lacy by PEARSONPUBLICATION.

B.Sc. (Animation and Multimedia), 2nd semester
CODE: (B.Sc. (A)-18- 206)
SUBJECT NAME: Computer Programming & Graphics Lab

NO OF CREDITS: 2

L T P Total
 0 0 4 4

Internal Practical: 15 Marks
 External Practical: 35 Marks
 Total : 50 Marks
 Duration of Exam: 3 Hours

S. No.	Practical
1	Write a Program to find largest among three numbers
2	Write a Program to check if number is Prime
3	Write a Program to print sum of digits of a number
4	Write a Program to print even numbers from 2 to 100
5	Write a Program to print the reverse of a number entered by user
6	Write a Program to print table of a number
7	Write a Program to calculate roots of a quadratic equation
8	Write a Program to print the Fibonacci series
9	Write a Program to calculate factorial of a number
10	Write a Program to find largest and smallest element in an array
11	Write a Program to find sum of two 2-D arrays
12	Write a Program to multiply two 2-D arrays
13	Write a Program to use inbuilt string functions.
14	Write a Program to check whether entered string is palindrome

15	Write a Program to calculate factorial of a number using functions
16	Write a Program to find factorial using recursion
17	Write a Program to find length of a string using pointers
18	Write a Program to calculate marks using array of structures.
19	Write a Program to copy the contents of one file to another file
20	Write the program to draw a landscape using inbuilt graphics functions.
21	Write the program to draw a line using DDA algorithm.
22	Write the program to draw a landscape using inbuilt graphics functions.
23	Write the program to draw a circle using Bresenham's circle drawing algorithm.
24	Write the program to translate a polygon.
25	Write the program to rotate a polygon.

B.Sc. (Animation and Multimedia) 2nd semester
 CODE: (B.Sc. (A)-18- 207)
SUBJECT NAME: Advanced Computer Graphics Lab

NO OF CREDITS: 2

L T P Total
 0 0 4 4

Internal Practical: 15 Marks
 External Practical: 35 Marks
 Total : 50 Marks
 Duration of Exam: 3 Hours

S. No.	Practical
1.	Color balance in advance
2.	Define pattern and preset
3.	Importance of filters
4.	Layer and Blending modes
5.	Photo editing and compositing
6.	Digital illustration objects like vehicle, weapon and props, cartoon/ comic character etc.
7.	Timeline (GIF)
8.	Matte Painting, colour landscape and objects
9.	Importance of filters
10.	Masking

Reference Books:

1. Adobe CC Classroom in a Book (2017) by Andrew Faulkner
2. Adobe Photoshop CC for Dummies by Peter Bauer

B.Sc. (Animation and Multimedia) 2nd Semester

CODE :(B.Sc. (A)-18- 208)

SUBJECT NAME: Traditional Animation Lab II

NO OF CREDITS: 4

L T P Total
0 0 8 8

Internal Practical: 30 Marks
External Practical: 70 Marks
Total : 100 Marks
Duration of Exam: 3 Hours

S. No.	Practical
1.	Advance Sketching for Develop Drawing Skill using many techniques
2.	Understanding Classical Animation & Principles of Animation
2.1	Staging
2.2	Straight Ahead Action and Pose to Pose
2.3	Secondary Action
2.4	Exaggeration
2.5	Solid drawing
2.6	Appeal
3.	Body mechanics
4.	Study of expression

References:

1. Timing for animation by Harold Whitaker
2. Animation survival kit by Richard Williams
3. Cartoon Animation by Preston Blair
4. Cartooning: Animation 1 with Preston Blair: Learn to Animate Cartoons Step by Step
5. Acting for Animators by Ed Hooks



B.Sc. (Animation and Multimedia) 2nd Semester

CODE: AUD -01

SUBJECT NAME: GERMAN- I

NO OF CREDITS: 0

L P
2 0

SESSIONAL: 25
THEORY EXAM: 75
TOTAL: 100
Duration Exam: 3 hours

Unit-I	Introduction Basic Greetings in German
Unit-II	Counting 1-100 Basic questions in German Introduce yourself
Unit-III	Personal Pronouns Verb conjugations (regular verbs)
Unit-IV	Articles- der, die, das Vocabulary (classroom objects with articles)
Unit-V	Days, months, seasons + im/am Time (formal & informal) Counting 1000+
Unit-VI	Verb Conjugations (Irregular verbs) Separable Verbs

Reference Books:

1. Netzwerk A1 by Paul Rusch
2. Studio d A1 by Funk, Kuhn, Demm



B.Sc. (Animation and Multimedia) 2nd Semester

CODE: AUD -02

SUBJECT NAME: GERMAN- II

NO OF CREDITS: 0

L P
2 0

SESSIONAL: 25
THEORY EXAM: 75
TOTAL: 100
Duration Exam: 3 hours

Unit-I	Hobbies Professions
Unit-II	Family Possessive pronouns and articles
Unit-III	Nominative and Accusative case Definite and indefinite articles in German
Unit-IV	Articles- der, die, das Vocabulary (classroom objects with articles)
Unit-V	Modal Verbs Imperative
Unit-VI	W-questions Introduction

Reference Books:

1. Netzwerk A1 by Paul Rusch
2. Studio d A1 by Funk, Kuhn, Demme



B.Sc. (Animation and Multimedia) 2nd Semester

CODE: AUD -03

SUBJECT NAME: FRENCH I

NO OF CREDITS: 0

L P
2 0

SESSIONAL: 25
THEORY EXAM: 75
TOTAL: 100
Duration Exam: 3 hours

Each lesson is divided into three parts which consist of Dialogue, Vocabulary and Grammar.

Description du materiel

Unit I: OBJECTIFS COMMUNICATIFS

- S'initiera' laculturefrançaise
- De'crirelinepersonne
- Direlanationalite'
- Parler des saisons
- Localizer des objets
- Demander I donner des goûts et des préférences

Unit II: GRAMMAIRE/VOCABULAIRE

- Les verbes en(er)
- Les pronoms sujets
- Les articles definis
- Le corps humain
- Les verbes en(ir)
- Lesarticlesinde'finis
- La negation
- Les verbes en (ger)
- Lefe'minimetlepluriel
- Les expressions avec faire
- Les (nombres) (1-100)
- Les prepositions
- L'interrogations
- Les verbs en (re) et irreguliers
- Les repas français
- Les adjectifs possessifs
- De'crireuneville



References:

1. APPRENONS LE FRANCAIS Methode de Francais by Mahitha Ranjit , Monica Singh
2. LE NOUVEAU SANS FRONTIERES Methode de Francais by Philippe Domonique, Jacky Girardet
3. Took reference from Bhartia Vidya Bhawan institute of foreign languages.





B.Sc. (Animation and Multimedia) 2nd Semester

CODE: AUD -04

SUBJECT NAME: FRENCH II

NO OF CREDITS: 0

L P
2 0

SESSIONAL: 25
THEORY EXAM: 75
TOTAL: 100
Duration Exam: 3 hours

Each lesson is divided into three parts which consist of Dialogue, Vocabulary and Grammar.

Description du materiel

Unit-I: OBJECTIFS COMMUNICATIFS

- S'initiera'laculturefrançaise
- Salut
- Parler dela quantite
- Decrire une personne
- Parler de la famille
- Decrire la journee
- Direl'heure
- Parler des saisons
- Interroger sur/ Parler de la Sante

Unit-II: GRAMMAIRE/ VOCABULAIRE

- Les verbes en(er, ir, re)
- La negation
- Les articles
- Les adverbes de quantite
- Le feminin et le pluriel des noms et des adjectifs
- La position des adjectifs
- L'infinitifapresunautreverbe
- Les membres de la famille
- Les verbes pronominaux
- Les nombres cardinaux et ordinaux
- Les saisons, les jours de la semaine et les mois de l'annee



- Trois formes d'interrogation
- L'interrogation négative et (si)
- Les expressions avec (avoir)
- Les animaux
- Les couleurs

References:

1. a) APPRENONS LE FRANCAIS Methode de Francais by Mahitha Ranjit , Monica Singh
b) LE NOUVEAU SANS FRONTIERES Methode de Francais by Philippe Domonique, Jacky Girardet
2. Took reference from Bhartia Vidya Bhawan institute of foreign languages.



B.Sc. (Animation and Multimedia) 2nd Semester

CODE: AUD -07

SUBJECT NAME: PERSONALITY DEVELOPMENT

NO OF CREDITS: 0

L P
2 0

SESSIONAL: 25
THEORY EXAM: 75
TOTAL: 100
Duration Exam: 3 hours

1. To learn to achieve the highest goal happily
2. To become a person with stable mind, pleasing personality and determination
3. To awaken wisdom in students

Unit-I: Neetisatakam-Holistic development of personality Verses- 19,20,21,22 (wisdom)

Verses- 29,31,32 (pride& heroism)

Verses- 26,28,63,65 (virtue)

Verses- 52,53,59 (dont's)

Verses- 71,73,75,78 (do's)

Unit-II: Approach to day to day work and duties.

Shrimad BhagwadGeeta : Chapter 2-Verses 41, 47,48,
Chapter 3-Verses 13, 21, 27, 35,

Chapter 6-Verses 5,13,17, 23, 35,

Chapter 18-Verses 45, 46, 48.

Unit-III: Statements of basic knowledge.

Shrimad Bhagwad Geeta: Chapter2-Verses 56, 62, 68

Chapter 12 -Verses 13, 14, 15, 16,17, 18

Personality of Role model. Shrimad Bhagwad Geeta:
Chapter2-Verses 17, Chapter 3-Verses 36,37,42,
Chapter 4-Verses 18, 38,39

Chapter18 – Verses 37,38,63



References:

1. "Srimad Bhagavad Gita" by Swami SwarupanandaAdvaita Ashram (Publication Department), Kolkata
2. Bhartrihari's Three Satakam (Niti-sringar-vairagya) by P.Gopinath,
3. Rashtriya Sanskrit Sansthanam, New Delhi.





B.Sc. (Animation and Multimedia) 2nd Semester

CODE: AUD -08

SUBJECT NAME: INTERVIEW AND GROUP DISCUSSION SKILLS

NO OF CREDITS: 0

L P
2 0

SESSIONAL: 25
THEORY EXAM: 75
TOTAL: 100
Duration Exam: 3 hours

Quality of Content

- Comprehension of core idea
- Real life examples
- Data generation
- Reasoning

Vision /Goal Orientation

- Driving towards issue resolution
- Intelligent use of others' content

Personality

- Attitude
- Leadership
- Influencing ability
- Rapport building
- Participation
- Team

Confidence

- Motivation
- Activeness
- Energy
- Sense of humour



Communication

- Articulation
- Fluency
- Listening
- Body language
- Eye Contact

Types Of G.D

- Factual Topics
- Controversial Topics
- Abstract Topics

Interview Skills

- Common Interview Questions
- What Employers Want
- Attitude and Effort
- Body Language
- Research
- The Mock Interview
- Phone Interviews
- Behavioral Interviews
- Closing the Interview
- Thank You Notes

FARIDABAD

HARYANA

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B.Sc. (Animation and Multimedia) 2nd Semester

CODE: AUD -09

SUBJECT NAME: YOGA AND MEDITATION

NO OF CREDITS: 0

L P
2 0

SESSIONAL: 25
THEORY EXAM: 75
TOTAL: 100
Duration Exam: 3 hours

Unit-I: Introduction to yoga and its different levels, food habits, Sanskar of a yogi, Patanjali Yogsutra, its importance in life, benefits and history of yoga.

Unit-II: Meditation and its relation with yoga, mind relaxation, development of morality and ethics, prayer and its meaning, its importance in life, benefits and history of meditation.

Unit-III: Pranayam and its introduction, types of pranayam, breathing exercises, preliminary preparation before pranayam, its importance and benefits in life.

Unit-IV: Practice of different types of Pranayam: Anulom-Vilom, Kapalbhathi, Nadi Shodhan, Agni Sar, Bhastrika, Bharamari etc.

Unit-V: Mantra and their importance, introduction to some chanting mantras, practicing some of mantras Gayatri Mantra, Namokar Jaap etc.

Unit-VI: Aasan and their types, benefits of different aasans, practicing of different aasans: Padamaasan, surya-namaskar, tadaasan, navaasan, gomukh aasan, bhujang aasan etc.

Reference Books:

1. Patanjali Yogsutra
2. Yog Manjari

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B.Sc. (Animation and Multimedia) 2nd Semester

CODE: AUD -10

SUBJECT NAME: ART OF LIVING

NO OF CREDITS: 0

L P
2 0

SESSIONAL: 25
THEORY EXAM: 75
TOTAL: 100
Duration Exam: 3 hours

Pre-requisites:

1. Getting up early in the morning, bathing, and meditation before sunrise
2. Following of five **Yamas** and five **Niyamas**
3. Avoiding 7 great sins
4. Some control over food (avoiding wine etc.)
5. Knowledge of Sanskritam

Unit-I: IMPORTANCE Solution to present day problems: terrorism, pollution, personal, family, social, health, mental etc.; attainment of physical comforts, security, good governance, healthy environment etc.; bliss (ananda) of Yoga, getting rid of all miseries forever (Moksha); Why Vedic way? Vedas the oldest scriptures, word of the creator, fountain head of all religions; virtuous actions/Dharma, Pure (“Shudha”) Manusmriti; practical example – Valmiki Ramayanam (pure); evidences from Veda, Manusmriti (pure), Valmiki Ramayanam (pure), NASA findings etc.

Unit-II: VEDIC ROUTINE DAILY Brahma yajnya : Sandhyā- vandanam - Place, time, duration, dress, posture, achamanam, pranayama, japa, benefit, evidences, reading of veda/sāstra; Deva-yajnya: place, time, material; Balivaisvadeva yajnya; daily livelihood / or as per āshrama requirement; “Yamas” – Ahinsa, satya, asteya, brahmacharya, aparigraha; “Niyamas” – shaucha, santosha, tapah, swadhyaya, ishwara pranidhanam; significance and impact on personal and social life.

Unit-III: GENERAL MANNERS Respecting the elders (specially the parents and the teacher), not to throw excreta or other impure things into water or fire, avoiding

anger with an angry person etc.



Unit-IV: VEDIC LIFE ROTINE Four ashramas – brahmacharya, grihastha, vanaprastha, sanyāsa, duties in each.

Unit-V: SANSKARAS: 16 sanskāras (from conception till death) for the betterment of physical (sthūla sariram) and mental health (Sūkshma Sariram), institution of marriage – virginity, age difference, sincerity towards each other etc.

Unit-VI: Great sins (“Mahā Pātaka”) and “Prāyashcittam”: Seven great sins – abortion, adultery, drinking wine, livelihood on interest, speaking lie after lie in the court of virtuous men, stealing gold, killing a scholarly person.

Unit-VII: Self Realization: The greatest achievement, becoming immortal (Moksha), ashtanga yoga.

Unit-VIII: Vedic Science and Technology: Proper town planning as per the Vedic texts to meet the above objectives (good governance), some fundamentals from Vedic science to understand the Vedic art of living.

Unit-IX: Tips from Ayurveda for good health: Drinking water after getting up from bed, very light dinner, fresh warm food, cow’s products etc.

Reference books:

1. Rigveda- Sakal sakha, Yajurveda- Madhyandin Sakha
2. Satapatha Brahmanam
3. Manusmriti (“Shudha”)
4. Valmiki Ramayanam (“Shudha”)
5. Samarangana Sutra Dhara
6. Vaiseshika Darsanam, Yoga Darsanam
7. Susrut Sanhita



B.Sc. (Animation and Multimedia) 2nd Semester
CODE: AUD -11
SUBJECT NAME: ROLE OF NSS IN NATION BUILDING

NO OF CREDITS: 0

L P
2 0

SESSIONAL: 25
THEORY EXAM: 75
TOTAL: 100
Duration Exam: 3 hours

Unit-I: Understanding youth

- Definition, profile of youth, categories of youth
- Issues, challenges and opportunities for youth
- Youth as an agent of social change
- National youth Policy

Unit-II: Importance and Role of Youth Leadership

- Meaning and types of leadership
- Qualities of good leaders; traits of leadership
- Importance and role of youth leadership
- Youth-focused and Youth-led organizations

Unit-III: Life Competencies

- Definition and Importance of life competencies
- Communication –process, types & barriers
- Motivation – Concept & Cycle
- Problem Solving and Decision Making

Unit-IV: Social Harmony and National Integration

- Indian history and culture
- Role of youth in peace-building and conflict resolution
- Role of youth in Nation building
- Youth development programmes at the National Level, State Level and voluntary sector



B.Sc. (Animation and Multimedia) 2nd Semester

CODE: AUD -12

SUBJECT NAME: PHYSICAL EDUCATION

NO OF CREDITS: 0

L P
2 0

SESSIONAL: 25
THEORY EXAM: 75
TOTAL: 100
Duration Exam: 3 hours

- Unit-I: Concept of Physical Education:** Meaning and definition of Physical Education, its aim and objectives Need and importance of Physical Education, Misconceptions about Physical Education & its relevance in Inter Disciplinary Context
- Unit-II: Career Aspects in Physical Education:** Career Options in Physical Education, Avenues for Career Preparation, Motivation & Self Assessment for careerchoices
- Unit-III: Physiological Aspects of Physical Education:** Warming up - General & Specific & its Physiological basis, Effects of Exercise on Muscular & Digestive systems, Effects of Exercise on Respiratory & Circulatory systems
- Unit-IV: Psychological Aspects of Physical Education:** Definition & role of Sports Psychology, Motivation and Achievements in Sports, Adolescent Problems & its Management.
- Unit-V: Health Concepts of Physical Education:** Role of Physical Education Programme on Community Health Promotion(Individual, Family & Society), Effects of Alcohol, Tobacco and Drugs on Sports Performance, Obesity, Causes & Preventive Measures and Role of diet on Performance
- Unit-VI: About Games:** History of the Game/Sport, Latest General Rules of the Game/Sport, Measurement of Play Fields and Specifications of Related Sports Equipments, Important Tournaments and Venues, Sports Personalities
- Unit VII: Skill Development:** Fundamental Skills of the Game/Sport, Specific Exercises of Warm-up and Conditioning, Related Sports Terminologies, Sports Awards, Common Sports Injuries & its Prevention



SEMESTER III





B.Sc. (Animation and Multimedia) 3rd Semester

CODE: BSC-AM-19-301

SUBJECT NAME: Visual Art III

NO OF CREDITS: 4

L P
4 0

SESSIONAL: 25
THEORY EXAM: 75
TOTAL: 100

NOTE: Question paper has two parts. Part-1 has 10 questions each of 2 marks. It covers the entire syllabus. Attempt any four questions out of six from Part-2.

Course objectives:

- To study of human and animal part study. Like nose, head, hand, etc.
- To analyze dynamic poses of figures, figures in action and in movement.
- To understand and apply the Principles of perspectives, one point two point and three point perspective.
- Perspective as applied to objects, furniture, interior and exteriors of the buildings etc, study of outdoor perspective.

Human and Animal Anatomy

UNIT I: Study of human and animal part study: Head study, hands, foot, torso, nose, lips, Muscles

UNIT II: Balance and perspective applied to figures, study dynamic poses of figures, figures in action and in movement.

UNIT III: Advanced Perspectives: One point, two point, Three point perspective. Interior and exterior design using perspective, Understanding Backgrounds (outdoor study).

COURSE OUTCOMES: After completing this course students will be able:

- To learn parts of human and animal anatomy using volume construction.
- To understand about the figures in action and in movement, dynamic poses.
- To analyze visualization for drawings using principles of perspective.
- To apply drawing skills to draw human and animal anatomy.



MAPPING OF COURSE OBJECTIVES AND COURSE OUTCOMES

		Course Outcomes			
		a	b	c	d
Course Objectives	1	✓			
	2		✓		
	3			✓	
	4				✓

References

1. Victor Perard, Anatomy and Drawing, 2012
2. McDaniel, Richard, The Drawing Book: Materials and Techniques for Today's Artists, 1995
3. Dynamic Figure Drawing, Burne Hogarth 5. Perspective Drawing Handbook By Joseph D'Amelio

विद्या परम् भूषणम्



B.Sc. (Animation and Multimedia) 3rd Semester

CODE: BSC-AM-19-302

SUBJECT NAME: Creative Writing

NO OF CREDITS: 4

L	P
4	0

SESSIONAL:	25
THEORY EXAM:	75
TOTAL:	100

NOTE: Question paper has two parts. Part-1 has 10 questions each of 2 marks. It covers the entire syllabus. Attempt any four questions out of six from Part-2.

Course Objective:

1. To learn about evolution of visual communication.
2. To guide students towards script writing, case study and development a story.
3. Familiarize students with print media history audio visual media and Art of Persuasive Communication.
4. Help students understand the concept of public relation and public relation organization and structure.

UNIT I: Story: Definition of Story, Types of stories, plot, Freytag's and Aristotle's Analysis

Unit II: Genres: Poetry, Pros, Drama, And Lyrics

Unit III: Script and Screenplay: Scripts, Screenplay, Act system

Unit IV: Grammar: EDMs, Phrases, figures of speech

COURSE OUTCOMES: After completing this course students will be able:

1. To learn evolution of visual communication.
2. To understand develop a story and to write script for story.
3. To analyze print media history, audio visual media and art of persuasive communication.
4. To apply conversant with the concept of public relation and public relation organization and structure.



MAPPING OF COURSE OBJECTIVES AND COURSE OUTCOMES

		Course Outcomes			
Course Objectives		a	b	c	d
	1	✓			
	2		✓		
	3			✓	
	4				✓

REFERENCE

1. Business for communication by Suparna Dutta
2. IyerVenkat, Mass Media Laws And Regulations in India- Published by AMIC, 2000
3. Introduction to mass Communication : Medial Literacy & Culture By Stanley Baran The Tata McGraw Hill
4. The Media in your life -By Jean Folkerts & Stephen Lacy by PEARSON PUBLICATION.

विद्या परम् भूषणम्



B.Sc. (Animation and Multimedia) 3rd Semester
CODE: BSC-AM-19-303
SUBJECT NAME: Fundamentals of Audio & Video

NO OF CREDITS: 3

L P
3 0

SESSIONAL: 25
THEORY EXAM: 75
TOTAL: 100

NOTE: Question paper has two parts. Part-1 has 10 questions each of 2 marks. It covers the entire syllabus. Attempt any four questions out of six from Part-2.

Course Objectives

1. To know about basic digital audio and video.
2. To understand the editing of audio in editing software.
3. To know how to shoot a video for production.
4. To learn video editing software and different types of outputs for broadcasting.

UNIT I: Digital Audio Understanding Digital Data, Digital Audio, The Sound Card Basic composition and Anatomy of a sound card, functions and features of sound card.

UNIT II: Audio Editing tool -Introduction to Audio Editing Tool, The Main Screen, The Data Window and its Basics, Standard and Transport Toolbar, Common Edit Operations, Status Format, Editing Sound Formats, Recording, Applying sound processing functions, Operations available under File, Edit, Process, Effects and Tools menu.

UNIT III: Digital Video Production Video Production for Multimedia-Pre-production, Production & Post - Production, Employing Video in Multimedia Applications Content Video & Incidental Video, Basics of Video Recording Video Shooting equipment, Camera, Camera movement, lighting and backgrounds, shooting tips etc.

UNIT IV: Introducing Digital Video Introducing Digital Video Characteristics of video- Interlacing and progressive scanning, Digital video-sampling, Quantization, Luminance and Chrominance, Colour Models, Colour Depth, **Video Compression** Rational for compression, Compression Basics-Redundancy, Lossy and Lossless compression, CODECs ,Video compression standards-MPEG1,MPEG2,MPEG4

COURSE OUTCOMES: After completing this course students will be able:

- a.** To learn fundamental of audio and video.



- b. To understand different styles and treatment of content in audio and video production and editing
- c. To analyze the films and videos and importance of codec and format for final output to broadcasting.
- d. To apply the acquired knowledge of audio and video editing for films and videos.

MAPPING OF COURSE OBJECTIVES AND COURSE OUTCOMES

		Course Outcomes			
		a	b	c	d
Course Objectives	1	✓			
	2		✓		
	3			✓	
	4				✓

REFERENCES:

1. Editing Digital Video (Digital Video and Audio Series) by Robert Goodman, Patrick McGrath
2. Multimedia – Sound & Video by: Jose Lozano, Pub: Prentice Hal

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B.Sc. (Animation and Multimedia) 3rd Semester

CODE: BSC-AM-19-304

SUBJECT NAME: Traditional Animation III

NO OF CREDITS: 4

L P
4 0

SESSIONAL: 25
THEORY EXAM: 75
TOTAL: 100

NOTE: Question paper has two parts. Part-1 has 10 questions each of 2 marks. It covers the entire syllabus. Attempt any four questions out of six from Part-2.

Course Objectives:

1. To understand and draw the biped walk, run and jump to create animation.
2. To draw the quadruped walk to create animation.
3. To understand the basic emotions of human with the basic knowledge of acting.
4. To understand speaking of character and analyse mouth charts, to use of storyboard for production animation scene.

UNIT I: Understanding Classical Animation & Principles of Animation, Staging, Anticipation, Secondary Action, Exaggeration, Solid drawing, Appeal.

UNIT II: Body mechanics.

UNIT III: Dialogue, Acting for animation and Basic effects.

UNIT IV: Story board for Animation.

COURSE OUTCOMES: After completing this course students will be able:

- a. To learn simple or complex animation with the animation principles.
- b. To understand the walk, run, jump cycle for character with the knowledge of biped and quadruped body mechanics.
- c. To analyze acting, human behaviour, emotions and expression for creating life-like and impactful animation.
- d. To apply the acquired knowledge of animation principles acting, human behaviour, emotions and expression to create traditional animation.



MAPPING OF COURSE OBJECTIVE AND COURSE OUTCOMES

Course Objectives	Course Outcomes			
	a	b	c	d
1	✓			
2		✓		
3			✓	
4				✓

REFERENCES

1. Timing for animation by Harold Whitaker
2. Animation survival kit by Richard Williams
3. Cartoon Animation by Preston Blair

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B.Sc. (Animation and Multimedia) 3rd Semester
CODE: BSC-AM-19-305
SUBJECT NAME: Psychology for Interactive Media

NO OF CREDITS: 4

L P
4 0

SESSIONAL: 25
THEORY EXAM: 75
TOTAL: 100

NOTE: Question paper has two parts. Part-1 has 10 questions each of 2 marks. It covers the entire syllabus. Attempt any four questions out of six from Part-2.

Course Objectives:

1. To introduce the students to the subject of psychology, nature, scope and schools of psychology.
2. To familiarize the methods used in psychology and to facilitate their knowledge about causes of behaviour.
3. To provide the knowledge of basic concepts in psychology.

UNIT I: Perception: Definition, goals and scope of psychology; Approaches: biological, psychodynamic, behaviouristic, and cognitive, Perception, Factors affecting the Perception, Principles of Perceptual Organisation, Constancies in Perception - Size, Shape, Form, Space, Movement etc., Depth Perception, Psychophysics, Life-span Changes in Perception, Extra Sensory Perception (ESP), Illusions, Plasticity of Perception

UNIT II: Memory and Forgetting: Definition of memory; Processes involved in memory; Methods of measuring retention; Types of memory: sensory memory, short-term memory, and long-term memory, Process of forgetting; Determinants or causes of forgetting; Interference: proactive and retroactive interference, Ziegarnik effect.

UNIT III: Behaviour: (1) Biological Bases of Behaviour (Heredity): Human Evolution, Behaviour Genetics, Phenotype, Genotype, Studies on the Effect of Hormones on Behaviour, Genetics and Behaviour, (2) Sociocultural Bases of Behaviour (Environment): Environment and Behaviour, Natural Internal Environment (physical or maternal environment) and Behaviour, Man-made Environment (subjective environment), How these two affect behaviour? Heredity Vs Environment.

UNIT IV: Cognition: Cognitive Approach: Basic Concept, Assumptions, and Major Contributors, Social Cognition: Basic Concept, Social Cognitive Theory, Culture and Social Cognition, Perceiving Self, Self Concept, Self Esteem

UNIT V: Gestalt: Gestalt theory of perception: figure and ground, Laws of perceptual organization.



REFERENCES

4. Baron, R.A. (1996). Psychology. 3ed. New Delhi: Prentice Hall.
5. Lahey, B. B. (1998). Psychology: An Introduction. New Delhi: Tata Mc Graw Hill.
6. Feldman, R. S. (2002). Understanding Psychology. New Delhi: Tata Mc Graw Hill.
7. Bootzin, R. R., Bower, G. H., Crocker, J., & Hall, E. (1991). Psychology Today. London: Mc Graw Hill.
8. NCERT (2002). Introduction to Psychology- Part-I. New Delhi: NCERT.





B.Sc. (Animation and Multimedia) 3rd Semester
CODE: BSC-AM-19-306
SUBJECT NAME: Graphics and Visual Design Lab III

NO OF CREDITS: 1

L T P TOTAL
0 0 2 2

Internal Practical: 15
External Practical: 35
TOTAL: 50
Duration of Exam: 3 Hours

Course Objectives

1. To understand the line of art and grayscale values for a character design.
2. To acquire knowledge of making character design and of its hair and weapon.
3. Study and making of texture for a character.
4. To create a suitable background for character, and to making of animal character and fantasy.

S.NO.	DIGITAL PAITNING PRACTICAL
1.	Line art of an object
2.	Paint an object in grayscale
3.	Paint base colors on grayscale
4.	Create a basic character
5.	Create hairstyle for a character
6.	Create a metallic weapon
7.	Create different textures (fabric, fur, wooden, scales, etc)
8.	Create a background
9.	Create an animal or fantasy character



COURSE OUTCOMES: After completing this course students will be able:

- a. To learn character design using line art and grayscale design.
- b. To understand tools to making texture and background for a character.
- c. To analyze fantasy animal characters.
- d. To apply the concept and design to create textures.

MAPPING OF COURSE OBJECTIVES AND OUTCOMES

Course Objectives	Course Outcomes			
	a	b	c	d
1	✓			
2		✓		
3			✓	
4				✓

REFERENCE:-

1. Beginner's Guide to Digital Painting in Photoshop by Aleksander & Tilbury, 2012
2. Digital Painting Techniques: Practical Techniques of Digital Art Masters By 3dtotal publishing, 2009

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**B.Sc. (Animation and Multimedia) 3rd Semester****CODE: BSC-AM-19-307****SUBJECT NAME: 3D designing lab II****NO OF CREDITS: 4****L T P TOTAL****0 0 8 8****Internal Practical: 30****External Practical: 70****TOTAL: 100****Duration of Exam: 3 Hours****Course Objectives**

1. To know about 3D software interface.
2. To know about different type of 3d modeling like polygon, nerves modeling, curve based modeling, Patch modeling,
3. To understand the basic blocking of 3D Inorganic and organic modeling, high poly modeling, unwrapping texturing.
4. To understand the fundamentals of lighting and camera, learn about rendering

S.NO.	PRACTICAL
1.	Un-wrapping UVs.
2.	Understanding Material and Different types Shader
3.	Understating texturing concept, texture mapping.
4.	Fundamentals of lighting design, Computer generated lighting
5.	Fundamental of Camera.
6.	Rendering techniques with different type of render engine

COURSE OUTCOMES: After completing this course students will be able:

- a. To learn modelling, texturing, and lighting.
- b. To understand different styles and treatment of content in 3d model creation.
- c. To analyze the importance of cognitive 3d designing.
- d. To apply tools to create effective 3D modelling texturing and lighting.

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MAPPING OF COURSE OBJECTIVES AND COURSE OUTCOMES

Course Objectives	Course Outcomes			
		a	b	c
1	✓			
2		✓		
3			✓	
4				✓

REFERENCES:

4. Autodesk 3ds Max 2014 Bible By Kelly L. Murdock, Publisher: Wiley
5. Autodesk Maya 2018 Basics Guide By Murdoch Kelly, Publisher: SDC Publications
6. 3D Modeling and Animation By: Michael G. Publisher : Igi Publishing



B.Sc. (Animation and Multimedia) 3rd Semester
CODE: BSC-AM-19-308
SUBJECT NAME: Fundamentals of Audio & Video Lab

NO OF CREDITS: 2

L T P TOTAL
0 0 3 3

Internal Practical: 15
External Practical: 35
TOTAL: 50
Duration of Exam: 3 Hours

Course Objectives

1. To know about audio and video editing.
2. To know about different type of audio and video file importing in editing software.
3. To understand the editing like cutting, pasting, removing unwanted part of clip.
4. To apply audio and video effects and transitions on audio and video, rendering in different formats for broadcasting.

S.NO.	PRACTICAL
1	Introduction to Audio Editing Tool and interface
2	Importing audio file, the Main editing Screen, The Data Window and its Basics, Standard and Transport Toolbar, Common Edit Operations, Status Format,
3	Editing, Sound Formats, Recording, Applying sound processing functions, Edit, Process, Effects and Tools menu.
4	Digital Video Post-Production Tool interface. Workspace, timeline, effects control window, properties of the video.
5	Basics of Post Production Concepts-Editing, Mixing, Resizing video, editing tools, transitions effects.
6	Adding video effects, sound, Title making, making video footage into final video. Adobe Premiere video post- production.

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COURSE OUTCOMES: After completing this course students will be able:

- a. To learn audio and video editing.
- b. To understand different styles and treatment of content in video editing.
- c. To analyze the importance of films, videos and audio and video editing.
- d. To apply tools to create effective audio and video editing.

MAPPING OF COURSE OBJECTIVES AND COURSE OUTCOMES

Course Objectives	Course Outcomes			
	a	b	c	d
1	✓			
2		✓		
3			✓	
4				✓

REFERENCES

1. Maya for Games: Modeling and Texturing Techniques with Maya and Mudbox by Michael Ingrassia
2. 3ds Max Modeling for Games: Insider's Guide to Game Character, Vehicle, and Environment Modeling by Andrew Gahan

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B.Sc. (Animation and Multimedia) 3rd Semester
CODE: BSC-AM-19-309
SUBJECT NAME: Digital 2D Animation II Lab

NO OF CREDITS: 1

L T P TOTAL
0 0 2 2

Internal Practical: 15
External Practical: 35
TOTAL: 50
Duration of Exam: 3 Hours

Course Objectives

1. To learn advance techniques of animation such as masking, motion guide and motion curve editor.
2. To work on animation by various methods like frame by frame and mixing tweens to achieve high quality animation in short period of time.
3. To study advance functions of Actionscript like keyboard event and if-else loop.
4. To learn incorporate visual art and creativity with the programming language.

S.NO.	PRACTICAL
1.	Create a galaxy scene animation with masking and motion guide
2.	Create a simple frame by frame animation
3	Create an animation scene of butterfly with motion guide
4	Create a scene with a basic character with different poses in graphic symbol
5	Create a scene with panning background
6	Create an Interactive scene with keyboard event in Actionscript
7	Create an Interactive scene with if –else loop in Actionscript
8	Create a digital and analog clock with Actionscript

COURSE OUTCOMES: After completing this course students will be able:

- a. To learn the techniques and software to achieve animation like 3d rotation, motion following a path, etc.
- b. To analyze different methods of animation used in production studios.
- c. Create interactive scenes with incorporating knowledge of Actionscript.



MAPPING OF COURSE OBJECTIVES AND COURSE OUTCOMES

Course Objectives	Course Outcomes			
	a	b	c	d
1	✓			
2		✓		
3			✓	
4				✓

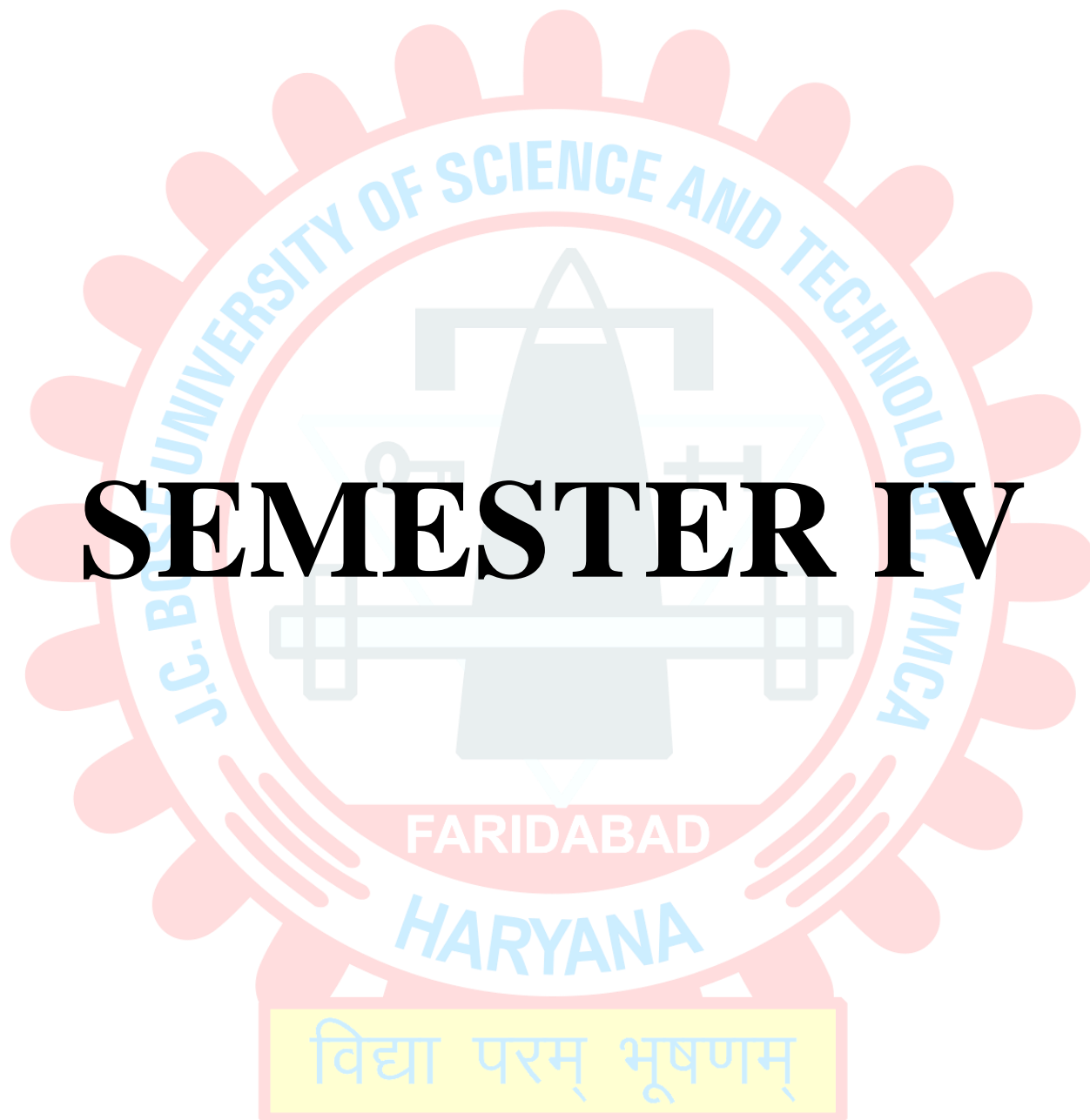
REFERENCES

1. Adobe Animate CC Classroom in a Book by Russell Chun
2. Foundation Flash Cartoon Animation by Jones Tim
3. Learn Adobe Animate CC for Interactive Media

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SEMESTER IV





B.Sc. (Animation and Multimedia) 4th Semester

CODE: BSC-AM-19-401

SUBJECT NAME: Visual Art IV

NO OF CREDITS: 4

L P
4 0

SESSIONAL: 25
THEORY EXAM: 75
TOTAL: 100

NOTE: Question paper has two parts. Part-1 has 10 questions each of 2 marks. It covers the entire syllabus. Attempt any four questions out of six from Part-2.

Storyboarding

UNIT I: Storyboarding: Thumbnails, Perspective Drawing, and drawing from a Script, Story to Shortlist to Storyboards, Midterm and Digital Storyboards, Animatic Basics

UNIT II: Environmental Design: Background and Set Design, Placing Cameras, Overhead Views

UNIT III: Sketch out Storytelling: Visual narratives, Elements of storytelling, Focal points, Mood, Portraying Ideas, Cropping and Framing

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**B.Sc. (Animation and Multimedia) 4th Semester
CODE: BSC-AM-19-402**

SUBJECT NAME: Advertising and New Media

NO OF CREDITS: 3

L P
3 0

SESSIONAL: 25
THEORY EXAM: 75
TOTAL: 100

NOTE: Question paper has two parts. Part-1 has 10 questions each of 2 marks. It covers the entire syllabus. Attempt any four questions out of six from Part-2.

Course Objective:

1. To learn about art formats tools of writing.
2. To guide students towards evolution of advertising, economic aspects and marketing.
3. Familiarize students advertising theories and media, research methodology and creative solutions.
4. Help students understand the concept of public relation as communication and different relationships.

Unit I : Culture: Society, Social continuum (tribe caste Paradigm), Big Society, Small Society

Unit II : Advertising : Advertising and Culture, Ethics Censorship, Gender, push and pull factor

Unit II : Demographics : Population Pyramids, Migration, Marginalization, Census

Unit IV Media : Media Definition, Folk Media, Mass Media, Emerging Media, Media Activism, Media Consumption, Digital Media, Emerging Trends, Social Media

COURSE OUTCOMES: After completing this course students will be able:

1. To learn about art formats tools of writing.
2. To understand evolution of advertising, economic aspects and marketing.
3. To analyze advertising theories and media, research methodology and creative solutions
4. To understand concept of public relation as communication and different relationships.



MAPPING OF COURSE OBJECTIVES AND COURSE OUTCOMES

		Course Outcomes			
Course Objectives		a	b	c	d
	1	✓			
	2		✓		
	3			✓	
	4				✓

REFERENCE

1. Business for communication by Suparna Dutta
2. IyerVenkat, Mass Media Laws And Regulations in India- Published by AMIC, 2000
3. Introduction to mass Communication : Medial Literacy & Culture By Stanley Baran The Tata McGraw Hill
4. The Media in your life -By Jean Folkerts & Stephen Lacy by PEARSON PUBLICATION.



B.Sc. (Animation and Multimedia) 4th Semester
CODE: BSC-AM-19-403
SUBJECT NAME: Fundamentals of Compositing & VFX

NO OF CREDITS: 4

L P
4 0

SESSIONAL: 25
THEORY EXAM: 75
TOTAL: 100

NOTE: Question paper has two parts. Part-1 has 10 questions each of 2 marks. It covers the entire syllabus. Attempt any four questions out of six from Part-2.

Course Objectives

1. To know about basic knowledge of visual effects, compositing and motion graphics.
2. To analyze and apply different types of methods and different types of software.
3. To create motion graphics using different types animation.
4. To understand the removing background by using rotoscoping and rotopaint for films. And multilayer compositing in digital compositing software, colour correction in final for films and videos.

UNIT I: INTRODUCTION to Compositing and Visual Effects, and motion graphics, use of VFX and Compositing and motion graphics, Types of Compositing(layer based and node based), History of visual effects.

UNIT II: Introduction to the Digital Compositing Software (Adobe after effects) layer based, User Interface Basics and importing images into Compositing Software - Playing back Videos and changing project settings.

UNIT III: Motion Graphics (Use of layers, shape layer, solid layer and text layer, Logo Animation, animation presets, key frame animation, layer linking, typography)

UNIT IV: Rotoscoping, Use of Rotoscoping, RotoPaint

UNIT V: Basic layer based compositing, Colour Correction, Adjustment layers, Multi-layer compositing.

COURSE OUTCOMES: After completing this course students will be able:



- To learn visual effects compositing and motion graphics.
- To understand different styles and treatment of content in visual effects, compositing and motion graphics.
- To analyze the importance of cognitive in visual effects, compositing and motion graphics in films and videos.
- To apply to create effective visual effects, compositing and motion graphics for films and videos.

MAPPING OF COURSE OBJECTIVES AND COURSE OUTCOMES

	Course Outcomes			
	a	b	c	d
1	✓			
2		✓		
3			✓	
4				✓

REFERENCES:

- The Visual Effects Arsenal: VFX Solutions for the independent Filmmaker by Bill Byrne
- The Art and Science of Digital Compositing, Second Edition: Techniques for Visual Effects, Animation and Motion Graphics (The Morgan Kaufmann Series In Computer Graphics) by Ron Brinkman
- The Visual Effects Producer: Understanding the Art and Business of VFX by Charles Finance
- After effects for designer by Chris Jackson

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B.Sc. (Animation and Multimedia) 4th Semester

CODE: BSC-AM-19-404

SUBJECT NAME: Fundamentals of Rigging, Skinning & Animation

NO OF CREDITS: 4

L P
4 0

SESSIONAL: 25
THEORY EXAM: 75
TOTAL: 100

NOTE: Question paper has two parts. Part-1 has 10 questions each of 2 marks. It covers the entire syllabus. Attempt any four questions out of six from Part-2.

Course Objectives

1. To know about basic fundamentals of rigging and 3D animation in 3d characters.
2. To know and learn about different types of bones, IK/FK handles, Joints/bones, Joints chains, Skeleton hierarchy
3. To understand and apply the Skinning on character.
4. To understand and use the difference animation principles for 3d animation, 3D animation for films and videos.

UNIT I: Introduction to use of rigging and animation in films. Explain basic fundamentals of rigging and animation. Brief explain Joints/bones, hierarchy, and basic tools.

UNIT II: Rigging Skeletons components (Joints/bones, Joints chains, Skeleton hierarchy), Building Skeleton (setting up joints for posing and animation) posing skeletons, IK handles, IK solvers, IK/FK blending. Setup joint chain, pose with forward or inverse kinematics (pose and animate with FK, setup a IK handle, use single chain IK, use rotate plane IK, use multi chain IK, use Spine IK and use 2 bone IK). Blend FK and IK, Skeletons and IK nodes.

UNIT III: Skinning understanding skinning, deformable objects and skin objects, direct and indirect skin methods, bind poses, double transformation effects, editing skin point set membership, point tweaking skinned objects. Smooth skinning, rigged skinning, and rigged objects and points, rigged skin points weights and sets, flexors binding rigid skin, deformers, constraints, character sets.

UNIT IV: Introduction to animation in 3D software (Autodesk Maya), animation principles (Squash and Stretch, Anticipation, Staging, Straight Ahead Action and Pose to Pose, Follow Through and Overlapping Action, Slow In and, Slow Out, Arc, Secondary Action, Timing, Exaggeration, Solid drawing, Appeal)

UNIT V: Using animation feature (edit animation preferences and animation control), window and editors setting, timeline, animation, sound, key frame animation (key, auto key, key in attribute editor,, channel box, graph editor and dope sheet.), cutting, coping and pasting key between scenes, key clipboard, driven keys, breakdowns.



UNIT V: Nonlinear animation tools in Maya, Nonlinear animation components in Trax editor. Path animation, position object on the path curve, orienting object on path, manipulating object, path markers, motion capture animation.

COURSE OUTCOMES: After completing this course students will be able:

- a. To learn about rigging and 3D animation.
- b. To understand different types of rigging components, Skinning and animation principles.
- c. To analyze the importance of rigging and skinning in 3d animation and rigging.
- d. To apply to create effective rigging and skinning.

MAPPING OF COURSE OBJECTIVES AND COURSE OUTCOMES

		Course Outcomes			
		a	b	c	d
Course Objectives	1	✓			
	2		✓		
	3			✓	
	4				✓

REFERENCES:

1. The Animator's Survival Kit by Richard Williams
2. The Illusion of Life: Disney Animation by Ollie Johnston & Frank Thomas
3. Acting for Animators by Ed Hooks

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**B.Sc. (Animation and Multimedia) 4th Semester****CODE: BSC-AM-19-405****SUBJECT NAME: GRAPHICS AND ANIMATION LAB****NO OF CREDITS: 4****L T P TOTAL****0 0 4 4****Internal Practical: 30****External Practical: 70****TOTAL: 100****Duration of Exam: 3 Hours****Course Objectives**

1. To understand the principles and methods of designing process.
2. To Understand the campaign planning and implementation.
3. To create visual elements and use them appropriately in their design.
4. To understand basics of digital character animation and rotoscoping.
5. To create complex animation like fire, follow through.
6. To apply knowledge of Actionscript to create interactive apps.

S.NO.	GRAPHICS PRACTICAL
1.	Create magazine cover (Page Layout)
2.	Create packaging for a product
3.	Create branding for a company
4.	Design a book

S.NO.	ANIMATION PRACTICAL
1.	Create character animation
2.	Paper/leaf drop follow through animation
3.	Fire animation with sound
4.	Using Rotoscopy for 2D Animation
5.	Introduction to app design using Actionscript



COURSE OUTCOMES: After completing this course students will be able:

- a. To analyze the importance of unity and continuity, structure, function and operations in an advertising agency.
- b. To learn campaign planning, branding.
- c. To apply the tools to brand and graphics designing for print and digital media.
- d. To apply the knowledge of traditional animation to create digital character animation and rotoscopy.
- e. To apply software and traditional animation knowledge to create complex animation and effects like fire, paper drop, leaf drop, etc.
- f. Apply programming logics to create interactive and creative scenes, games or apps.

MAPPING OF COURSE OBJECTIVES AND COURSE OUTCOMES

		Course Outcomes					
		a	b	c	d	e	f
Course Objectives	1	✓	✓				
	2	✓	✓				
	3		✓	✓			
	4			✓	✓		
	5					✓	✓
	6					✓	✓

REFERENCES

1. Brand Bible: The Complete Guide to Building, Designing, and Sustaining Brands by Debbie Millman, Rockport publisher
2. Adobe Animate CC Classroom in a Book by Russell Chun
3. Foundation Flash Cartoon Animation by Jones Tim
4. Learn Adobe Animate CC for Interactive Media

**B.Sc. (Animation and Multimedia) 4th Semester****CODE: BSC-AM-19-406****SUBJECT NAME: Fundamentals of Compositing & Visual Effects Lab****NO OF CREDITS: 2****L T P TOTAL****0 0 4 4****Internal Practical: 15****External Practical: 35****TOTAL: 50****Duration of Exam: 3 Hours****Course Objectives**

1. To create the basic motion graphics and fundamentals of visual effects
2. To analyze the different types of text and logo animation
3. To use and create video matte by using rotoscoping and roto paint.
4. To stabilized the video footage, color correction in raw footage

S.NO.	PRACTICAL
1.	Basic shapes animation
2.	Create lyrics video song, text animation
3.	Create explainer video
4.	Create object matte in a video by using rotoscoping
5.	Create object matte in a video by using roto paint
6.	Create movie title
7.	Create logo animation
8.	Add text in live action footage in live action footage
9.	Stabilize camera in video footage
10	Cinematic color correction in a video
11	Create fire effect in text layer

12.	Morphing, create face transform one to another
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COURSE OUTCOMES: After completing this course students will be able:

- a. To learn visual effects, compositing and motion graphics.
- b. To understand different styles and content in visual effects, compositing and motion graphics.
- c. To analyze the importance of cognitive in visual effects compositing and motion graphics for films and videos.
- d. To apply to create effective visual effects and motion graphics for films and videos.

MAPPING OF COURSE OBJECTIVES AND COURSE OUTCOMES

	Course Outcomes				
		a	b	c	d
Course Objectives	1	✓	✓		
	2	✓	✓		
	3		✓	✓	
	4			✓	✓

REFERENCES

1. Adobe after effects classroom in a book by:
2. After effects visual effects and compositing by : Mark Christiansen
3. After effects apprentice by Trish and christener

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B.Sc. (Animation and Multimedia) 4th Semester

CODE: BSC-AM-19-407

SUBJECT NAME: Fundamentals Rigging, Skinning and Animation Lab

NO OF CREDITS: 2

L T P TOTAL
0 0 4 4

Internal Practical: 15
External Practical: 35
TOTAL: 50
Duration of Exam: 3 Hours

Course Objectives

1. To create the rigging and skinning
2. To create the different types rigging like mechanical and character rigging.
3. To understand the basic principles of animation
4. To change the character expression

S.NO.	PRACTICAL
1.	Rigging fundamentals
2.	Biped Character setup, bind and Skinning
3.	Quadruped Character setup, bind and Skinning
4.	Mechanical Rigging
5.	Basic understanding of animation principals
5.1	Ball Bouncing with different timing and weight
5.2	Character head turn blinking and thinking
5.3	Change in Character emotions
5.4	Exercise based on flour sag



COURSE OUTCOMES: After completing this course students will be able:

- a. To learn rigging, skinning and basic principles of animation.
- b. To understand rigging, skinning and basic principles of animation.
- c. To analyze the importance of rigging, skinning and basic principles of animation for films.
- d. To apply tools to create effective rigging, skinning and basic principles of animation.

MAPPING OF COURSE OBJECTIVES AND COURSE OUTCOMES

	Course Outcomes			
	a	b	c	d
1	✓			
2		✓		
3			✓	
4				✓



B.Sc. (Animation and Multimedia) 4th Semester

CODE: BSC-AM-19-408

SUBJECT NAME: Game Designing Lab

NO OF CREDITS: 2

L	T	P	TOTAL
0	0	4	4

Internal Practical: 15

External Practical: 35

TOTAL: 50

Duration of Exam: 3 Hours

Course Objectives

1. To know about different video games.
2. To understand the different aspects of game like game player, machine, game world, creative and expressive play Character development, storytelling, key concept, the storytelling engine.
3. To understand about game interface, game complexity etc.
4. To apply general principle of game level design. Key design principles, layout design.

UNIT I: Games and Video Games, Conventional game versus Video games, Game Genres.

UNIT II: Understanding Player, Machine, Game World, creative and expressive play Character development, storytelling, key concept, the storytelling engine.

UNIT III: Creating the user experience, Play centric interface design, Managing complexity, Infraction model, Allowing for customization.

UNIT IV: General principle of game level design. Key design principles, layout design.

COURSE OUTCOMES: After completing this course students will be able:

- a. To learn the pipeline to create video games.
- b. To understand different styles and treatment of content in game creation like modelling texturing, animation and lighting.
- c. To analyze the importance of cognitive environment and game level design, layout design principles in game designing.

- d. To apply tools that help to create effective games.



MAPPING OF COURSE OBJECTIVES AND COURSE OUTCOMES

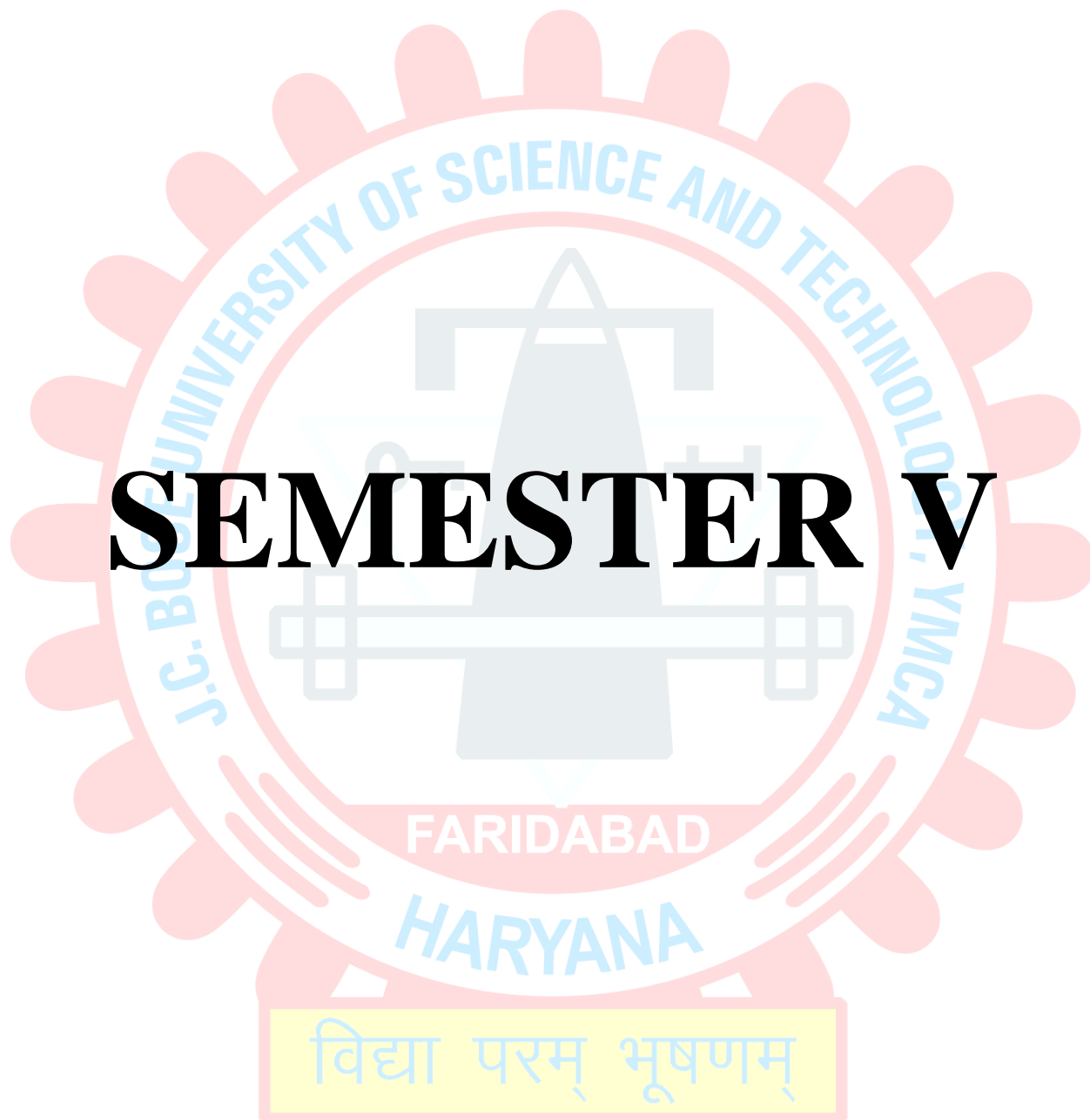
Course Objectives	Course Outcomes				
		a	b	c	d
1	✓				
2			✓		
3				✓	
4					✓

REFERENCES

1. The Art of Game Design by: Jesse Schell
2. A Theory of Fun for Game Design by Raph Koster
3. Fundamentals of Game Design by Zion Gibson



SEMESTER V





B.Sc. (Animation and Multimedia) 5th Semester

CODE: BSC-AM-19-501

SUBJECT NAME: Visual Art V

NO OF CREDITS: 4

L P
4 0

SESSIONAL: 25
THEORY EXAM: 75
TOTAL: 100

NOTE: Question paper has two parts. Part-1 has 10 questions each of 2 marks. It covers the entire syllabus. Attempt any four questions out of six from Part-2.

Course objectives:

1. To understand Character body type & nature, faces and feature according to character's nature
2. To implement the Character Designing based on Age
3. The Study of fantasy character, mixing human and animals feature and parts to design a character.
4. To analyze the Character Designing for different platforms

Introduction to Character Designing

UNIT I : Introduction to character design: Basic of character design, type of characters of design, preliminary knowledge and exercise for character design, Design a character with head unit, Draw free hand different type of poses of the same character, make character turn around and character sheet.

UNIT II: Building a character from scratch: Setting up proportion, line of action-poses, Add face, eyes and features of face and body.

UNIT III Creating different character: Drawing animal character, Draw personalized animal's character, Different type of poses, props and cloths, Adding to cuteness and furiousness to an animal character.

COURSE OUTCOMES: After completing this course students will be able:

- a. To learn character, expressions and gestures through drawing.
- b. To understand various character according to age like baby, children, youngsters and old people.
- c. To analyze the texture, style, poses cloths and expression of fantasy characters.
- d. To apply drawing skills to draw various styles of character designing for different platforms.



MAPPING OF COURSE OBJECTIVES AND COURSE OUTCOMES

		Course Outcomes			
Course Objectives		a	b	c	d
	1	✓			
	2		✓		
	3			✓	
	4				✓

REFERENCES

1. Creating Character with personality by Tom Bancroft
2. Animator by Nick hunter
3. Cartoon Animation by Preston Blair



B.Sc. (Animation and Multimedia) 5th Semester

CODE: BSC-AM-19-502

SUBJECT NAME: Sociology for Animation

NO OF CREDITS: 4

L P
4 0

SESSIONAL: 25
THEORY EXAM: 75
TOTAL: 100

NOTE: Question paper has two parts. Part-1 has 10 questions each of 2 marks. It covers the entire syllabus. Attempt any four questions out of six from Part-2.

Course Objective:

1. To teach students the concepts, theories, and methods of the behavioral and social services.
2. To introduce students to the basic social processes of society, social institutions and patterns of social behavior.
3. To train students to understand and to interpret objectively the role of social processes, social institutions and social interactions in their lives.
4. To enable students to cope effectively with the socio-cultural and interpersonal processes of a constantly changing complex society.

Unit I: Sociology for Animation: Definition, Modernity and Change in society, Scope of sociology, sociology and common sense.

Unit II: Research Mythology: Qualitative, Quantitative methods, Techniques of data collection, variables, sampling, hypothesis, reliability and validity

Unit III: Stratification and Mobility: Concept of equality and inequality, Hierarchy, exclusion, Poverty deprivation

Unit IV: Social Dimensions: Social Stratification of class, Status groups, Gender, Ethnicity and Race

COURSE OUTCOMES: After completing this course students will be able:

- a. To demonstrate familiarity with the sociological imagination.
- b. To understand sociological theory.
- c. To gain facilities with sociological methods.
- d. To describe hoe social structures, culture and institutions operate.



MAPPING OF COURSE OBJECTIVES AND COURSE OUTCOMES

Course Objectives	Course Outcomes				
		a	b	c	D
1	✓				
2			✓		
3				✓	
4					✓

REFERENCES

1. Basic concepts in sociology by Max weber
2. Sociology: The Basics by Martin Albrow
3. A Complete Resource Manual Sociology by J K Chopra



B.Sc. (Animation and Multimedia) 5th Semester

CODE: BSC-AM-19-503

SUBJECT NAME: Advance 2D animation

NO OF CREDITS: 4

L P
4 0

SESSIONAL: 25
THEORY EXAM: 75
TOTAL: 100

NOTE: Question paper has two parts. Part-1 has 10 questions each of 2 marks. It covers the entire syllabus. Attempt any four questions out of six from Part-2.

Course Objectives

1. Learn advance techniques of animation such as rotation of planet through masking,
2. To learn production pipeline and industry quality of 2D animation by creating Animatics, walk cycles, etc
3. To implement advance principles of traditional animation in Adobe animate to create high quality animation for production.
4. To create animation with special visual and audio effects to create engaging and interesting environment.

UNIT I: – Advance Animation Techniques Custom Ease Graph, motion editor, masking, rigging tool, camera tool, working with sound, create a planet/ globe rotation animation with masking, create growing vine animation,

UNIT II: Introduction to character animation Create Animatix, Walk cycle, Eye blink, Lip Sync basics, facial expression, body poses, create animation video on song,

UNIT III: Advance Character Animation: Mood Walk Cycles, Jump with anticipation, create character action sequence with facial expression, create a dialog delivery.

UNIT IV: Special Effects and Environment: Create flowing water animation, camera animation, magic sequence with effects, water splash animation, bomb explosion animation, rocket/airplane animation.



COURSE OUTCOMES: After completing this course students will be able:

- a. To learn various tools of digital 2d animation.
- b. To understand production pipeline to create 2d animation.
- c. To analyze special effects in animation to bring interest and awe in the scenes and backgrounds.
- d. To apply the tools to create 2D animation for films and videos.

MAPPING OF COURSE OBJECTIVES AND COURSE OUTCOMES

Course Objectives	Course Outcomes			
	a	b	c	D
1	✓			
2		✓		
3			✓	
4				✓

REFERENCES

1. Adobe Animate CC Classroom in a Book by Russell Chun
2. Learn Adobe Animate CC for Interactive Media by Labrecque Joseph
3. Foundation Flash Cartoon Animation by Jones Tim

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B.Sc. (Animation and Multimedia) 5th Semester

CODE: BSC-AM-19-504 (1)

SUBJECT NAME: Advance Compositing and VFX (Elective)

NO OF CREDITS: 4

L P
4 0

SESSIONAL: 25
THEORY EXAM: 75
TOTAL: 100

NOTE: Question paper has two parts. Part-1 has 10 questions each of 2 marks. It covers the entire syllabus. Attempt any four questions out of six from Part-2.

Course Objectives

1. To know about different types of digital compositing, node based tool for compositing.
2. To understand the physical, dynamic simulation like water, fire smoke etc.
3. To understand the different types of camera tracking for adding some other contents in raw footage, to adding CGI elements in live action footage.
4. To learn about how to make matte painting.

UNIT I: Introduction node based compositing, Introduction to basic compositing in node base software import sequence, timeline.

UNIT II: Exploring Dynamics - understanding the use fluid dynamic, particles dynamics & Deformers in Autodesk Maya.

UNIT III: Camera Tracking - 2d and 3d tracking using different type of tracking software.

UNIT IV: Film Techniques - add/remove film grain, rope removal, set extension, rig removal.

UNIT V: Compositing and visual effects - Learn how to integrate 3D animation and live motion video, and composite multiple video sources to create fantastic visual effects.

UNIT VI: Compositing and visual effects - Learn how to integrate 3D animation and live motion video, and composite multiple video sources to create fantastic visual effects.

UNIT VII: Film Techniques - add/remove film grain, rope removal, set extension, rig removal.

UNIT VIII: Stereo Scoping - learn to convert 2d to 3d tricks using much software.



UNIT VIV: Environment Creation - In this structure you will understand the use of matte painting using industries top digital environment creation software to bring your imagination to reality.

COURSE OUTCOMES: After completing this course students will be able:

- a. To learn about high end visual effects.
- b. To understand different type of content use in high end visual effects.
- c. To analyze importance of visual effects in films and videos.
- d. To apply tools to create high end visual effects for films and videos.

MAPPING OF COURSE OBJECTIVES AND COURSE OUTCOMES

	Course Outcomes			
	a	b	c	d
1	✓			
2		✓		
3			✓	
4				✓

REFERENCES

1. Maya Manual By: Lavender Daniel
2. Autodesk Maya 2018 basics guide by Kelly Murdoch
3. Digital Compositing with nuke by: lanier Lee lanier

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B.Sc. (Animation and Multimedia) 5th Semester

CODE: BSC-AM-19-504 (2)

SUBJECT NAME: 3D Animation (Elective)

NO OF CREDITS: 4

L	P
4	0

SESSIONAL:	25
THEORY EXAM:	75
TOTAL:	100

NOTE: Question paper has two parts. Part-1 has 10 questions each of 2 marks. It covers the entire syllabus. Attempt any four questions out of six from Part-2.

Course Objectives

1. To know about animation principles, different tools for 3d animation
2. To understand the deformers, blend shape, clusters, jiggle.
3. To understand the difference constrains: parent, point, orient, scale, Aim, pole vector, motion path.
4. To learn 3D character animation, and understand Curve Editor, time editor, trex editor, pose editor and Expression editor.

UNIT I: Animation principles, The 12 Principles of Animation: Squash and stretch anticipation staging straight ahead action and pose to pose follow through and overlapping action slow in and slow out, arc, secondary action, timing, exaggeration, solid drawing, appeal.

UNIT II: Animation tools in 3d software, deformers, blend shape, clusters, jiggle.

UNIT III: Constrains: parent, point, orient, scale, Aim, pole vector, motion path.

UNIT IV: Curve Editor, time editor, trex editor, pose editor, Expression editor.

COURSE OUTCOMES: After completing this course students will be able:

- a. To learn 3D animation.
- b. To understand different styles and tools to create 3D animation.
- c. To analyze the important of 3D animation tools to create animation for films and videos.
- d. To apply animation tools to create 3D animation for films and videos.



MAPPING OF COURSE OBJECTIVES AND COURSE OUTCOMES

Course Objectives	Course Outcomes				
		a	b	c	d
1	✓				
2			✓		
3				✓	
4					✓

REFERENCES

4. Maya Manual By: Lavender Daniel
5. Autodesk Maya 2018 basics guide by Kelly Murdoch



B.Sc. (Animation and Multimedia) 5th Semester

CODE: BSC-AM-19-504 (3)

SUBJECT NAME: Game Design and Documentation (Elective)

NO OF CREDITS: 4

L P
4 0

SESSIONAL: 25
THEORY EXAM: 75
TOTAL: 100

NOTE: Question paper has two parts. Part-1 has 10 questions each of 2 marks. It covers the entire syllabus. Attempt any four questions out of six from Part-2.

UNIT I: Introduction to Game Design Documentation: Game Design Overview, Detailed Design Doc, Story Overview, Technical Design Doc, Pipeline Overview, System Limitations, Art Bible, Concept Art Overview, Game Budget, Project Schedule, Story Bible, Script, Walkthroughs

UNIT II: Study Game Design Documents: Case study of Game Design Documentation, Example study, Create Game Design Document

REFERENCES

1. Chris Crawford on Game Design
2. Fundamentals of Game Design by Ernest Adams

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B.Sc. (Animation and Multimedia) 5th Semester

CODE: BSC-AM-19-505

SUBJECT NAME: Graphics and Visual Design Lab IV

NO OF CREDITS: 2

L T P TOTAL

0 0 4 4

Internal Practical: 15

External Practical: 35

TOTAL: 50

Duration of Exam: 3 Hours

Course Objectives

1. To understand the concept of creating textures, brushes, abstract and thematic designs.
2. Experiment and use expressive styles of Type sets and effects.
3. To understand the color theory and color balance, visual elements and use them appropriately in their design
4. Design background layouts and characters using 2D animation principles.

S.NO.	UI/UX Design PRACTICAL
1.	Introduction to UI Design
2.	Understanding UI Layouts
3.	Designing UI's
4.	Introduction to Web & Mobile UI Design
5.	Color and Typography
6.	UI Design Patterns/Components
7.	Introduction and Understanding to UX Design
8.	Introduction to Web & Mobile UX Design
9.	Learning UX Tools & Techniques
10.	UI Design & Components



COURSE OUTCOMES: After completing this course students will be able:

- a. To learn illustrations with line art, Black and white and colors.
- b. To develop a foundation for understanding the individual style of illustration.
- c. To analyze Classify any Illustrations for educational, corporate, Science and industrial purpose.
- d. To apply all the tools and art and technical illustrations for UI/UX.

MAPPING OF COURSE OBJECTIVES AND OUTCOMES

Course Objectives	Course Outcomes			
	a	b	c	d
1	✓			
2		✓		
3			✓	
4				✓

REFERENCES

1. UI/UX designer's sketchbook by: David Williams
2. UI/UX design by: Terri Jones
3. UI/UX Design for Designers & Developers 2018 by Nathan Clark

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**B.Sc. (Animation and Multimedia) 5th Semester****CODE: BSC-A-19-506****SUBJECT NAME: Advance 2D Animation Lab****NO OF CREDITS: 2**

L	T	P	TOTAL
0	0	4	4

Internal Practical: 15**External Practical: 35****TOTAL: 50****Duration of Exam: 3 Hours****Course Objectives**

1. To learn advance techniques of masking and motion guide.
2. To acquire knowledge about production pipeline and industry quality of 2D animation by creating Animatics, walk cycles, etc
3. To implement advance principles of traditional animation in Adobe animate to create high quality animation for production.
4. To create animation with special visual and audio effects to create engaging and interesting environment.

S.NO.	PRACTICAL
1.	Create Writing/ Drawing with hands/ pen animation
2.	Walk cycle with background panning
3.	Lip Sync and facial expression animation
4.	Sync animation clip with sound
5.	Create Mood walk cycle
6.	Create Jump with anticipation
7.	Create character action sequence
8.	create a dialog delivery
9.	Create water splash animation
10.	Create magic sequence with effects

COURSE OUTCOMES: After completing this course students will be able:

- a. To learn techniques of animation such as rotation of planet through masking.
- b. To understand the animation principles for character animation.
- c. To analyze the technical and character animation, expression animation, and special effects in 2d animation.
- d. To apply tools and principles to create 2D animation for films and videos.



MAPPING OF COURSE OBJECTIVES AND COURSE OUTCOMES

Course Objectives	Course Outcomes				
		a	b	c	d
1	✓				
2			✓		
3				✓	
4					✓

REFERENCES

1. Adobe Animate CC Classroom in a Book by Russell Chun
2. Foundation Flash Cartoon Animation by Jones Tim

**B.Sc. (Animation and Multimedia) 5th Semester****CODE: BSC-AM-19-507 (1)****SUBJECT NAME: Advance Compositing and VFX Lab (Elective)****NO OF CREDITS: 4****L T P TOTAL****0 0 8 8****Internal Practical: 30****External Practical: 70****TOTAL: 100****Duration of Exam: 3 Hours****Course Objectives**

1. To create effects by using particles, create ocean, hair and fur etc.,
2. To learn to adding CGI elements in live action footage using tracking data.
3. To learn the difference types of render passes of CGI elements for compositing.
4. To understand the high end compositing.

S.NO.	PRACTICAL
1.	Create particles effects, fireworks effects, rain effects, snowfall.
2.	Heavy particles simulation create chocolate and honey
3.	Advance fluid simulation, create heavy smoke with fire
4.	Create bomb blast effect
5.	Create shock waves
6.	Create ocean
7.	Create dust effects
8.	Create hair and fur
9.	Add CGI elements in live action footage
9.1	Track live action footage and tracking date to 3D software
9.2	Create CGI elements according to the live action footage
9.3	Render CGI elements in passes

9.4	Compose with all passes in live action footage
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COURSE OUTCOMES: After completing this course students will be able:

- To learn high end visual effects content like dynamic simulation, CGI effects and camera tracking.
- To understand the different styles and treatment of content using in high end visual effects.
- To analyze importance dynamic simulation, CGI effects camera tracking and add CGI elements in live action footage.
- To apply tools to create dynamic simulation and CGI effects to help create effective high end visual effects.

MAPPING OF COURSE OBJECTIVES AND COURSE OUTCOMES

Course Objectives	Course Outcomes			
	a	b	c	d
1	✓			
2		✓		
3			✓	
4				✓

REFERENCES

- Maya Manual By: Lavender Daniel
- Autodesk Maya 2018 basics guide by Kelly Murdoch
- Digital Compositing with nuke by: Ianier Lee Ianier

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B.Sc. (Animation and Multimedia) 5th Semester
CODE: BSC-A-19-507 (2)
SUBJECT NAME: 3D Animation Lab (Elective)

NO OF CREDITS: 4

L T P TOTAL
0 0 8 8

Internal Practical: 30
External Practical: 70
TOTAL: 100
Duration of Exam: 3 Hours

Course Objectives

1. To know about Animation basic blocking, Body Mechanics
2. To know about different advance Acting, Facial expression and Emotions.
3. To understand the 3d Animation according to storyboard.
4. To understand and use the Animation according to live action footage, Direction for animation.

S.NO.	PRACTICAL
1.	Animation basic blocking
2.	Body Mechanics
3.	Advance Body Mechanics
4.	Acting, Facial expression and Emotions
5.	Animation from Storyboard
6.	Animation from live action video
7.	Walk through and Camera animation
8.	Direction for animation

COURSE OUTCOMES: After completing this course students will be able:

- a. To learn 3D animation tools and techniques.
- b. To understand different tools, animation principles and facial expression.
- c. To analyze the 3d animation like Body Mechanics, Acting, Facial expression and Emotions.
- d. To apply tools and acquired knowledge to create 3d animation for films and video.



MAPPING OF COURSE OBJECTIVES AND COURSE OUTCOMES

Course Objectives	Course Outcomes				
		a	b	c	d
1	✓				
2			✓		
3				✓	
4					✓

REFERENCES

1. Maya Manual By: Lavender Daniel
2. Autodesk Maya 2018 basics guide by Kelly Murdoch
3. Digital Compositing with nuke by: lanier Lee lanier



B.Sc. (Animation and Multimedia) 5th Semester
CODE: BSC-A-19-507 (3)
SUBJECT NAME: Game Design Lab II (Elective)

NO OF CREDITS: 4

L T P TOTAL
0 0 8 8

Internal Practical: 30
External Practical: 70
TOTAL: 100
Duration of Exam: 3 Hours

Course Objectives

1. To create the gaming characters with texturing.
2. To create the different types of props, and environment.
3. To understand the game engines workflow.
4. To create game assets and effects lighting and camera in game engine.

S.NO.	PRACTICAL
1	Create low poly models
2	Texturing
3	Create game props.
4	Create game characters
5	Create game environment
6	Introduction to game engine.
6.1	Importing assets in game engine.
6.2	Lighting, camera.

COURSE OUTCOMES: After completing this course students will be able:

- a. To learn modelling, texturing for game designing.
- b. To understand the different styles and treatment of content in game designing
- c. To analyze the importance of modelling texturing lighting and effects in game designing.
- d. To apply tools in game designing to create modelling, texturing and lighting.



MAPPING OF COURSE OBJECTIVES AND COURSE OUTCOMES

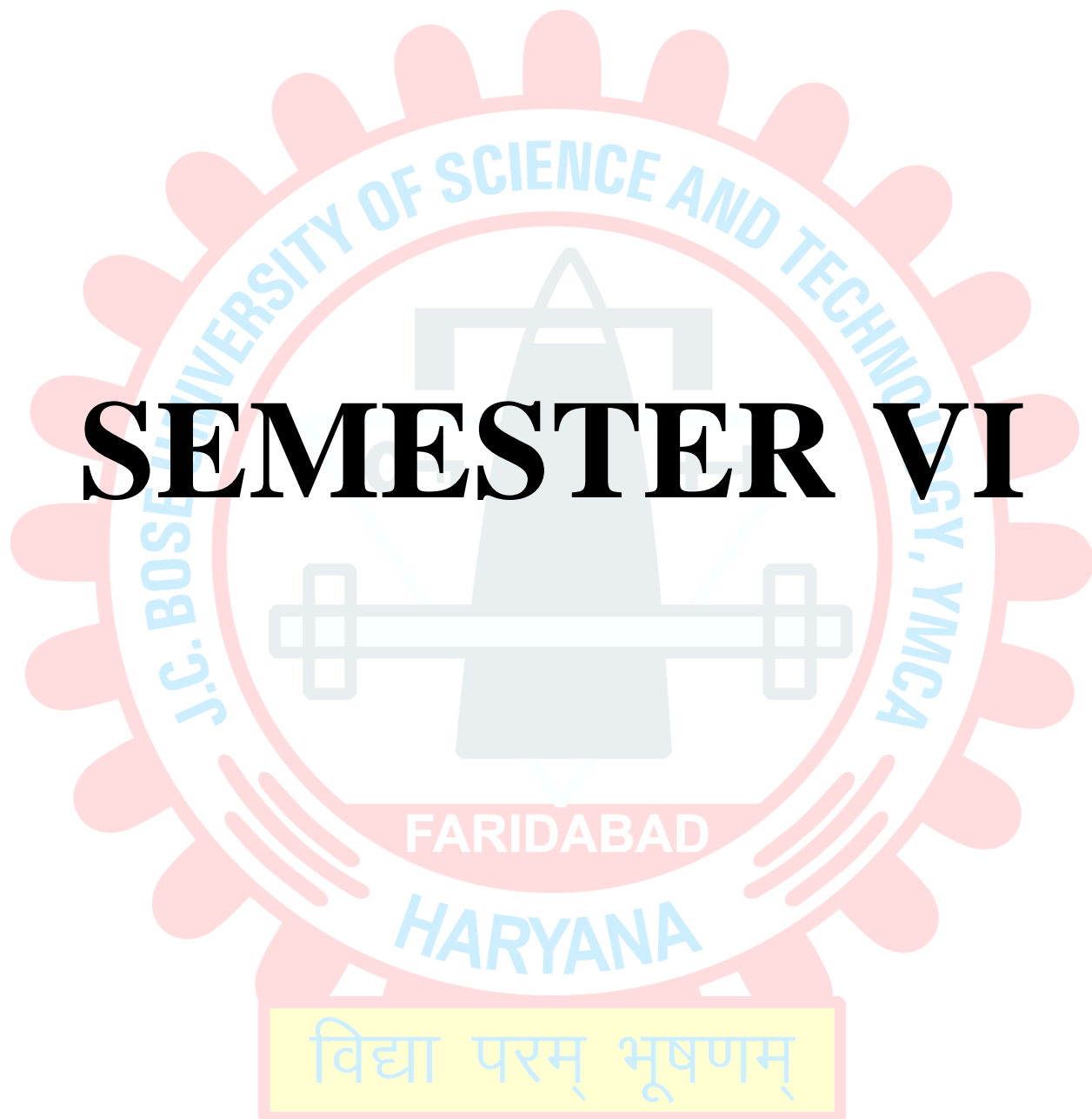
Course Objectives	Course Outcomes				
		a	b	c	d
1	✓				
2			✓		
3				✓	
4					✓

REFERENCES

1. Maya for Games: Modeling and Texturing Techniques with Maya and Mudbox by Michael Ingrassia
2. 3ds Max Modeling for Games: Insider's Guide to Game Character, Vehicle, and Environment Modeling by Andrew Gahan



SEMESTER VI





B.Sc. (Animation and Multimedia) 6th Semester

CODE: BSC-AM-19-601

SUBJECT NAME: Visual Art VI

NO OF CREDITS: 2

L T P TOTAL
0 0 4 4

Internal Practical: 15

External Practical: 35

TOTAL: 50

Duration of Seminar: 3 Hours

Course objectives

- To acquire knowledge and exercise for character design.
- To understand techniques of drawing character by using different angle.
- To acquire knowledge about different animal characters.
- To acquire knowledge of techniques to express different emotions and mood of character.

Research and prepare a presentation on any one of the following:

1. Nature of character

Character body type & nature, faces and feature according to character's nature, Colour Scheme based on nature of character, Colour Harmony in all characters (Heroes and side characters)

2. Character Designing based on Age

Draw Following Characters: - Baby, Children, Youngsters and old People Draw sheet with different age characters

3. Costume /Prop designing: Create realistic costumes and materials, drawing from imagination.

4. Fantasy character: Understanding fantasy and imagination, Study of fantasy character, mixing human and animals feature and parts, Creating fantasy character, Background study

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COURSE OUTCOMES: After completing this course students will be able:

- To learn design character from different angle.
- To understand character design to draw poses of character.
- To analyze animal character, animal character in different angles.
- To apply skills to create character from scratch and express various emotions and moods of character.

MAPPING OF COURSE OBJECTIVES AND COURSE OUTCOMES

Course Objectives	Course Outcomes			
	a	b	c	D
1	✓			
2		✓		
3			✓	
4				✓



B.Sc. (Animation and Multimedia) 6th Semester

CODE: BSC-AM-19-602

SUBJECT NAME: Communication Project

NO OF CREDITS: 2

L T P TOTAL
0 0 4 4

Internal Practical: 15

External Practical: 35

TOTAL: 50

Duration of Seminar: 3 Hours

Course Objective:

1. Familiarize students with the specific genre of graphic novel, its history and popular variants.
2. Discuss the use of different styles and treatment of content in graphic novel creation.
3. Discuss the creation of cognitive environment in graphic novel writing.
4. Discuss tools that help create effective visuals.

Communication Project using Animation and Multimedia on/such following topics:-

1. Benefits of slum in a city
2. Swachh Bharat
3. Health and Hygiene
4. Environment
5. Gender Equality
or similar topic...

COURSE OUTCOMES: After completing this course students will be able:

- a. To learn the specific genre of graphic novel, its history and popular variants.
- b. To understand with different styles and treatment of content in graphic novel creation.
- c. To know about importance of cognitive environment in graphic novel writing.
- d. To use tools that help create effective visuals.

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MAPPING OF COURSE OBJECTIVES AND COURSE OUTCOMES

Course Objectives	Course Outcomes				
		a	b	c	d
1	✓				
2			✓		
3				✓	
4					✓



B.Sc. (Animation and Multimedia) 6th Semester

CODE: BSC-AM-19-603

SUBJECT NAME: 2D Animation Case Study

NO OF CREDITS: 2

L T P TOTAL
0 0 4 4

Internal Practical: 15

External Practical: 35

TOTAL: 50

Duration of Seminar: 3 Hours

Course Objectives

1. To develop your creativity and analytical skills by identifying quality story concepts and creating script breakdowns/analyses.
2. To develop critical thinking and self-awareness by evaluating a variety of theories and approaches to 2D animation film analysis.
3. To integrate the concepts, principles and theories involved in the physics of animation in all aspects of animation by case study of high quality animation movies.
4. Encourage student to use critical thinking skills and problem solving strategies in all dimensions of animation development and production.

Prepare any one of the following:

1. Pre-production, production and final output of 1 min animation clip of industry standard.
2. Case Study on a 2D animated movie about animation style, characters, background.

COURSE OUTCOMES: After completing this course students will be able:

1. To learn the development of the original concept through design to film or video production.
2. To understand ideas, believable action and emotion effectively by employing principles of animation and performance in all aspects of drawing
3. To analyze incorporate technology effectively in the development of animation projects.
4. To apply production schedule to effectively achieve completion of required tasks.



MAPPING OF COURSE OBJECTIVES AND OUTCOMES

Course Objectives	Course Outcomes			
		a	b	c
1	✓	✓	✓	✓
2	✓	✓	✓	✓
3		✓	✓	✓
4	✓			✓

**B.Sc. (Animation and Multimedia) 6th Semester****CODE: BSC-AM-19-605****SUBJECT NAME: Graphic Designing Portfolio****NO OF CREDITS: 2****L T P TOTAL****0 0 3 3****Internal Practical: 15****External Practical: 35****TOTAL: 50****Duration of Seminar: 3 Hours****Course Objectives**

1. Demonstrate creative thinking through the creation of design, visual composition and comprehensives that communicate solutions to design problems.
2. Explain the necessity, purpose, and process of branding and advertising.
3. Present original design projects, explaining and defending the successful usage of learned skills and concepts.

Select any one topic for graphic design portfolio

- Branding
- UI/UX design for web or mobile
- Concept Design (character, background, props & tools,)
- Info-graphics

Course Outcomes

- a. Produce effective designs, advertisements, and packaging for use in a variety of commercial art applications.
- b. Present innovative and creative concepts with confidence
- c. Defend their ideas with acquired knowledge of aesthetics and design at professional ground.

MAPPING OF COURSE OBJECTIVES AND OUTCOMES

Course Objectives	Course Outcomes		
	a	b	c
1	✓	✓	✓
2	✓	✓	✓
3	✓	✓	✓

**B.Sc. (Animation and Multimedia) 6th Semester****CODE: BSC-AM-19-606****SUBJECT NAME: AR and VR Seminar****NO OF CREDITS: 2****Internal Practical: 50****L T P TOTAL****0 0 2 2****TOTAL: 50****Duration of Seminar: 3 Hours****Course Objectives**

1. Introduction to the AR/VR concepts and technologies
2. Evaluate usability of AR/VR applications and critique their use of AR/VR capabilities
3. Compare AR/VR to other approaches; match technology to needs and use cases
4. Articulate trends and trajectories in current and future AR/VR systems

S.NO.	Seminar Session
1.	Overview of AR/VR Concepts and Technologies
2.	VR Design Overview
3.	Physical Prototyping for VR
4.	Digital Prototyping for VR
5.	AR/MR Design Overview
6.	Physical Prototyping for AR/MR
7.	Digital Prototyping for AR/MR
8.	Privacy, Ethical, and Social Implications of AR/VR
9.	Future of AR/VR

SUBJECT NAME: PHOTOSHOP
SUBJECT CODE: GEN-1

Course Objectives

1. To understand of basic tools of Photoshop.
2. To understand the layer and filters and effects.
3. To understand the visual elements and uses.
4. To understand the digital design and the uses.

S.NO.	PRACTICAL
1.	Productively utilize the Photoshop environment, including the use of Layers, Panels, Channels, Paths, the Toolbox, and the Options Bar
2.	Apply painting, retouching, filters, and adjustment and layer style methods
3.	Understand the difference between raster and vector graphics,
4.	Introduction of advanced theories including the mask and clipping Path.
5.	Printing And Exporting Your Work

Course Outcomes: At the end of program the student able...

- a. To create digital design.
- b. To develop effective graphics for both web and print media.
- c. To apply the concept and design to create art works.

SUBJECT NAME: Drawing and Sketching
SUBJECT CODE: GEC-2

Course Objectives

1. Learn drawing with basic shapes and object drawing.
2. Perspective study.
3. Anatomy study(Basic)

S.NO.	PRACTICAL
1.	Define perspective, proportion, horizon line, vanishing point.
2.	Illustrate a word in 1-point perspective.
3.	Draw architecture using 2-point perspective.
4.	show 3-D objects on a flat surface using one vanishing point.

Course Outcomes: At the end of program the student acquire knowledge about:

- a. Students will learn to draw simple forms (cubes and rectangular prisms, etc.) using one-point perspective and then progress to drawing block letters of their name using one-point perspective.
- b. The letters of the name can be drawn in any creative way; horizontal, vertical, diagonal, circular (as shown in the picture above), etc.
- c. Students will have the choice of using a variety of media: Sharpie marker, watercolor paint, color pencil, color stick, pastel, and crayon to add a variety of color and design to their name artwork.
- d. The background paper around the name drawing may remain white or take on a simple design in order to contrast with the main name drawing.

SUBJECT NAME: 3D Modeling
SUBJECT CODE: GEC-3

Course Objectives

1. To introduce the workflow of 3D designing.
2. To understand use of 3D Modeling in various industrial work process.
3. To introduce interface of 3D softwares.
4. To understand fundamentals and techniques of 3D modeling.

UNIT I: Overview of 3D Modeling Uses of 3D modeling in Industries, Introduction to 3D software.

UNIT II: Introduction to different types of 3D modeling, understanding 3D components and geometry for modeling, transform tools, fundamentals of polygon modeling extrude for model creation, edge loops and rings, connecting, bridge etc.

UNIT III: Advance tools for 3d modeling.

UNIT IV: High poly modeling, vehicle, export for different platforms.

Course Outcomes

- a. Student will be aware and familiarized with 3D design process.
- b. Implement 3D modelling in the industrial fields related to their course or subjects.
- c. Student will be able to work on different platforms of 3D designing.
- d. Understand and implement modeling tools and techniques to create simple or complex objects for visual display like prototype, etc.

SUBJECT NAME: PHOTO EDITING
SUBJECT CODE: GEC-4

Course Objectives

1. To acquire knowledge of photo editing, techniques
2. To apply techniques for darkening and lightening parts of an image.
3. To understand Correct colour and overall colour balance in digital photographs.

S.NO.	PRACTICAL
1.	Easily navigate Photoshop interface to find what you need
2.	Crop and resize images
3.	Work with color to edit and manipulate images
4.	Work with layers
5.	Add text to images
6.	Create and use gradients
7.	Photo retouching
8.	Content-Aware feature to remove objects from images.

Course Outcomes: At the end of program the student acquire knowledge about:

- a. Use specialized techniques for knocking out and modifying a subject.
- b. Apply the sharpening routine in appropriate situations.
- c. To implement a realistic composite photo by superimposing a subject on a background with appropriate shadows and perspective.

SUBJECT NAME: Video Editing
SUBJECT CODE: GEC-5

Course Objectives

1. To know about basic digital video.
2. To understand the editing fundamentals
3. TO learn digital video editing software.
4. To learn video editing software and different types of outputs for broadcasting.

UNIT I: Introduction and fundamental of digital video.

UNIT II: Difference between linear and non linear editing.

UNIT III: Digital Video Editing tools Interface, editing tools, timeline, trimming, slow motion, video effects and transitions etc. Supporting digital editing tool: Adobe Premiere.

UNIT IV: Color correction, Video export for different platform. Different broadcasting formats.

COURSE OUTCOMES: After completing this course students will be able:

- a. To learn fundamental of digital video
- b. To understand different styles and treatment of content in video production and editing
- c. To analyze the films and videos and importance of codec and format for final output to broadcasting.
- d. To apply the acquired knowledge of video editing for films and videos.