



**J C Bose University of Science and Technology, YMCA,  
Faridabad, Haryana**

# **Department of Computer Applications**

**(Faculty of Informatics and Computing)**

**Scheme and Syllabus**

**B.Sc. Animation and Multimedia**

**(Semester I – II)**

W.e.f. 2023



# Scheme

## (Semester I & II)



**J. C. BOSE UNIVERSITY OF SCIENCE AND TECHNOLOGY, YMCA, FARIDABAD**  
**B.Sc. (ANIMATION AND MULTIMEDIA)**  
**Scheme of Studies/Examination**

Sr. No	Category	Course code	Course Title	Course Requirements (hrs)			Sessional Marks/End Term Marks		Total Marks	Credits
				L	P	Total	Sessional	End Term Marks		
1	Discipline Specific-Major	BSC-AM-23-101	Visual Arts	3	-	3	25	75	100	3
2	Discipline Specific-Major	BSC-AM-23-102	Introduction to Film Making	4	-	4	25	75	100	4
3	Discipline Specific-Minor	BSC-AM-23-103	Fundamentals of Information and Web Technology	3	-	3	25	75	100	3
4	Multidisciplinary	BSC-AM-23-104	Mathematics	3	-	3	25	75	100	3
5	Ability Enhancement courses	(ENG-LL-23-01)	Writing Skills and the Art of Rhetoric(WSAAR)	2	-	2	25	75	100	2
6	Value Added Course		Environment Science -1	2	-	2	25	75	100	2
7	Skill Enhancement Courses	BSC-AM-23-105	Graphics Design-I	-	6	6	15	35	50	3
8	Discipline Specific Major Lab	BSC-AM-23-106	Visual Art Lab	-	2	2	15	35	50	1
9	Discipline Specific-Minor Lab	BSC-AM-23-107	Fundamentals of Information and Web Technology Lab	-	2	2	15	35	50	1
			<b>Total</b>			<b>27</b>	<b>195</b>	<b>550</b>	<b>750</b>	<b>22</b>

**Semester- 1**

**J. C. BOSE UNIVERSITY OF SCIENCE AND TECHNOLOGY, YMCA, FARIDABAD**  
**B.Sc. (ANIMATION AND MULTIMEDIA)**  
**Scheme of Studies/Examination**  
**Semester- 2**

Sr. No	Category	Course code	Course Title	Course Requirements (hrs)			Sessional Marks/End Term Marks		Total Marks	Credits
				L	P	Total	Sessional	End Term Marks		
1	Discipline Specific-Major	BSC-AM-23-201	Photography & Film Studies	4	-	4	25	75	100	4
2	Discipline Specific-Major	BSC-AM-23-202	Traditional Animation I	4	-	4	25	75	100	4
3	Discipline Specific-Minor	BSC-AM-23-203	Programming Languages and Computer Graphics	3	-	3	25	75	100	3
4	Multidisciplinary	BSC-AM-23-204	Creative and Script Writing	3	-	3	25	75	100	3
5	Ability Enhancement courses	(ENG-LL-23-03)	Effective Corporate Communication (ECC)	2	-	2	25	75	100	2
6	Value Added Course	BCA-23-109	Quantitative Reasoning	2	-	2	25	75	100	2
7	Skill Enhancement Courses	BSC-AM-23-205	Graphics Design-II	-	6	6	15	35	50	3
8	Discipline Specific Minor Lab	BSC-AM-23-206	Programming Languages and Computer Graphics Lab	-	2	2	15	35	50	1
			<b>Total</b>			<b>27</b>	<b>180</b>	<b>520</b>	<b>700</b>	<b>22</b>

# **Semester -1**





**B.SC. (ANIMATION AND MULTIMEDIA) 1ST SEMESTER**  
**CODE: BSC-AM-23-101**  
**SUBJECT NAME: Visual Arts**

**No. of Credits: 3**

<b>L</b>	<b>3</b>	<b>Sessional</b>	<b>25</b>
<b>P</b>	<b>0</b>	<b>Theory Exam</b>	<b>75</b>
		<b>Total</b>	<b>100</b>

**Course objectives:**

1. To understand the basic elements of visual Art and Design
2. To inculcate the basic principles of visual Art and Design.
3. To understand the colour theory and the psychological, culture and other association with colour.
4. To understand the shading techniques using light and shadow.
5. To develop a basic understanding of using shapes in object drawing and nature.

**Unit-01**

Drawing with Basic shapes: Object drawing from surroundings, study of plants and trees, Visualizing objects in various angles.

**Unit-02**

Elements of Art: - Line - Colour - Shape - Texture - Space – Form – Value.

Colour Theory: Primary & Secondary Colour, & Territory colour, warm & cool colour, psychological aspect of colour.

**Unit-03**

Principles of Art: Unity, Balance, Rhythm, Contrast, Dominance, Movement, and Pattern. Introduction to Light & shade: Pencil shading techniques- hatching, Cross hatching, stippling, scribbling and smudging.

**Unit-04**

Volume Construction, human and animal anatomy, Study of human part face, hands, foot, torso, nose, lips. Balance and perspective applied to figures, study dynamic poses of figures, figures in action and in movement.

**Unit-05**

Introduction to Perspective Drawing one point, two point and three point. (Introduction to Perspective - Different types of Perspective - Different types of Eye Levels), forshortening.

**Course outcome:**

- A. Students would be able to create visual designs or artwork using visual art elements.
- B. Students would be able to implement the acquired knowledge of the principles of design to create art composition.

- C. Students would be able to implement the understanding of basic color theory to create an impactful composition to express or influence certain feelings or emotions through visual art.
- D. Students would be able to draw light and shadow on objects with appropriate assessment and representation of the impact of light on simple forms and objects.
- E. Students would be able to develop a basic understanding of using shapes in object drawing and nature study.

Course Outcomes						
	A	B	C	D	E	
1	✓					
2		✓				
3			✓			
4				✓		
5	✓					✓

**Text Books/ Reference Books:**

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 Beard

**B.SC. (ANIMATION AND MULTIMEDIA) 1ST SEMESTER  
CODE: BSC-AM-23-102  
SUBJECT NAME: Introduction to Film Making**

**No. of Credits: 4**

<b>L</b>	<b>4</b>	<b>Sessional</b>	<b>25</b>
<b>P</b>	<b>0</b>	<b>Theory Exam</b>	<b>75</b>
		<b>Total</b>	<b>100</b>

**Course objectives:**

1. To study about different films and film makers.
2. To understand about different states of films like pre-production, production and post production and the basic concept of films.
3. To acquire the knowledge of different statements like statements like story, script and storyboard.
4. To create an idea with experimental animation.
5. To create an idea with experimental film.

**Unit-01**

Introduction to Films/Cinema, History of films, Types of films, process of filmmaking.

**Unit-02**

Various departments in films, Pre-production, Production, Post- Production, Film Language (Shot, Scene, Camera Movements).

**Unit-03**

Revisualization (Shot Division, Story Boarding) Project Designing & Planning Scheduling (Creating grid, arranging scenes, characters & crew needed, Budgeting).

**Unit-04**

Introduction - work of director Types of directors & duties of each Break downs, Introduction - Production designing Basic concept & techniques Dressing a Set & arranging property Location alternating.

**Unit-05**

Final Projects 1. Advertisement 2. Documentary 3. Short Films 4. Video Song 5. News Film Appreciation sessions - Screening of short, documentary& feature films for analysis.

**Course outcome:**

- A. Students will be able know about history of films, film-makers.
- B. Students will be able know about production pipeline: pre-production, production, post-production.

- C. Students will be able know to Solve basic problems using different statements like story, script and storyboard.
- D. Students will be able know to Apply script storyboard for experimental animation film.
- E. Students will be able know create film, video and experimental films.

Course Outcomes						
		A	B	C	D	E
	1	✓				
	2		✓			
	3			✓		
	4				✓	
	5	✓				✓

**Text Books/ Reference Books:**

1. The Filmmakers Handbook - By Stevevascher
2. Shot By Shot - By Steven Katz
3. Making Movies - By Sudney Lumet.
4. On Directing Film - By David Mamet
5. Rebel without a Crew - By Robert Rodriguez
6. The Television Handbook - Patricia Holland
7. Studio Television Production – By Andrew Utterback

**B.SC. (ANIMATION AND MULTIMEDIA) 1ST SEMESTER**  
**CODE: BSC-AM-23-103**  
**SUBJECT NAME: Fundamentals of Information and Web Technology**

**No. of Credits: 3**

<b>L</b>	<b>3</b>	<b>Sessional</b>	<b>25</b>
<b>P</b>	<b>0</b>	<b>Theory Exam</b>	<b>75</b>
		<b>Total</b>	<b>100</b>

**Course objectives:**

1. To understand the major components of computer system and to learn about different Number Systems and their conversion.
2. To learn about different programming languages and their corresponding Translators.
3. To learn about the basic concepts of Networking.
4. To understand the concept of Internet and WWW and also to design web pages using HTML.
5. To understand the types and functions of OS.

**Unit-01**

**AN OVERVIEW OF COMPUTER SYSTEM AND OPERATING SYSTEMS**

Fundamentals: Evolution of computers, Hardware organization of a computer. Introduction to micro processors. Input/output Devices, Input/output ports and connectors.

**Unit-02**

**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-03**

**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-04**

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.

**Unit-05**

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

**Course outcome:**

- A. Students will be able to analyze computer system components in detail. Also understand the types of format in which data can be stored in computer system’s memory.
- B. Students will be able to implement different types of programming languages and how with the help of translator’s computer understand human language.
- C. Students will be able to apply and use the concept of networking and the use of Internet and World Wide Web.
- D. Students will be able to design web pages using HTML.
- E. Students will be able to familiar with various types of OS and various functions of OS.

		<b>Course Outcomes</b>					
		<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	
<b>1</b>	✓						
<b>2</b>		✓					
<b>3</b>				✓			
<b>4</b>					✓		
<b>5</b>	✓					✓	

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**Text Books/ Reference Books:**

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: BSC-AM-23-104  
SUBJECT NAME: Mathematics**

**No. of Credits: 3**

<b>L</b>	<b>3</b>	<b>Sessional</b>	<b>25</b>
<b>P</b>	<b>0</b>	<b>Theory</b>	<b>75</b>
		<b>Exam</b>	
		<b>Total</b>	<b>100</b>

**Course objectives:**

1. To understand the basic elements of visual Art and Design
2. To inculcate the basic principles of visual Art and Design.
3. To understand the colour theory and the psychological, culture and other association with colour.
4. To understand the shading techniques using light and shadow.
5. To develop a basic understanding of using shapes in object drawing and nature.

**Unit-01**

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

**Unit-02**

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

**Unit-03**

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

**Unit-04**

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.

**Unit-05**

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.



**Course outcome:**

- A. Students would be able to create visual designs or artwork using visual art elements.
- B. Students would be able to implement the acquired knowledge of the principles of design to create art composition.
- C. Students would be able to implement the understanding of basic color theory to create an impactful composition to express or influence certain feelings or emotions through visual art.
- D. Students would be able to draw light and shadow on objects with appropriate assessment and representation of the impact of light on simple forms and objects.
- E. Students would be able to develop a basic understanding of using shapes in object drawing and nature study.

Course Outcomes						
		A	B	C	D	E
	1	✓				
	2		✓			
	3			✓		
	4				✓	
	5	✓				✓

**Text Books/ Reference Books:**

1. Plastock:Theory&ProblemofComputerGraphics,SchaumSeries.
2. M.D.Raisinghanian, VectorCalculus,S ChandCo.Pvt.Ltd.,2013.
3. BSpain,VectorAnalysis, ELBS,1994.

**B.SC. (ANIMATION AND MULTIMEDIA) 1ST SEMESTER  
CODE:  
SUBJECT NAME: Effective Technical Communication**

**No. of Credits: 2**

<b>L</b>	<b>2</b>	<b>Sessional</b>	<b>25</b>
<b>P</b>	<b>0</b>	<b>Theory Exam</b>	<b>75</b>
		<b>Total</b>	<b>100</b>

**Course objectives:**

1. To provide with the confidence to use written communication in your work and personal experience beyond college,
2. To acquaint students with the concept of a writer-reader relationship and identify the need for active participation from both writer and reader,
3. To teach the skills needed to successfully communicate in a modern world through written materials.
4. To develop strategies for information design, to include producing visually enhanced documents.

**Unit-01**

**Narration and Writing**

Define, Describe, Narrate and Argue; Articulating Questions and Innovative Thoughts; Narration: chronological order and achronological order; first-person, second-person and third person point of view in narration; key elements: plot, character, pov, setting and conflict; Storytelling, event news stories and Corporate Storytelling; problem-solution structures.

**Unit-02**

**Reasoning and Rhetoric:** Rhetoric, the art of persuasion; *ethos*, *logos* and *pathos*, Aristotle’s triangle; Freytag’s pyramid; reasoning; organizing; articulating; Synthesis; *Antanagoge*; *Hypophora*.

Recognize and evaluate the strength of an argument and its impact.

**Exercise:** Rhetorical and Oratorical Skills: Techniques for effective public speaking, both prepared and extemporaneous; Brainstorm ideas for your own short speech.

**Unit-03**

**Writing Features and Articles: Writing Features and Articles,** , Op-Eds (Opinions and Editorials), Features; Articles; Topical Issues, Memes; Backgrounders; Memes; Idioms, Proverbs; Using Literary Devices and Figurative Language.

**Exercises:** Building Memes and Feature Writing

**Unit-04**

**Performance and Drills**

Reading Drills; Speaking Drills; Team-Performance Drills; Solo Performance Drills; Apply the elements of rhetoric you have learned so far in the final draft of your op-ed and discussion.

**Course outcome:**

- A. Clearly convey specialized information from a technical field to a non-specialized audience.
- B. Identify and use appropriate formats and conventions derived from individual disciplines.
- C. Assess effectiveness and validity of information sources, such as web sites, business documents, and professional journals.
- D. Develop strategies for information design, to include producing visually enhanced documents.

		<b>Course Outcomes</b>			
		<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
<b>1</b>		✓			
<b>2</b>			✓		
<b>3</b>				✓	
<b>4</b>					✓

**TextBooks/References:**

1. David F. Beer and David McMurrey, Guide to writing as an Engineer, John Willey. New York, 2004
2. Diane Hacker, Pocket Style Manual, Bedford Publication, New York, 2003. (ISBN 0312406843)
3. Shiv Khera, You Can Win, Macmillan Books, New York, 2003.
4. Raman Sharma, Technical Communications, Oxford Publication, London, 2004.
5. Dale Jungk, Applied Writing for Technicians, McGraw Hill, New York, 2004. (ISBN: 07828357-4)
6. Sharma, R. and Mohan, K. Business Correspondence and Report Writing, TMH New Delhi 2002.
7. Xebec, Presentation Book, TMH New Delhi, 2000. (ISBN

**B.SC. (ANIMATION AND MULTIMEDIA) 1ST SEMESTER**

**CODE:**

**SUBJECT NAME: Environment Science -1**

**No. of Credits: 2**

<b>L</b>	<b>2</b>	<b>Sessional</b>	<b>25</b>
<b>P</b>	<b>0</b>	<b>Theory Exam</b>	<b>75</b>
		<b>Total</b>	<b>100</b>

**Course objectives:**

1. To provide the students a detailed knowledge on the threats and challenges to the environment due to developmental activities.
2. To identify the natural resources and suitable methods for their conservation and sustainable development.
3. To create awareness of the students about the importance of ecosystem and biodiversity for maintaining ecological balance.
4. To learn about various attributes of pollution management and waste management practices.
5. To understand the social issues both rural and urban environment and environmental legislation

**Unit-01**

The Multidisciplinary Nature of Environmental Studies: Definition, scope and importance. Need for public awareness.

**Unit-02**

Natural Resources: Renewable and Non-Renewable Resources: Natural resources and associated problems:

Forest resources: Use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forests and tribal people.

Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems.

Mineral resources: Use and exploitation, environmental effects of extracting and mineral resources, case studies.

**Unit-03**

Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.

Energy resources: Growing energy needs, renewable and non- renewable energy sources, use of alternate energy sources. Case studies.

Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification. Role of an individual in conservation of natural resources. Equitable use of resources for sustainable lifestyles.

**Unit-04**

Ecosystems Concept of an ecosystem. Structure and function of an ecosystem. Producers, consumers and decomposers. Energy flow in the ecosystem. Ecological succession. Food chains,

food webs and ecological pyramids. Introduction, types, characteristic features, structure and function of the following ecosystem: a) Forest ecosystem b) Grassland ecosystem c) Desert ecosystem d) Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries).

### Unit-05

Biodiversity and its Conservation

Introduction – Definition: genetic, species and ecosystem diversity.

Biogeographical classification of India. Value of biodiversity: consumptive • use, productive use, social, ethical, aesthetic and option values. Biodiversity at global, National and local levels.

India as a mega-diversity nation. Hot-spots of biodiversity. Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts. Endangered and endemic species of India.

Conservation of biodiversity: insitu and ex-situ conservation of biodiversity

### Unit-06

Environmental Pollution Definition

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

Solid waste Management: Causes, effects and control measures of urban and industrial wastes.

Role of an individual in prevention of pollution. Pollution case studies. Disaster management: floods, earthquake, cyclone and landslides. Social Issues and the Environment

From Unsustainable to Sustainable development Urban problems related to energy. Water conservation, rain water harvesting, watershed management. Resettlement and rehabilitation of people; its problems and concerns. Case studies.

### Unit-07

Environmental ethics: Issues and possible solutions. Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case studies. Wasteland reclamation. Consumerism and waste products.

Environment Protection Act. Air (Prevention and Control of Pollution) Act. Water (Prevention and Control of Pollution) Act

Wildlife Protection Act. Forest Conservation Act. Issues involved in enforcement of environmental legislation Public awareness.

### Course outcome:

1. Understand environmental legislation and policies of national and international regime.
2. No regulations applicable to industries and other organizations which significant environmental aspects.
3. Get knowledge of the legal system operating in India and will be in a position to prepare compliance report for getting environmental clearance.
4. Prepare the environmental management system for an organization.

### TextBooks/References:

1. Environmental Science: towards a sustainable future by Richard T. Wright. 2008 PHL Learning Private Ltd. New Delhi.
2. Environmental Engineering and science by Gilbert M. Masters and Wendell P. Ela 2008 PHI Learning Pvt Ltd.
3. Environmental Science by Daniel B. Botkin & Edwards A. Keller, Wiley INDIA edition.

4. Fundamentals of Ecology by Odum, E.P., Barrick, M. and Barret, G.W. Thomson Brooks/Cole Publisher, California, 2005.

		<b>Course Outcomes</b>			
		<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
<b>1</b>	✓				
<b>2</b>		✓			
<b>3</b>				✓	
<b>4</b>					✓
<b>5</b>	✓				

**B.SC. (ANIMATION AND MULTIMEDIA) 1ST SEMESTER**

**CODE: BSC-AM-23-105**  
**SUBJECT NAME: Graphics Design-I**

**No. of Credits: 3**

<b>L</b>	<b>0</b>	<b>Internal Practical</b>	<b>15</b>
<b>P</b>	<b>6</b>	<b>External Practical</b>	<b>35</b>
		<b>Total</b>	<b>50</b>

<b>List of Lab Experiments/Assignments (Implementation of each problem statement is mandatory)</b>	
<b>Sr. No.</b>	<b>Group A</b>
<b>1.</b>	Create visual art with tools (Introduction to digital tools, power and limitations)
<b>2.</b>	Create Background with filters
<b>3.</b>	Create wallpaper filters and blending modes
<b>4.</b>	Create artwork with Layers (basic principles: pixel, vector, layers, resolution, color mode)
<b>5.</b>	Create 3D effects with Layer blending option Photo retouching
<b>6.</b>	Color editing / Color balance
<b>7.</b>	Black and white to colour convert.
<b>8.</b>	Masking, Create Text Styles and effect
	<b>Mini-Projects/CaseStudy</b>
<b>9.</b>	Create digital graphics portfolio.

**B.SC. (ANIMATION AND MULTIMEDIA) 1ST SEMESTER  
 CODE: BSC-AM-23-106  
 SUBJECT NAME: Visual ArtLab**

**No. of Credits: 2**

<b>L</b>	<b>0</b>	<b>Internal Practical</b>	<b>15</b>
<b>P</b>	<b>4</b>	<b>External Practical</b>	<b>35</b>
		<b>Total</b>	<b>50</b>

<b>List of Lab Experiments/Assignments (Implementation of each problem statement is mandatory)</b>	
<b>Sr. No.</b>	<b>Group A</b>
<b>1.</b>	Visual and creative development, Understanding line of action, Making of gestures drawing and study of action.
<b>2.</b>	Free hand drawing through different techniques, controlling on drawing, controlling on line
<b>3.</b>	Weight and balance in drawing, drawings with mannequins.
<b>4.</b>	Pose to pose sketching, rapid sketching and techniques.
<b>5.</b>	Drawing from live action and memory drawing.
<b>6.</b>	Object drawing and nature drawing.
<b>7.</b>	Perspective Drawing: Perspective as applied to objects and furniture.
<b>8.</b>	Perspective Drawing: Interior and exteriors of the buildings etc, Perspective Drawing and drawing from a Script.
	<b>Mini-Projects/ Case Study</b>
<b>9.</b>	Create a portfolio of series of quick studies of figure drawing. Pay close attention to forms and weight distribution of the figure. Look for gesture of overall movement of the body.



**B.SC. (ANIMATION AND MULTIMEDIA) 1ST SEMESTER**

**CODE: BSC-AM-23-107**

**SUBJECT NAME: Fundamentals of Information and Web Technology Lab**

**No. of Credits: 2**

<b>L</b>	<b>0</b>	<b>Internal Practical</b>	<b>15</b>
<b>P</b>	<b>4</b>	<b>External Practical</b>	<b>35</b>
		<b>Total</b>	<b>50</b>

<b>List of Lab Experiments/Assignments (Implementation of each problem statement is mandatory)</b>	
<b>Sr. No.</b>	<b>Group A</b>
<b>1.</b>	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.
<b>2.</b>	Introduction to various packages and software's and Installation of software on Computer.
<b>3.</b>	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.
<b>4.</b>	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.
<b>5.</b>	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.
<b>6.</b>	Scanning, Saving and Printing of documents
<b>7.</b>	Power Point Basics: Introduction, Toolbars, Their Icons and Commands.
<b>8.</b>	Using design software's, paint brush, toolbar and various commands.
	<b>Mini-Projects/ Case Study</b>
<b>9.</b>	Create a power point presentation.

## **Semester -2**



**B.SC. (ANIMATION AND MULTIMEDIA) 2nd SEMESTER  
CODE: BSC-AM-23-201  
SUBJECT NAME: Photography & Film Studies**

**No. of Credits: 4**

<b>L</b>	<b>4</b>	<b>Sessional</b>	<b>25</b>
<b>P</b>	<b>0</b>	<b>Theory</b>	<b>75</b>
		<b>Exam</b>	
		<b>Total</b>	<b>100</b>

**Course objectives:**

6. To study the history of photography, camera and Indian history of cinema.
7. To understand about films, theme, cinematography.
8. To acquire knowledge of the camera's components and function of digital camera.
9. To learn about camera angles, shot sizes, Camera movements
10. To acquire knowledge of outdoor photography.

**Unit-01**

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

**Unit-02**

Film appreciation: about film, Theme, Story and screen play, 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.

**Unit-03**

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

**Unit-04**

Essentials of screen: Camera angles, Shot sizes, Camera movements.

**Unit-05**

Outdoor study of photography- capture silhouette image, monochromatic image.

**Course outcome:**

- F. Students will be able to know about photography and camera.
- G. Students will be able to use of camera in films and videos.
- H. Students will be able to solve basic problems in cinematography using different statements like lights, camera angles, movements, shots
- I. Students will be able to apply lights and camera fundamentals and for films and photography.
- J. Students will be able to acquire knowledge of outdoor photography.

		CourseOutcomes				
		A	B	C	D	E
1	✓					
2		✓				
3				✓		
4					✓	
5	✓					✓

**Learning Recourses:**

1. The Filmmaker’s Handbook by: Steven Ascher and Edward Pincus
2. Film-making: An Introduction to the Craft of the Director (2005) by Alexander Mackendrick, edited by Paul Cronin

**B.SC. (ANIMATION AND MULTIMEDIA) 2nd SEMESTER  
CODE: BSC-AM-23-202  
SUBJECT NAME: Traditional Animation I**

**No. of Credits: 4**

<b>L</b>	<b>4</b>	<b>Sessional</b>	<b>25</b>
<b>P</b>	<b>0</b>	<b>Theory Exam</b>	<b>75</b>
		<b>Total</b>	<b>100</b>

**Course objectives:**

1. To understand Theory of traditional animation.
2. To acquire knowledge of Timing for animation.
3. To understand Animation principle.
4. To understand the use of light box equipment for animation.
5. To understand the principles of animation with the help of basic cell animation exercises.

**Unit-01**

Introduction to traditional animation.

**Unit-02**

Principles of Animation: Timing, Slow Out & Slow In, Squash & Stretch, Arc.  
Principles of Animation: Follow through & Overlapping Action.

**Unit-03**

Principles of Animation: Anticipation, Secondary Action.

**Unit-04**

Principles of Animation: Straight Ahead Action and Pose to Pose.

**Unit-05**

Principles of Animation - Exaggeration, Staging, Solid drawing, Appeal.

**Course outcome:**

- A. Students will be able to learn simple or complex animation with the animation principles.
- B. Students will be able to implement knowledge of lightbox equipment to create flipbook.
- C. Students will be able to implement knowledge of basic animation principles to create cell animation exercises like bounce ball animation, paper fly animation and various similar animations.
- D. Students will be able to develop Pendulum animation using principle of arc.
- E. Students will be able to develop a foundation for understanding the advance animation Principles and body mechanics.

		CourseOutcomes				
		A	B	C	D	E
1	✓					
2		✓				
3				✓		
4					✓	
5	✓					✓

**Text Books/ Reference Books:**

- 1 Disney Animation: The Illusion of Life by Thomas and Ollie Johnston
- 2 Figure drawing without a model by Ron Tiner
- 3 Drawing for Absolute and utter beginner by Claire Garcia
- 4 Pencil sketching by Thomas C Wang
- 5 Perspective Drawing Hand Book by Joseph D' Amelio

**B.SC. (ANIMATION AND MULTIMEDIA) 2nd SEMESTER**  
**CODE: BSC-AM-23-203**  
**SUBJECT NAME: Programming Languages and Computer Graphics**

**No. of Credits: 3**

<b>L</b>	<b>3</b>	<b>Sessional</b>	<b>25</b>
<b>P</b>	<b>0</b>	<b>Theory Exam</b>	<b>75</b>
		<b>Total</b>	<b>100</b>

**Course objectives:**

1. To understand the building blocks of C language like variables, data types, managing I/O etc and different statements like sequential, decision making, iterative such as if-else, loops.
2. To understand the concept of arrays and string, pointers and understand functions also.
3. On completing this course students will be able to analyze where to apply computer graphics.
4. To analyze different display systems and their techniques.
5. To design the algorithms for generating geometric shapes and colour filling algorithms, two-dimensional Geometric Transformations and clipping.

**Unit-01**

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-02**

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-03**

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-04**

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-05**

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.



**Course outcome:**

- F. Students will be able to analyze computer system components in detail. Also understand the types of format in which data can be stored in computer system’s memory .
- G. Students will be able to implement different types of programming languages and how with the help of translators computer understand human language.
- H. Students will be able to apply and use the concept of networking and the use of Internet and World Wide Web.
- I. Students will be able to design web pages using HTML.
- J. Students will be able to familiar with various types of OS and various functions of OS.

Course Outcomes					
	A	B	C	D	E
1	✓				
2		✓			
3			✓		
4				✓	
5	✓				✓

**Text Books/ Reference Books:**

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 Graphics, 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: BSC-AM-23-204  
SUBJECT NAME: Creative and Script Writing**

**No. of Credits: 3**

<b>L</b>	<b>3</b>	<b>Sessional</b>	<b>25</b>
<b>P</b>	<b>0</b>	<b>Theory Exam</b>	<b>75</b>
		<b>Total</b>	<b>100</b>

**Course objectives:**

1. To work on the diction of the students.
2. To make students aware about the basic genres of writing and help them to blend it with animation.
3. To make students aware about some basic elements of creative writing.
4. To hone students skills in self-expression through execution of creative writing.
5. To make them aware about different structures of writing.

**Unit-01**

Introduction to creative writing – Fiction & Non-fiction, Literary devices.

**Unit-02**

Commercial writing – Report writing, Advertisement writing, Tag lines, Product description writing.

**Unit-03**

Story Writing – What is story? Types of stories – fantasy, adventure, travel writing, gothic etc., Narrative device, Types of characters.

**Unit-04**

Poems, Dialogue Writing, Drama, Figures of speech.

**Unit-05**

Script Writing and Screenplay for animated films.

**Course outcome:**

- A. Students will understand principles of creative writing, including form, technique, and style.
- B. Students will be able to apply principles of creative writing to improve communication in a variety of contexts, including personal, academic, and public life.
- C. Students will be able to understand and creatively develop different writing styles.
- D. Students will be able to create their own scenarios and stories.
- E. Students will be able to imply variant literary techniques in their writings.

		Course Outcomes				
		A	B	C	D	E
1	✓					
2		✓				
3				✓		
4					✓	
5	✓					✓

**Text Books/ Reference Books:**

- 1 . Iyer Venkat, Mass Media Laws And Regulations in India- Published by AMIC, 2000
- 2 . I ntroduction to mass Communication : Medial Literacy & Culture By Stanley Baran The Tata McGraw Hill
3. The Media in your life -By Jean Folkerts& Stephen Lacy by PEARSON PUBLICATION.

**B.SC. (ANIMATION AND MULTIMEDIA) 2nd SEMESTER**

**CODE:**

**SUBJECT NAME: Skill Soft**

**No. of Credits: 2**

<b>L</b>	<b>2</b>	<b>Sessional</b>	<b>25</b>
<b>P</b>	<b>0</b>	<b>Theory Exam</b>	<b>75</b>
		<b>Total</b>	<b>100</b>

**Course objectives:**

1. To introduce the fundamentals of soft skills.
2. To familiar the students about communications
3. To learn the fundamentals of clarity, correctness and concision in writing, as well as To
4. To understand the relevance of group discussion, meeting management, activities and presentations (both impromptu and formal)

**Unit-01**

**Writing Skills and Basics of Grammar:** Subject-verb agreement; sentence correction; tense-verb usage; Composition of a Paragraph; Characteristics of a Good Paragraph; Use of Idioms and Proverbs, Literary Tropes and Use of Figures of Speech.

**Unit-02**

**Technical Writing and Reports:** SPSE structure; IMRD structure; Report Writing: Types of Reports and Structure of a Long Report. Hedging, Nominalization; Memos; Agenda and MoM; Case Study Method; Presentations; Business Letters-quotations and placing order.

**Unit-03**

**Drafting proposals:** From essays to proposals; Types of Essay Writing: Structure of an essay; Argumentative essays; Expository essays; Narrative essays; and Descriptive essays; Structure of an Essay Reading, Writing and Comprehension. Drafting proposals; Synopsis Writing; Definitions; Comparisons and Contrasts; Hedging; Nominalization, proposal presentations

**Unit-04**

**Exercises in Proposal Presentations:** Drafting and Presenting Proposals.

**Course outcome:**

- A. Understand the concept of soft skills including communication skills, listening skills, positive thinking and also will be able to enhance own personality.
- B. Able to write business letters.
- C. Able to write reports.
- D. Able to make effective resume and will also be able to present himself/herself in interview, speeches, presentations, talks etc.

Course Outcomes				
	A	B	C	D
1	✓			
2		✓		
3			✓	
4				✓
5	✓			

**Text Books/ Reference Books:**

1. Butterfield, Jeff. Soft Skills for Everyone. New Delhi: Cengage Learning. 2010.
2. Chauhan, G.S. and Sangeeta Sharma. Soft Skills. New Delhi: Wiley. 2016.
3. Goleman, Daniel. Working with Emotional Intelligence. London: Banton Books. 1998.
4. Hall, Calvin S. et al. Theories of Personality. New Delhi: Wiley. rpt. 2011.
5. Holtz, Shel. Corporate Conversations. New Delhi: PHI. 2007.
6. Kumar, Sanajy and PushpLata. Communication Skills. New Delhi: OUP. 2011.
- 7 .Lucas, Stephen E. The Art of Public Speaking. McGraw-Hill Book Co. International Edition, 11th edition.

**B.SC. (ANIMATION AND MULTIMEDIA) 2nd SEMESTER  
CODE:  
SUBJECT NAME: Quantitative Reasoning**

**No. of Credits: 2**

<b>L</b>	<b>2</b>	<b>Sessional</b>	<b>25</b>
<b>P</b>	<b>0</b>	<b>Theory Exam</b>	<b>75</b>
		<b>Total</b>	<b>100</b>

**Course objectives:**

1. To Understand the basic concepts of quantitative ability
2. To learn the basic concepts of logical reasoning Skills
3. To acquire satisfactory competency in use of reasoning
4. To understand the problems for campus placements aptitude papers covering Quantitative Ability, Logical Reasoning Ability

**Unit-01**

Quantitative Aptitude: Periods Numerical computation: Applications based on Numbers, Chain Rule, Ratio Proportion, Time and work, Time and Distance, Percentages, Profit Loss and Discount, Simple interest and Compound Interest Partnerships, Shares and dividends ,Data interpretation Data interpretation related to Averages, Mixtures and allegations, Bar charts, Pie charts, Venn diagrams

**Unit-02**

Verbal Ability:

Reading Comprehension Structure of a Reading Passage – Idea Organization Styles – Style and Tone – Skimming and Scanning – Techniques for Fast and Active Reading – Different Types of Questions and Techniques for Answering Them – Reading between the Lines and Reading beyond the Lines – Theme Detection – Identifying Central Idea of the Passage – Using Context to Answer Vocabulary Based Questions

**Unit-03**

Critical Reasoning: Understanding Critical Reasoning – Basic Terminology in CR (Premise, Assumption, Inference and Conclusion) – Sequencing of Sentences (Rearranging Jumbled Paragraphs) – Cloze Passages.

**Unit-04**

Numerical Reasoning:

Problems related to Number series, Analogy of numbers, Classification of numbers, 14 Letter series, Seating arrangements, Directions, blood relations and puzzle test. Combinatory: Counting techniques, Permutations, Combinations and Probability Syllogisms and data sufficiency

**Course outcome:**

- A. Understand the basic concepts of quantitative ability.
- B. Understand the basic concepts of logical reasoning Skills
- C. Acquire satisfactory competency in use of reasoning
- D. Solve campus placements aptitude papers covering Quantitative Ability, Logical Reasoning Ability

Course Outcomes				
	A	B	C	D
1	✓			
2		✓		
3			✓	
4				✓

**Text Books/ Reference Books:**

1. A Modern Approach To Verbal & Non Verbal Reasoning By R S Agarwal
2. Analytical and Logical reasoning By Sijwali B S
3. Quantitative aptitude for Competitive examination By R S Agarwal
4. Analytical and Logical reasoning for CAT and other management entrance test by Sijwali B S
5. Quantitative Aptitude by Competitive Examinations by AbhijitGuha 4 th edition
6. <https://prepinsta.com>
7. <https://www.indiabix.com/>
8. <https://www.javatpoint.com/>

**B.SC. (ANIMATION AND MULTIMEDIA) 2nd SEMESTER  
 CODE: BSC-AM-23-205  
 SUBJECT NAME: GraphicsDesign-II**

**No. of Credits: 3**

<b>L</b>	<b>0</b>	<b>Internal Practical</b>	<b>15</b>
<b>P</b>	<b>6</b>	<b>External Practical</b>	<b>35</b>
		<b>Total</b>	<b>50</b>

<b>List of Lab Experiments/Assignments (Implementation of each problem statement is mandatory)</b>	
<b>Sr. No.</b>	<b>Group A</b>
1.	Layout Designing (Principles of composition & layout, Types of Layout)
2.	Design an illustration(Introduction to Graphic vector art)
3.	Design a logo (Theory of golden ratio circles)
4.	Design letterhead, Visiting card, pamphlet, Flyer, Brochure (Visual Hierarchy)
5.	Design a poster (Visual Hierarchy)
6.	Design a headline for different industries (Legibility & Readability)
7.	Product and character illustration
8.	Design your favorite cartoon character
	<b>Mini-Projects/Case Study</b>
9.	Design portfolio on company branding.



**B.SC. (ANIMATION AND MULTIMEDIA) 2nd SEMESTER**  
**CODE: BSC-AM-23-206**  
**SUBJECT NAME: Programming Languages and Computer Graphics Lab**

**No. of Credits: 1**

<b>L</b>	<b>0</b>	<b>Internal Practical</b>	<b>15</b>
<b>P</b>	<b>2</b>	<b>External Practical</b>	<b>35</b>
		<b>Total</b>	<b>50</b>

<b>List of Lab Experiments/Assignments</b> <b>(Implementation of each problem statement is mandatory)</b>	
<b>Sr. No.</b>	<b>Group A</b>
<b>1.</b>	To find largest among three numbers.
<b>2.</b>	To check if number is Prime.
<b>3.</b>	To print sum of digits of a number.
<b>4.</b>	To print even numbers from 2 to 100.
<b>5.</b>	To print the reverse of a number entered by user.
<b>6.</b>	To print table of a number.
<b>7.</b>	To calculate roots of a quadratic equation.
<b>8.</b>	To print the Fibonacci series.
<b>9.</b>	To calculate factorial of a number.
<b>10.</b>	To find largest and smallest element in an array.
<b>11.</b>	To find sum of two 2-D arrays.
<b>12.</b>	To multiply two 2-D arrays.
<b>13.</b>	To use inbuilt string functions.
<b>14.</b>	To check whether entered string is palindrome.
<b>15.</b>	To calculate factorial of a number using functions.
<b>16.</b>	To find factorial using recursion.

<b>17.</b>	To find length of a string using pointers.
<b>18.</b>	To calculate marks using array of structures.
<b>19.</b>	To copy the contents of one file to another file.
<b>20.</b>	To draw a landscape using inbuilt graphics functions.
<b>21.</b>	To draw a line using DDA algorithm.
<b>22.</b>	To draw a circle using Bresenham's circle drawing algorithm
<b>23.</b>	To translate a polygon.