Rayat shikshan Sanstha's

Yashavantrao Chavan Institute of Science, Satara

Undergraduate Programme

B.Sc. I Animation Science (Entire)

Syllabi of the course

Choice based credit system syllabus

(To be implemented from academic year 2018-21)

Department of Animation Science

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Preamble:

Animation is a lead Course in today's world. It has very good Prospects and it gives a broad platform to student creativity. The Course has wild scope. By considering the need of different Industries and present scenario in animation industry the syllabus is designed. While designing the syllabus intellectual level of UG Students have been consider. The students who don't know about the Animation will be able to understood and work independently in the Industrial world after completion of his graduate degree.

Animation is not only creation of cartoons but also its plays important role in Automobile industry, Mechanical industry, Web development, different coding, Vfx, Graphics designing, Film industry and etc. Bachelor of Animation course is one among the most demanded courses in today's world, In the very recent trend India is emerging in the field of "Animation" and this would create a very huge employment in India, there are many big giant companies who are outsourcing their animation work in India like Disney. Animation as a Profession can be the best decision for those who are computer lovers, who can think different, innovative and keep capacity of presenting what they think. While designing the syllabus, industrial training and latest software's like Adobe Photoshop, Corel draw, Adobe Flash, Dream viewer, Autodesk 3D Max, Autodesk 3D Maya, Adobe after Effect, Mud box are considered.

This syllabus is based on basic and applied approach with vigor and depth. At the SASE time precaution is taken to make the syllabus comparable to the syllabi of other universities and the needs of industries and research. The units of the syllabus are well defined, taking into consideration the level and capacity of students.

General Objectives of the Programme:

1) To nurture academicians with focus and commitment with their subject.
2) To shape good and informed citizens from the students entering into the programme.
3) To create skilled workforce to match their requirement of the society.
4) To impart knowledge of the science is the basic objective of this programme.
5) To develop scientific attitude is the major objective so as to make the students open minded, critical and curious.
6) To develop skill in practical work, experiment and laboratory materials and equipment's along with the collection and interpretation of scientific data to contribute to science.

General Program Outcomes:

1) The student will graduate with proficiency in the subject of their choice.
2) The student will be eligible to continue higher studies in their subject.
3) The student will be eligible to pursue higher studies abroad.
4) The student will be eligible to appear for the examinations for jobs in government organizations.

5) The student will be eligible to apply for jobs with a minimum requirement of B.Sc. Programme.

Specific Program Objectives.

- Computer Animation and Game Development graduates will have an understanding of critical and aesthetic issues in computer graphics and mixed-media.
- They will know basic aesthetic principles and concepts, and the production process.
- They will be able to effectively use technical, conceptual and critical abilities, and appropriate technology tools.
- They will be effective written and oral communicators with the ability to function as effective members of collaborative multi-disciplinary teams in the production process.
- They will be able to critically evaluate computer graphics and the mixed media.
- They will have an appreciation for the professional code of ethics for the creative process.

Specific Program outcomes of the course-

After successful completion of B.Sc. Animation science Course student will be able to:

- Understand the basics of Animation science
- Learn, design and perform experiments in the labs to demonstrate the concepts, principles and theories learned in the classrooms.
- Develop the ability to apply the knowledge acquired in the classroom and laboratories to specific problems in theoretical and experimental Animation science
- Identify their area of interest in academic, research and development.
- Perform job in various fields' like film industries, science, engineering, education, banking, business and public service, etc. Or be an entrepreneur with precision, analytical mind, innovative thinking, clarity of thought , expression, and systematic approach.

B. Sc. Part I

1. **Title**: Animation science
2. **Year of Implementation**: The syllabus will be implemented from June, 2018 onwards.
3. **Duration**: The course shall be a full time.
4. **Pattern:** Semester examination.
5. **Medium of Instruction**: English.
6. **Structure of Course:**

B. Sc. I SEMESTER– I (Duration – 6 Months)									
Sr. No.	**SUBJECT TITLE**	**COURSE NO AND TITEL**	**TEACHING SCHEME**						
			Theory			**Practical**			
			No. of lectures	**Hours**	**Credits**	**Subject**	**No. of lectures**	**Hours**	**Credits**
1	BAST--101 T	Fundamentals Of Computer	3	2.4	2	BASP -110: LAB-I	4	3.2	2
2	BAST--102 T	Drawing and Sketching	3	2.4	2				
3	BAST--103 T	Color Theory	3	2.4	2	BASP - 111: LAB-II	4	3.2	2
4	BAST--104 T	Multimedia and computer graphics	3	2.4	2				
5	BAST--105 T	Computer Graphics-I(Corel)	3	2.4	2	BASP -112: LAB- III	4	3.2	2
6	BAST--106 T	Classical Animation-I	3	2.4	2				
7	BAST--107 T	Computational Mathematics	3	2.4	2	BASP -113: LAB- IV	4	3.2	2
8	BAST--108 T	Programming -I(C-Language)	3	2.4	2				
9	BAST-AECC-1 T	English for communication I	3	2.4	2				
	Total of SEM I		**27**	**21.6**	**18**		**16**	**12.8**	**8**

B. Sc. I SEMESTER– II (Duration – 6 Months)									
Sr. No.	**SUBJECT TITLE**	**COURSE NO AND TITEL**	**TEACHING SCHEME**						
			Theory			**Practical**			
			No. of lectures	**Hours**	**Credits**	**Subject**	**No. of lectures**	**Hours**	**Credits**
1	BAST--201 T	Computer Graphics II (Photoshop)	3	2.4	2	BASP210: LAB-V	4	3.2	2
2	BAST--202 T	Computer Graphics-III (adobe Illustrator)	3	2.4	2				
3	BAST-- 203 T	Sound Editing (sound forge, Adobe Audition)	3	2.4	2	BASP 211: LAB- VI	4	3.2	2
4	BAST-- 204 T	Object Oriented Programming –C++	3	2.4	2				
5	BAST-- 205 T	Introduction of Mass Communication & Media Literacy	3	2.4	2	BASP212: LAB-VII	4	3.2	2
6	BAST-- 206 T	Database Management system	3	2.4	2				
7	BAST-- 207 T	Web Development - I (HTML)	3	2.4	2	BASP 213: LAB - VIII	4	3.2	2
8	BAST-- 208 T	Programming-II (PHP and using Dreamweaver cc)	3	2.4	2				
9	BAST-AECC 2 T	English for communication II	3	2.4	2				
	Total of SEM I		**27**	**21.6**	**18**		**16**	**12.8**	**8**

B.Sc. Part I: Semester -I Animation Science (Entire)

BAST -101: Fundamentals of computer (Credits-02)

Course Objectives: Students Should:

1. Introduce the fundamentals of computing devices and reinforce computer vocabulary, particularly with respect to personal use of computer hardware and software, the Internet, networking and mobile computing.
2. Provide hands-on use of Microsoft Office 2013 applications Word, Excel, Access and PowerPoint.
3. Provide foundational or "computer literacy" curriculum that prepares students for life-long learning of computer concepts and skills.
4. Understanding of why computers are essential components in business, education and society.

Unit-I

Introduction to Computer – **9**

Evaluation of computer and its generations,
Classification of Computer
Computer Software's (System and Application)
Introduction to Microsoft Office.(Word, Excel, Power point, Access, PDF).
Input and output devices, Secondary storage devices
Memory and its types

Unit-II

Number System- **9**

Number system and its conversions
Boolean Algebra and its laws
Computer Codes and combinational circuits

Unit-III

Computer Languages- **9**

Introduction to Microcontrollers
Algorithms and flowchart
Computer Languages (High, Middle and Low level languages)

Unit-IV

Internet and its applications-

Introduction to Internet, its History and applications.
Basic services of Internet (ELECTRONIC MAIL, TELNET, INTRANET, EXTRANET)
Protocols (FTP, SMTP, TCP/IP, PPP etc.)
Introduction to World Wide Web and Browsers

Reference Books:

1. V.K. Puri , Digital Electronics circuits and systems, TMH Publication, 2001
2. P.K. Sinha , Computer Fundamentals , BPB Publications , 2007

Course Outcomes:

Unit – I: After completion of the unit, Students are able to:

1. Known evaluation of computer
2. Classification of Computer

Unit - II: After completion of the unit, Students are able to:

1. Computer Software's (System and Application)
2. Operating system's

Unit - III: After completion of the unit, Students are able to:

1. Computer Codes
2. Computer Languages

Unit - IV: After completion of the unit, Students are able to:

1. Basic services of Internet
2. Protocols
3. What is Multimedia? Multimedia

BAST– 102: Drawing and Sketching (Credits-02)

Course Objectives: Students Should:

1. Learn the art of pencil drawing, toning and shading of different grade of professional sketching pencils.
2. Study method of using different grade of pencil to do sketching, shading and toning.
3. Learn the techniques of fine pencil drawing to explore different fine art subjects such as animals, birds, flowers, insect, still life, etc.
4. Explore the use of pencil and various tools to create textures for different subjects.

Unit- I

Introduction to Drawing and sketching, History of drawing and sketching

Various categories of drawing and sketching History of pencil, types of a Pencil, Instruments used in Drawing.

Unit-II

Visual and creative development of an artist, How to draw gestures, Basic Proportions , Heads ,Rotation in Arcs ,Key Lines ,Perspective and its types , Introduction of Calligraphy, types of calligraphy, History of logo and how to design a Logo.

Unit-III

Mannequin ,Volume Construction ,Balance ,Muscles ,Light & shade ,Shape and Action Hands & Legs ,Foreshortening ,Facial expressions .Introduction to pose to pose sketching (Action analysis).

Unit-IV

Introduction to Acting, Modeling, Sketching from Acting, Sketching from live models, Introduction to Rapid Sketching Techniques, Sketching from Memory, live action.

Reference Books:-

1. Richards Williams , The Animator Survival Kit, 2001 (Faber and Faber)
2. Richards Box , Basic Drawing Techniques, May 1, 2000
3. Victor Petard , Drawing and Anatomy , 1928
4. Preston Blair, Cartoon Animation.

Course Outcomes:

Unit – I: After completion of the unit, Students are able to:

1. Understand ability of synthesize the use of drawing, two-dimensional design, and color, beginning with basic studies and continuing throughout the degree program toward the development of advanced capabilities.

Unit - II: After completion of the unit, Students are able to:

1. Knowledge and skills in the use of basic tools, techniques, and processes sufficient to work from concept to finished product, including knowledge of paints and surfaces.

Unit - III: After completion of the unit, Students are able to:

1. Explore the expressive possibilities of various media, and the diverse conceptual modes available to the painter.
2. may deal with direct painting from nature or with alternative approaches to the making of traditional or innovative two- and, at times, three-dimensional images.

Unit - IV: After completion of the unit, Students are able to:

1. Progress toward developing a consistent, personal direction and style.
2. Learn ability to work independently.

BAST -103: Color Theory (Credits-02)

Course Objectives: Students Should:

1. Demonstrate an understanding of basic color theory concepts including:
   - Hue, Value, and Saturation
   - 12 step color wheel color temperature
   - (Warm/Cool)
   - Tint, Tone, Shade (Value Manipulation)
   - Color Harmonies (Analogous Color)
   - Color Contrasts (Complementary Color)
   - Simultaneous Contrast Effects/Color Contextuality
   - Bezold Effect Optical Mixing
2. Demonstrate the ability to discern, control, and apply color through hand mixing of gouache paint and digital media where applicable.
3. Learn refine quality of visual presentation through observation, questioning, self-evaluation, and revision.
4. Participate in critiques relating specific project objectives to completed projects.

Unit -I

Introduction of color science, History of Color, Introduction of materials, History of Printing Media, Range of visible spectrum, Color Terminology, Physics, Color imetry, and Psychophysics, Computational Theories of Color Vision 9

Unit -II

Comparative Color Vision and Evolution, Dispositions, Dispositional Theories of Color , Color Eliminativism, Functionalist Primary Quality Theories of Color , Spectrum Inversions ,Color Ontology, Color psychology. 9

Unit -III

Color Vision ,Color Gamma, Interactions of Gradation and contrast, Warm and cool Colour, Mixing of primary, Secondary, Tertiary Colors, Tints, Tones and Shades, Making Color Wheel ,Making composition with colors, Color Journal. 9

Unit -IV

Color Harmony, Aesthetic response to Harmonious color, Phenomenon of after images, After images and attributes of color, Albert Munsell's theory of balanced color, Definition of balanced color, Creating Harmony in color, Effects of light, Color Constancy, Simultaneous Contrast, Color symbolism, Attaching noses to colors, Using Colors to express meaning, Symbolic meaning of colors, 9

Reference Books:-

1. José María Parramón, Color Theory (Watson- Guptil's Artist Library)
2. Byrne and Hilbert volume 2, "Introduction"; Hardin, Color For Philosophers.
3. Nassau, "The Causes of Color"; MacAdam, "The Physical Basis of Color Specification"; Hurvich, Color Vision.
4. Land, "Recent Advances in Retinex Theory"; Wandell, "Color Constancy and the Natural Image".

Course outcomes-

Unit- I: After completion of the unit, Students are able to:

1. Understand the history of Color.
2. color rays and its different conditions

Unit- II: After completion of the unit, Students are able to:

1. introduction of material and purpose for magnificent knowledge of color
2. knows about analogous, triadic, and Complementary colors.

Unit- III: After completion of the unit, Students are able to:

1. History of Printing Media
2. Range of visible spectrum
3. Color Terminology

Unit- IV: After completion of the unit, Students are able to:

1. Color Gamma Chart.
2. Meaning of colors.

BAST -104 : Multimedia and Computer Graphics (Credits-02)

Course Objectives: Students Should:

1. Understand the History of computer graphics, graphics architectures and software, imaging: pinhole camera, human vision, synthetic camera, modelling vs rendering.
2. learn and master the necessary skills in order to apply the most advanced technologies in computer graphics and multimedia systems
3. Study OpenGL: architecture, displaying simple two-dimensional geometric objects, positioning systems, working in a windowed environment.
4. Study Geometric transformations, affine transformations (translation, rotation, scaling, shear), homogeneous coordinates, concatenation, current transformation and matrix stacks.

Unit-I

Multimedia Communications **9**

What is Multimedia? Multimedia Components and its applications

Multimedia networks,

Applications of networking terminology

Unit-II

Text and image compression **9**

Multimedia information representation: Digitization, Principles , Text and Images,

Audio and video.

Unit-III

Introduction to Computer Graphics **9**

Introduction to compression methods, Image types, Image compression

Various methods of text and image compression.

Unit-IV

(2 Dimensional) 9

Definition of 2 D Dimensional , Pixel and Frame Buffer, Raster and Random Scan display

Display devices-CRT, Color CRT Monitors Scan.

2-Dimensional transformation, Translation, Rotation, Scaling,

Reference Books:

1. Fred Halsall , Multimedia Communications- Applications, Networks, Protocols & Standards, Pearson Publications 1 January 2001.

2. Zhigang Xiang and Roy Plasock , Computer Graphics , Tata McGraw Hill

3. K.R. Rao, Zoran S.B. & Dragorad A.M. , Multimedia Communication Systems – PHI Publications

Course Outcomes

Unit- I: After completion of the unit, Students are able to:

1. Know and understand the structure and technologies needed in a multimedia system and be able to discriminate which technology may be more useful in order to best achieve the expected end result
2. Know and understand effectively use advanced techniques in animation, modelling, visualization and graphics animation.

Unit- II: After completion of the unit, Students are able to:

1. Know and understand the different kinds of user interfaces in order to be able to decide which one will be more efficient and ergonomic according to the required specifications of the application to be developed.
2. Know and understand the main kinematic models (such as rigid solids and articulated objects), widely used in computer animation techniques

Unit- III: After completion of the unit, Students are able to:

1. Be capable of using OpenGL to create interactive computer graphics.
2. Study fundamentals of animation, virtual reality and its related technologies.

Unit- IV: After completion of the unit, Students are able to:

1. Know and understand the different kinds of user interfaces in order to decide which one will be more efficient and ergonomic according to the required specifications of the application to be developed.
2. Know and understand the main kinematic models (such as rigid solids and articulated objects), widely used in computer animation techniques

BAST -105: Computer graphics –I (Credits-02)

Course Objectives: Students Should:

1. The sole objective of this training is to make the learners aware of the program from the very basic and fundamental level to an advanced and expert level of certainty.
2. Study basics of vector and raster computer graphics in Corel Draw.
3. Learn to organize the project files in the software.
4. Learn an efficient workflow for editing with Corel Draw and choosing the right effects in the program.

Unit –I (Starting and setting up & CorelDraw basics) 9

Starting and quitting CorelDraw X7, Changing the language, Changing start-up settings Understanding vector graphics and bitmaps, Starting and opening drawings, Working with multiple drawings, Undoing, redoing, and repeating actions, Zooming, panning, and scrolling

Unit –II (Lines, shapes, and outlines& Objects, symbols, and layers) 9

Working with lines, outlines, and brushstrokes, Drawing shapes, Shaping objects, Working with objects, Working with layers, Working with symbols, Linking and embedding objects, Managing projects

Unit –III (Color, fills, and transparencies & Text) 9

Working with color, Filling objects, Changing the transparency of objects, Managing and sharing fills and transparencies, Using color management, Adding and manipulating text, Formatting text Working with text in different languages, Managing fonts, Using writing tools

Unit –IV (Working with pages and layout tools, printing& File format) 9

Specifying the page layout, Choosing a page background Adding, duplicating, renaming, and deleting pages, Inserting page numbers, Using the rulers, Printing basics, Preparing files for print service providers, Importing and exporting files, Supported file formats

Reference Books:-

1. Mark Swift, CorelDraw Training - Back to the Basics and Beyond ,2004
2. Gary David Bouton , CorelDraw X7 The Official Guide , 2014

Course outcomes:

Unit- I: After completion of the unit, Students are able to:

1. know about designing software and its types
2. Interface of various old and versions new versions of software's

Unit II: After completion of the unit, Students are able to:

1. Understanding software generated graphics Color cades
2. Printing issues and regarding satisfactions

Unit III: After completion of the unit, Students are able to:

1. Study raster format pictures
2. create and manage simply database

Unit IV: After completion of the unit, Students are able to:

1. apply elements and shape commands,
2. apply basic shape commands and image effects in processing

BAST -106: Classical Animation – I (Credits-02)

Course Objective: Students Should:

1. Gain exposure to fundamentals of art and 2D and 3D animation
2. Learn the basic concepts of storytelling, photography and cinematography
3. Understand about character design and pre-production
4. Receive technical training on 3D modelling and compositing techniques

Unit-I

History of Animation,
Overview of the process pre production, Production & post production,
Perspective,
Background Design,
Script writing process
Effects Animation1

Unit-II

Introduction Storyboard,
Storyboard Layout.
Assisting Animation,
Color Theory,
Effects Animation2,
Storyboarding Final Film Concept

Unit-III

Art Direction,
Animation Final Film Project,
Layout Recap,
Premiere,
Sound Breakdown.

Unit- IV

Digital Ink and Paint,
2D Digital Animation Sound,
Photoshop, Adobe flash, Toon Boom.

Reference Books:-

1. Richards Williams “The Animator Survival Kit” 2001
2. Richards Box “Basic Drawing Techniques” May 1, 2000
3. Victor Petard “Drawing and Anatomy” 1928

Course outcomes-

Unit I: After completion of the unit, Students are able to:

1. Know history and evolution of classical Animation
2. Study Basic terms used in study of classical Animation

Unit II : After completion of the unit, Students are able to:

1. 2d classical animation trick and Techniques
2. Psychological and social impact of classical animation

Unit III: After completion of the unit, Students are able to:

1. Understand relationship between 2d classical and 2d digital animation
2. Understand the functions of classical animation

Unit IV: After completion of the unit, Students are able to:

1. Demonstrate the usage of the concept of query and summary.
2. Unique and special opportunities

BAST -107: Computational Mathematics – I (Credits-02)

Course Objective: Students Should:

1. formulate and solve abstract mathematical problems
2. Recognize real-world problems that are amenable to mathematical analysis, and for- simulate mathematical models of such problems.
3. Develop and apply mathematical methodologies.
4. Learn how to synthesize the mathematics, computing, physics, and engineering to effectively analyze a complex problem arising from a variety of application fields.

Unit-I Mathematical logic 9

Introduction to Logic and Applications of logic
Logical Connectives , (statements and notations, connectives – negation,
Conjunction, Disjunction, conditional, bi-conditional
Predicates ,Truth Tables and its Laws
Tautology, Contradiction and Logical Equivalence

Unit-II Set Theory 9

Introduction to Set theory
Basic concepts in Set theory, Power set of a set, Product of two sets.
Applications of Set theory
Venn Diagram representation

Unit-III Matrix-I 9

Introduction to Matrix and its Basic operations
Square matrix, types of matrix
Isomorphism, Adjacency and
Incidence matrix- Definition, Examples.

Unit-IV Graph 9

Preliminary terms and definitions of graph, Applications of graph
Types of Graph
Matrix representation of Graphs,
Complement of Graph
Dijkshtra's Algorithm

Reference Books,

1. Kenneth Rosen, Discrete Mathematics, Tata McGraw Hill publication, 2011.
2. Shanti Narayan ,Matrices, S.Chand (G/L) & Company Ltd; 10th edition ,1 November 2004
3. Tremblay and Manohar , Discrete Mathematical Structures with applications to Computer Science
4. Graph Theory, Jon Clark and Derek Holton- Allied Publisher,1995

Course outcomes-

Unit I: After completion of the unit, Students are able to:

1. Demonstrate algebraic facility with algebraic topics including linear, quadratic, exponential, logarithmic, and trigonometric functions
2. Equip with skills to analyze problems, formulate an hypothesis, evaluate and validate results, and draw reasonable conclusions thereof.

Unit II : After completion of the unit, Students are able to:

1. Produce and interpret graphs of basic functions of these types
2. Prepare students for pursuing research or careers in industry in mathematical sciences and allied fields

Unit III: After completion of the unit, Students are able to:

1. Solve equations and inequalities, both algebraically and graphically, and Solving and model applied problems.
2. Continue to acquire relevant knowledge and skills appropriate to professional activities and demonstrate highest standards of ethical issues in mathematical sciences.

Unit IV: After completion of the unit, Students are able to:

1. Demonstrate the usage of the concept of query and summary.
2. Good understanding of number theory which can be used in modern online cryptographic technologies.

BAST -108: Programming –I (C) (Credits-02)

Course Objective: Students Should:

1. Study the course is designed to provide complete knowledge of C language.
2. Learn logics which will help them to create programs, applications in C.
3. Learn basic programming constructs they can easily switch over to any other language in future.
4. Study the course aims to provide exposure to problem-solving through programming.

Unit-I

Languages Fundamentals Algorithm, Flow Chart, What is 'C' Constants Variable data types in 'C' Statements, Definition Symbolic Constantans

Unit-II

Operators Arithmetic Operator Relation Logical Assignments, Conditional, Comma, Increment and Decrement Expression

Unit-III

Data Input - Output Statements Data Input and Output Using getch() ,getche() , getchar() , putchar() Formatted input – output – printf(), scanf()

Unit-IV

Control Structures Conditional Statements- if, if else, nested if, switch Looping- while, do while, for, nested for

Reference Books:

1. Y. Kanetkar , Let us C , BPB publication 12th Edition, 2015.
2. Herbert Scheldt ,C The Complete Reference, 4th Edition ,2017
3. E Balgurusamy , ANCI 'C', EBG Foundation, Coimbatore

Course Outcomes

Unit I: After completion of the unit, Students are able to:

1. Develop Flowchart
2. Develop Algorithm

Unit II: After completion of the unit, Students are able to:

1. Develop programs to solve mathematical problems.
2. Develop programs to solve complex conditional problems.

Unit III: After completion of the unit, Students are able to:

1. Develop C programs using functions
2. Develop C programs Formatted functions

Unit IV: After completion of the unit, Students are able to:

1. Develop conditional statements to solve problems.
2. Develop iterative statements to solve problems.

Practical: Animation Lab- I BASP– 110 (Credits-02)
(BAST -101: Fundamentals of computer + BAST– 102: Drawing and Sketching)

Course Objectives: Students should:

1. Understand the organization and operation of a computer processor, primary and secondary memory, and peripheral devices and to give computer specifications.
2. Develop the representation of data and information in computer systems.
3. Use the standard word, and spreadsheets, graphics generation packages.
4. Study the Course will introduce foundation building blocks for pencil drawing. Explore, analyze and rendering the light and shadow to create realistic feel and effect.

Experiments:

Group -I

1. Microsoft Word, Excel (Taking 5 examples on each).
2. Microsoft PowerPoint (Taking 5 examples on it).
3. Microsoft Access (Taking 5 examples on it).
4. Using Microsoft Access create data BAST and apply primary key(Taking 5 examples on it).
5. Command Prompt – MD, DATE, MKDIR,CD etc
6. Convert Binary and Decimal numbers to other number systems (Taking 5 examples on each).
7. Convert Octal and Hexadecimal numbers to other number systems (Taking 5 examples on each).
8. Identifying components and Interfacing, Identifying different Hardware's Elements.
9. Installing System and application software and Working with anti-virus software.
10. Understanding control panel settings.
11. Working with Internet connectivity.
12. Working with Internet connectivity and creating account on any three servers.
13. Creating Account and Upload , Download files.
14. Downloading video , Software, Audio, Documents etc
15. Online Shopping .

Group-II

1. Free hand sketching from real objects:
2. Building, vehicles, chair, table, trees etc.
3. Sketching from live models
4. How to draw gestures, Basic Proportions, Heads, Rotation in Arcs
5. Facial expressions
6. Basic Head Drawings male, female, children, old person
7. Draws Text, letters, logos.
8. Draw BG (Backgrounds) Layouts for Animation.
9. Realistic Human Drawings, Anatomy. Animal Drawings
10. Cartoons and Comic Drawings.

Course Outcomes:

Group I- After completion of the practical, Students are able to:

1. Bridge the fundamental concepts of computers with the present level of knowledge of the students.
2. Familiarize operating systems, programming languages, peripheral devices, networking, multimedia and internet
3. Understand binary, Hexadecimal and octal number systems and their arithmetic.
4. Understand how logic circuits and Boolean algebra forms as the basics of digital computer.

Group II- After completion of the practical, Students are able to:

1. Use a variety of brainstorming techniques to generate novel ideas of value to solve problems.
2. Have sufficient mastery of one or more media to complete the technical and formal challenges pertinent to a body of original work.
3. Develop ideas that are relevant and responsive to the world around them.
4. Clearly communicate the content, context, and process of their work visually, orally and in writing.

Reference Book:

1. V.K. Puri , Digital Electronics circuits and systems, TMH Publication, 2001
2. P.K. Sinha , Computer Fundamentals , BPB Publications , 2007
3. Richards Williams , The Animator Survival Kit, 2001 (Faber and Faber)
4. Richards Box , Basic Drawing Techniques, May 1, 2000
5. Victor Petard , Drawing and Anatomy , 1928
6. Preston Blair, Cartoon Animation.

Practical: Animation Lab-II BASP – 111 (Credits-02)
(BAST -103: Color Theory + BAST -104: Multimedia and Computer Graphics)

Course Objective: Students Should:

1. Identify primary, secondary, and tertiary colours.
2. Study the colour combinations and schemes.
3. Learn three dimensional graphics: classical three dimensional viewing, specifying views, affine transformation in 3D, projective transformations, Ray Tracing.
4. Learn Shading illumination and surface modelling, Phuong shading model, polygon shading.

Experiments:
Group- I

1. Primary, Secondary, Tartary, Quarter Class Colour Scheme
2. Making 6, 12, 18 parts of Colour Wheel
3. Relationship between Different colour Schemes
4. Still life painting
5. Memory painting
6. Tints, Shades and Tones.
7. Monochromatic Composition.
8. Complementary and analogous color scheme.
9. Hue and Saturation.
10. How to Mix Paint.
11. Subjective color
12. Transforming color using complements and three attributes-Hue value and intensity.
13. Color of human emotions,
14. Color symbolism,
15. Mixing of color

Group-II

1. Introduction to Multimedia and its applications.
2. Implementing text- images and audios -videos
3. Study of Multimedia Components and its applications.
4. Implementing various methods of text and image compression
5. Study Raster and Random Scan display
6. Study of display device-CRT.
7. Study of display device-Color CRT.
8. Introduction to 2D and 3D transformation.
9. Translation Rotation and scaling.
10. Implementing DDA line drawing algorithm with example.

Course Outcomes:

Group I- After completion of the practical, Students are able to:

1. Identify fundamental color concepts including hue, saturation, value, and intensity.
2. Create color harmonies based on geometric connections of the color wheel.
3. Use color value and saturation to create moods relevant to specific products or design needs.

Group II- After completion of the practical, Students are able to:

1. List the basic concepts used in computer graphics.
2. Implement various algorithms to scan, convert the basic geometrical primitives, transformations, Area filling, clipping.

Reference book:

1. José María Parramón, Color Theory (Watson- Guptil's Artist Library)
2. Byrne and Hilbert volume 2, "Introduction"; Hardin, Color For Philosophers.
3. Nassau, "The Causes of Color"; MacAdam, "The Physical Basis of Color Specification"; Hurvich, Color Vision.
4. Land, "Recent Advances in Retinex Theory"; Wandell, "Color Constancy and the Natural Image".
5. Fred Halsall , Multimedia Communications- Applications, Networks, Protocols & Standards, Pearson Publications 1 January 2001.
6. Zhigang Xiang and Roy Plasock , Computer Graphics , Tata McGraw Hill
7. K.R. Rao, Zoran S.B. & Dragorad A.M. ,Multimedia Communication Systems – PHI Publications

Practical: Animation Lab-III BASE-112 (Credits-02)

(BAST -105 : Computer graphics –I + BAST -106: Classical Animation – I)

Course Objective: Students Should:

1. Study the concepts, characters and storyboards for basic animation production.
2. Emphasis on creating movement and expression utilizing traditional or electronically generated image sequences.
3. Study the traditional animation includes design, storyboarding, stop-motion and character animation.
4. Learn knowledge of animation techniques necessary to design animation sequences.

Experiments:

Group I

1. How to make 3d logo 4g in coreldraw X7
2. Easy way to draw Rainbow & Sky in Coreldraw X7
3. Bottle Shaped Text Wrap using Envelope tool – Coreldraw X7
4. Realistic 3D Bottle Design – CorelDRAW X7
5. 3D Flower Pot Designing Idea CorelDraw X7
6. Flex Design in Coreldraw X7
7. Professional Business Card in CorelDRAW X7
8. Typography Design Using CorelDraw X7
9. Dispersion Effect: CorelDRAW X7
10. How to make Hindu Wedding Card Design in CorelDraw || Invitation Card Design
11. 3 Fold Brochure Design in CorelDraw X7
12. Creating a Professional Certificate Design using Guides
13. How to draw simple scenery with coral draw X7
14. how to make gif image in CorelDraw X7
15. DVD cover design using CorelDraw X7

Group II

1. Create a basic shape & forms, Basic Character Design and Composition.
2. Life Drawing with Perspective, Create Layout with appropriate dimension.
3. Create Background Design.
4. Character Design with props.
5. Create Bouncing Ball Effects Animation.
6. Storyboarding with detailed Layout.
7. Assisting Animation with Color Theory.
8. Create fire and water Effects Animation.
9. Final Film Concept.
10. Art Direction.
11. Final Film Project.
12. Layout Recap.
13. Premiere.

Course Outcomes:

Group I- After completion of the practical, Students are able to:

1. create text files with advanced formatting options
2. apply mail merge in creating personalize letters or e-mails, and in
3. producing envelopes and labels
4. construct simple vector graphics by using basic drawing

Group II- After completion of the practical, Students are able to:

1. Identify the 12 principles of animation
2. Calculate and apply appropriate frame rates
3. Manipulate animation production equipment
4. Demonstrate progress in basic drawing and animation skills

Reference Books:-

1.Mark Swift, CorelDraw Training - Back to the Basics and Beyond ,2004

2. Gary David Bouton , CorelDraw X7 The Official Guide , 2014.

3.Richards Williams “The Animator Survival Kit” 2001

4.Richards Box “Basic Drawing Techniques” May 1, 2000

5.Victor Petard “Drawing and Anatomy” 1928.

Practical Animation : Lab IV BASP -113(Credits-02)

(BAST -107: Computational Mathematics – I + BAST -108: Programming –I (C language)

Course Objective: Students Should:

1. Recognize connections between different branches of mathematics
2. Recognize and appreciate the connections between theory and applications.
3. Although this course does not deal with Object Oriented Programming methodology, this will help the student in building the necessary foundation for undertaking a course in C++ and OOP.

Experiments:

Group I

1) Introduction to Logic and Applications of logic
2) Logical Connectives, (statements and notations, connectives – negation, Conjunction, Disjunction, conditional, bi-conditional,)
3) Predicates, Truth Tables and its Laws
4) Tautology, Contradiction and Logical Equivalence
5) Introduction and applications of Set theory
6) Power set of a set, Product of two sets.
7) Venn Diagram representation of **A Union B and A Intersection B**
8) Introduction to Matrix and its Basic operations
9) Study of Graph Theory
10) Study of Matrix representation of Graphs,

Group II

1. Write an algorithm to calculate average of two numbers.
2. Write an algorithm to Convert Temperature Celsius into Fahrenheit.
3. Write an algorithm to Find the Area and Circumference of a Circle.
4. Write an algorithm to Find the Area of a Triangle.
5. Write an algorithm to Check Number Is Positive or Negative.
6. Draw a flowchart to calculate average of two numbers.
7. Draw a flowchart to Convert Temperature Celsius into Fahrenheit.
8. Draw a flowchart to Find the Area and Circumference of a Circle.
9. Draw a flowchart to Find the Area of a Triangle.
10. Draw a flowchart to Check Number Is Positive or Negative.
11. Write a C program to Find the Area and Circumference of a Circle.
12. Write a C program to Find the Area of a Triangle.
13. Write a C program to Check Number Is Positive or Negative.
14. Write a C program to Calculate Factorial of a Given Number.
15. Write a C program for Finding Greater Between Two Number.

Course Outcomes:

Group I- After completion of the Practical, Students are able to:

1. Fundamental concepts of a special topic in computational mathematics and its role in modern mathematics and applied contexts.
2. Demonstrate accurate and efficient use of specific computational mathematics techniques.
3. Demonstrate capacity for mathematical reasoning through analyzing, proving and explaining concepts from computational mathematics.

Group II- After completion of the Practical, Students are able to:

1. Understand work flow to solve problems
2. Ability to develop programs.
3. Ability to work solve mathematical problems.
4. Ability to work with Solve problems digitally.

Reference Book:

1.Kenneth Rosen, Discrete Mathematics, Tata McGraw Hill publication, 2011.

2.Shanti Narayan ,Matrices, S.Chand (G/L) & Company Ltd; 10th edition ,1 November 2004

3.Tremblay and Manohar , Discrete Mathematical Structures with applications to Computer Science

4. 4.Graph Theory, Jon Clark and Derek Holton- Allied Publisher,1995 Y. Kanetkar , Let us C , BPB publication 12thEdition, 2015.
5. Herbert Scheldt ,C The Complete Reference, 4th Edition ,2017
6. E Balgurusamy , ANCI 'C', EBG Foundation, Coimbatore

B. Sc. Part – I Semester - II

BAST -201: Computer Graphics-II (Adobe Photoshop) (Credits-02)

Course Objective: Students Should:

1. Identify the major regions of the Photoshop workspace and explain the function of each, Menu bar and context menus, Options bar, Toolbox, palettes, and document window(s).
2. Demonstrate knowledge of image resolution, image size, and image file format for web, video, and print.
3. Demonstrate knowledge of design principles, elements, and image composition.
4. Demonstrate knowledge of typography and Color correction using Photoshop.

Unit I (Workspace basics & Tool box) **9**

Workspace basics, Panels and menus, Tools, Positioning elements with snapping, Position with the Ruler tool, Rulers, Grid and guides, Pixel - Pixel – Resolution – Image Resolution – Printing Resolution – Monitor Resolution ,About drawing, Drawing shapes, Painting tools, Brush presets, Creating and modifying brushes, Painting with a pattern, Creating patterns, Drawing with the Pen tools, Editing paths, Adding color to paths. Gradients Creating type, Editing text, Creating type effects, Formatting Characters, Line and character spacing, Formatting paragraphs

Unit II (Image and color basics) **9**

Image essentials, Image size and resolution, Creating, opening, and importing images, Choosing colors in the Color and Swatches panels, Viewing multiple images, Convert an image to Bitmap mode, Customizing indexed color tables, About color, Choosing colors , High dynamic range images, Blending modes, Color modes, Converting between color modes, Customizing color pickers and swatches, Understanding color management

Unit III (Layers & Selecting) **9**

Layer basics, Managing layers, Selecting, grouping, and linking layers, Moving, stacking, and locking layers, Editing layer masks, Masking layers with vector masks , Combining multiple images into a group portrait, Revealing layers with clipping masks, Aligning layers, Create Smart Objects, Layer opacity and blending, Blending modes , Layer effects and styles Making selections, Moving, copying, and deleting selected pixels, Making quick selections, Selecting with the lasso tools, Selecting with the marquee tools

Unit IV (Filters / effects & Saving , exporting, Printing) **9**

Filter basics, Oil Paint filter, Add Lighting Effects, Applying specific filters, Layer effects and styles , Saving images, File formats Supported file formats in Photoshop CC, Saving files in graphics formats , Printing from Photoshop CC, Printing with color management

Reference Books:-

1) Lesa Snider , Photoshop CC The Missing Manual , Publisher(s): O'Reilly Media, Inc. August 2014
2) Zorana Gee Pete , 3D in Photoshop CS6 The Ultimate Guide for Creative Professionals , Falco, Focal Press; 1st edition (20 September 2010)
3) Steve Johnson Adobe Photoshop CC On Demand, Perspection, Inc.
4) Photoshop® CC Bible

Course Outcomes –

Unit –I: After completion of unit, Students are able to -

1. Understand the elements that make up the Illustrator workspace
2. Learn the basic and essential techniques to work with objects

Unit –II: After completion of unit, Students are able to -

1. Understand how to set up a new document
2. Draw basic shapes using the shape tools

Unit –III: After completion of unit, Students are able to -

1. Understand color and apply color to object fills and strokes.
2. Use basic selection tools and edge refinement to isolate and edit parts of an image.

Unit –IV: After completion of unit, Students are able to -

1. Transform and distort objects using the Transform and Liquefy tools on the Tools panel.
2. Manipulate layers through ordering, positioning, scaling, rotation, and adjustments.

BAST 202: Computer Graphics-III (ADOBE ILLUSTRATOR) (Credits-02)

Course objective: Students Should:

1. Navigate Illustrator and where to find all the tools and features.
2. Study the landscapes such as buildings and houses with ease using perspective
3. Learn the drawings, business cards, brochures, or anything you want using Adobe Illustrator.
4. learn the basics of working with Illustrator CC through a combination of instructor-led demonstration

Unit I (Interface) 9

Workspace basics ,Customizing the workspace, Tools ,Tool galleries, Improved user interface, Art board overview, Rulers, grids, guides, and crop marks, Using multiple art boards Viewing artwork, Drawing basics, About Perspective Grid, Perspective drawing

Unit II (Color & Painting) 9

About color , Selecting colors, Using and creating swatches ,Color groups, Adjusting colors, About painting, Painting with fills and strokes, Live Paint groups, Brushes, Transparency and blending modes ,Gradient panel and Gradient tool overview, Meshes, Patterns ,Selecting objects, Grouping and expanding objects, Moving, aligning, and distributing objects, Rotating and reflecting objects

Unit III (Layers & Type) 9

About layers, Locking, hiding, and deleting objects, Duplicating objects, Transforming objects, Scaling, shearing, and distorting objects,
Reshape object: Crop images, Transform objects, Cut ,Divide and trim objects, puppet warp, Create text : Font and typography ,format type paragraphs, special characters, create a type on a path, character and paragraph styles.

Unit IV(Effects & output,Printing) 9

Creating special effects, Appearance attributes, working with effects, create a drop shadow, Drop shadows, glows, and feathering, Creating sketches and mosaics, Graphic styles,
Printing : prepare for Printing, Setup documents for printing, Change the page size and orientation, Print with color management, post script printing, Print presets.

Reference Book:

1) Adobe illustrator user Guide , 2007.
2) Adobe Illustrator: A Complete Course and Compendium of Features Paperback – June 23, 2020

Learning Outcomes

Unit –I: After completion of unit, Students are able to -

1. Understand the elements that make up the Illustrator workspace.
2. Learn the basic and essential techniques to work with objects.

Unit –II: After completion of unit, Students are able to

1. Understand how to set up a new document.
2. Draw basic shapes using the shape tools.

Unit –III: After completion of unit, Students are able to -

1. Understand color and apply color to object fills and strokes
2. Create an illustration with the drawing tools

Unit –IV: After completion of unit, Students are able to -

5. Transform and distort objects using the Transform and Liquefy tools on the Tools panel
6. Explore creativity with effects and graphic styles

BAST—203: Sound Editing (Credits-02)

Course Objective: Students should:

1. Understand the basic elements that make up and shuffle the sounds.
2. Learn the basic and essential techniques to work with sound files.
3. Understand how to set up a sound file and Sound track pipeline.
4. Gain hands-on experience in field sound recording, Foley, ADR, sounds effect gathering, scoring, digital audio editing and mixing

Unit-I

Audio interface basics - Mac OS X audio setup , Windows setup, Testing inputs and outputs with Audition (Mac or Windows) ,Using external interfaces, The Audition Environment - Audition's dual personality , The Audition Workspace ,Navigation, Basic Editing - Opening a file for editing ,Selecting a region for editing and changing its level , Cutting, deleting, and pasting audio regions, Cutting and pasting with multiple clipboards, Extending and shortening musical selections, Simultaneous mixing and pasting, Repeating part of a waveform to create a loop, Showing waveform data under the cursor, Fading regions to reduce artifacts

Unit-II

Signal Processing - Effects basics , Using the Effects Rack , Amplitude and Compression effects , Delay and echo effects, Filter and EQ effects , Modulation effects, Noise reduction/restoration , Reverb effects , Special effects, Stereo imagery effects, Time and Pitch effect, Using the Effects menu , Managing presets, Audio Restoration - About audio restoration , Reducing hiss , Reducing crackles , Reducing pops and clicks , Reducing broadband noise , De-humming a file , Removing artifacts , Manual artifact removal, Alternate click removal Sound Design - About sound design , Creating rain sounds , Creating a babbling brook , Creating insects at night , Creating an alien choir , Creating sci-fi machine effects , Creating an alien drone flyby , Extracting frequency bands

Unit-III

Creating and Recording Files - Recording into the Waveform Editor ,Recording into the Multitrack Editor ,Checking remaining free space , Drag-and-dropping into an Audition Editor , Importing tracks as individual files from an audio CD , Importing tracks as a single file from an audio CD , Saving a template, Multitrack Editor Orientation - About multi-track production ,Multi-track and Waveform Editor integration ,Changing track colors ,Loop selections for playback , Track controls ,Channel mapping in the Multitrack Editor , Side-chaining effects

Unit-IV

Recording in the Multitrack Editor - Getting ready to record a track , Setting up the metronome ,Recording a part in a track , Recording an additional part (overdub) ,Composite recording
Automation - About automation , Clip automation , Track automation, Mixing - About mixing , Testing your acoustics ,The mixing process , Exporting a stereo mix of the song ,Burning an audio CD of the song , Exporting to Sound Cloud

Reference Books:

1. Adobe Audition cc User Manual , 7 Adobe Systems Incorporated, 2018
2. Maxim Jago, Bible of Adobe Audition, 28 June 2012

Course outcomes-

Unit I - After completion of unit, Students are able to:

1. Create digital composite motion graphic products that incorporate elements of multimedia design, typography and layout

Unit II- After completion of unit, Students are able to:

1. Digital imaging / photography, digital video and audio editing, and 3D animation.

Unit III - After completion of unit, Students are able to:

1. Optimize motion graphic projects for multiple delivery options.

Unit IV - After completion of unit, Students are able to :

1. Evaluate motion graphic projects, identify items for improvement, and implement changes.

BAST -204: Programming –II (Object Oriented language) (Credits-02)

Course Objective: Students Should:

5. Study the course is designed to provide complete knowledge of C++ language.
6. Learn logics which will help them to create programs, applications in C++.
7. Learn basic programming constructs they can easily switch over to any other language in future.
8. Study the course aims to provide exposure to problem-solving through programming.

Unit-I

Introduction to Language – 9

Why to Learn C++, Object-Oriented Programming, C++ Keywords, Primitive Built-in Types, Variables, Type Qualifiers in C++, operator : Arithmetic Operators, Relational Operators, Logical Operators, Bitwise Operators, Assignment Operators, Misc Operators.

Unit-II 9

While loop, for loop, do…while loop, nested loop, break statement, continue statement, goto statement

Unit-III 9

Classes and Objects, Access Control and Inheritance, Type of Inheritance, C++ overloading

Unit-IV 9

C++ polymorphism, Data abstraction, C++ encapsulation

Reference Books:

1. Delores Etter , Jeanine Ingber Problem Solving with C++ , publisher Pearson (4th edition), 6 September 2016
2. Rick Mercer Mac Millan , Computing fundamentals with C++, Object oriented programming & design (2nd edition)
3. Object Oriented Neural Networks in C++ Joey Rogers Academic Press

Course Outcomes

Unit I: After completion of the unit, Students are able to:

3. Develop conditional and iterative statements to write C programs
4. Exercise user defined functions to solve real time problems

Unit II: After completion of the unit, Students are able to:

3. Inscribe C programs using pointers and to allocate memory using dynamic memory management functions
4. Exercise files concept to show input and output of files in C

Unit III: After completion of the unit, Students are able to:

1. Learn how to design C++ classes for code reuse.
2. Learn how to implement copy constructors and class member functions.

Unit IV: After completion of the unit, Students are able to:

1. learn how to overload functions and operators in C++
2. learn how containment and inheritance promote code reuse in C++

BAST-205: Mass Communication, culture & Media literacy (Credits-02)

Course Objective: Students Should:

1. Understand the mass communication process and mass media industries.
2. Understand the influence of alternative and ethnic media on American culture
3. Analyze how the organizational and economic natures of contemporary media reflect the dominant culture.
4. Evaluate the effects those portrayals have on perceptions and understand among people of different ethnic backgrounds.

Unit 1- Mass Communication

Introduction to Mass Communication, culture & Media literacy
The Evolving Mass Communication Process , A historical perspective of Media Literacy
Media, Media Industries & Media Audiences(Books , Newspapers , Magazines , Films , Radio & Recording , Television & Mobile Video , Video Games , The internet & Web , Supporting Industries, Public Relations, Advertising , Theories & Effect of Mass Communication, Media Freedom, Regulations and ethics ,Global Media)

Unit 2- Online Journalism [10]

What is online journalism? : Earlier websites of newspapers, E-books and E-publishing
Introduction to content management system, Hyper-textuality, Multi-mediality and interactivity, Use of various online tools to manage text, links, photos, maps, audio, video, etc,Status of online journalism today

Unit 3- Digital storytelling

Digital storytelling: Tools of multimedia journalists;
Learn to report, write and produce in a manner that is appropriate for online media
Feature writing for online media: Story idea, development and news updates
Podcast and Webcast

Unit 4- Media and Society

Perspectives on Media & Society, Influence of Media on Society, Indian Social Changes & Media , Media Effects on Groups & Sub Cultures.

Reference Books :

1. Nath, Shyam. Assessing the State of Web Journalism. Authors Press, New Delhi, 2002
2. Chakravarthy, Jagdish. Net, Media and the Mass Communication. Authors press, New Delhi, 2004
3. Bhargava, Gopal. Mass Media and Information Revolution. Isha Books, New Delhi, 2004
4. Menon, Narayana. The Communication Revolution. National Book Trust.

Course Outcomes:

Unit I - After completion of unit, Students are able to

1. Know critical thinking skill that enables audiences to develop independent judgments about media content.
2. Know and understand of the process of mass communication

Unit II - After completion of unit, Students are able to

1. Know and understand awareness of the impact of the media on the individual and society
2. Know and understand development of strategies with which to analyse and discuss media messages.

Unit III - After completion of unit, Students are able to

1. Know and understand awareness of media content as a “text” providing insight into our contemporary culture and ourselves

Unit IV - After completion of unit, Students are able to

1. Know and understand cultivation of an enhanced enjoyment, understanding, and appreciation of media content in the case of media communicators: the ability to produce effective and responsible media messages.

BAST-206: Database Management System (Credits-02)

Course Objective: Students Should:

1. Understand terms related to database design and management
2. Understand the objectives of data and information management.
3. Understand the database development process.
4. Understand the relational model and relational database management system.

Unit-I

Introduction to DBMS – 9

What id Database?

What is DBMS and its Benefits

What is RDBMS(Codd's Rule)

Difference between RDBMS and DBMS

Unit-II

Data Models- 9

Introduction to Data Models

Normalization, -ERD Model, Introduction to SQL

Types of Commands

Introduction to DDL, DML, DCL Commands

Unit-III 9

Introduction to database supporting Software-

Introduction to Database supporting software's

Microsoft Access, SQL server 2000/2005/2008

MySQL, PLSQL ORACLE

Unit-IV 9

Relational Algebra-

Introduction to Relational algebra

Relational algebra operations

SQL Statements

Accessing Database using SQL query

Reference Books:

1) Korth , Database concepts Tata McGraw Hill Publications -5th Edition, 1 January 2011.
2) Database systems by Ramkrishna and Gherke - Tata McGraw Hill Publications 3rd edition, 2003.
3) Prof. Rajendra Salokhe , Oracle SQL,PL/SQL programming, aruta publishers.

Course Outcomes –

Unit I - After completion of unit, Students are able to

1.Have a broad understanding of the database and database management system software.

Unit II - After completion of unit, Students are able to

1. Have a high level understanding of major DBMS components and their function .

Unit III - After completion of unit, Students are able to

1. Study the model an applications data requirements using conceptual modeling tools like ER diagrams and designs and design Database.

Unit IV - After completion of unit, Students are able to

1. Write SQL commands to create tables and indexes, inserts /updates/delete data, and query data in a relational DBMS.

BAST-207: Web Development-I (HTML) (Credits-02)

Course Objectives: Students Should:

1. Understand the principles of creating an effective web page, including an in-depth consideration of information architecture.
2. Learn the skills and project-based experience needed for entry into web design and development careers.
3. Understand how to use a variety of strategies and tools to create websites.
4. Learn the develop awareness and appreciation of the many ways that people access the web, and will be able to create standards-based websites that can be accessed by the full spectrum of web access technologies.

Unit-I

Introduction to HTML – 9

Introduction to HTML Editors ,Applications of HTML

Difference between HTML and XML

Basic HTML Elements , Headings , HTML

Paragraphs HTML Styles

Unit-II

Commands in HTML 9

Table, Hyperlink creation in HTML

Cascade Style Sheet , CSS Links

Web Page Designing using HTML.

Comments in HTML

Unit-III 9

HTML Form Design-

HTML Forms,Form Elements in HTML

Input Types HTML, Input Attributes

Unit-IV 9

Introduction to Dream viewer software -

Interface of Dream viewer

Toolbox Workspace,

Web Page designing using Dream viewer

Applications, Advantages and Disadvantages of Dream viewer

Reference Books :-

- Thomas A. Powell ,The Complete Reference HTML and XHTML 4/e, TMH,2003.
- Wendy Willard , HTML beginners guide , TMH , 2000.
- Steven Holzner ,HTML black book , Dreamtech Press, Jul 3, 2000.
- Prof. DepaliR.Dhainje , Server Database and Application Development,
- Rasmus Lerdorf& Kevin Tatroe, Programming PHP O'Reilly(SPD), Apr 28, 2006.

Course Outcomes:

Unit I - After completion of unit, Students are able to:

1. Know and understand about background coding in modern web sites with HTML and CSS
2. Know and understand best practice in tagging text and other content

Unit II - After completion of unit, Students are able to:

1. Know and understand about theories and conventions in web design, e.g. Balance, color, lines

Unit III - After completion of unit, Students are able to:

1. Know and understand about famous web designers.

Unit IV - After completion of unit, Students are able to:

1. Know and understand about different ways to convey a given content to specific user groups

BAST-208: Programming-II (PHP and using Dreamweaver cc) (Credits-02)

Course Objective: Students Should :

1. Study the course is designed to provide complete knowledge of PHP language.
2. Develop logics which will help them to create programs, applications in PHP.
3. Learn the basic programming constructs they can easily switch over to any other language.
4. Learn the aims to provide exposure to creating dynamic web-pages through programming.

Unit- I

Introduction to PHP **9**

Introduction, XAMPP,PHP Syntax, Variables, Strings, Constants, Operators, Echo / Print statements.

Unit-II

Decision making and looping **9**

If....Else..... Else if, Switch, Loops, For, For_each, While, Functions, string functions, user defined functions, Date and Time_function,Arrays.

Unit-III

Array **9**

Anatomy of an Array, Creating index based and Associative array Accessing array, Element Looping with Index based array, Looping with associative array using each () and foreach(), Some useful Library function.

Unit- IV

Database Connectivity & SQL **9**

Introduction to RDBMS, Connection with MySql Database, Performing basic database operation(DML) (Insert, Delete, Update, Select), Setting query parameter, Executing query- Join (Cross joins, Inner joins, Outer Joins, Self joins.)

Reference Books :-

1. Steven Holzner, PHP: The Complete Reference - McGraw-Hill Education, December 10th 2007
2. Robin Nixon , Learning PHP, MySQL & JavaScript: With JQuery, CSS & HTML5

Course outcome-

Unit I - After completion of unit, Students are able to

1. Create PHP scripts that Demonstrate the basics of PHP programming

Unit II - After completion of unit, Students are able to

1. know how to Use object-oriented PHP,
2. Experiment with data BAST design

Unit III - After completion of unit, Students are able to

1. Create and deploy a portable web- BASTd system.

Unit IV - After completion of unit, Students are able to

1. Test and debug PHP scripts.

Practical Animation Lab V (BASP 210) (Credits-02)
(BAST -201: Computer Graphics-II (Adobe Photoshop) + BAST 202: Computer Graphics-III (ADOBE ILLUSTRATOR))

Course Objective: Students Should:

1) Open and navigate a Photoshop document with menu commands, the Zoom and Hand tools, and the Navigator palette.
2) Create a layered Photoshop document from a starting image (provided).
3) Use the Undo commands and the History palette to reverse document changes.
4) Print a Photoshop document by configuring the Photoshop Print dialog box.
5) Save a copy of the print-quality document for fast online transmission.
6) Customize objects, Customize basic shapes, Prepare documents for deployment.

Experiments:

Group-I

1. Background Change and Photo/Face Retouch
2. How to Blur Background and Retouching a Photo
3. Insert any Damage image & clear this image using various Healing tools.
4. How to Make Water color Photo Effect
5. 3D silver text effect
6. How to Make 3D Icon
7. logo design - A letter logo design
8. Movie poster editing | Photoshop portrait effect
9. Make a Movie Poster With Texture Background
10. How to Create Black and White Photo to Colour Photo
11. Business card design
12. Simple webpage template design
13. How to create banner design
14. Tri Fold Brochure Design
15. Advertising Design
16. How to Create Animation (gif) in Photoshop

Group-II

1) Create a creative logo design in adobe illustrator.
2) Create a 3D Mango using the mesh tool in illustrator.
3) Create 3D Vector Cola Bottle Design in adobe illustrator.
4) Create a wrist watch vector illustration in adobe Illustrator.
5) Create a vector portrait illustration in adobe illustrator.
6) Create a Business card design in Adobe illustrator.
7) Create a web banner design in adobe illustrator.
8) Create a Corporate identity packages Design in Adobe Illustrator.
9) Create a creative event poster in abode illustrator.
10) Create a Brochure design in adobe illustrator.

Reference Book:

1) Lesa Snider , Photoshop CC The Missing Manual , Publisher(s): O'Reilly Media, Inc. August 2014
2) Zorana Gee Pete , 3D in Photoshop CS6 The Ultimate Guide for Creative Professionals , Falco, Focal Press; 1st edition (20 September 2010)
3) Steve Johnson Adobe Photoshop CC On Demand, Perspection, Inc.
4) Photoshop® CC Bible
5)Adobe illustrator user Guide , 2007.
6)Adobe Illustrator: A Complete Course and Compendium of Features Paperback – June 23, 2020

Course Outcome:

Group I: After completion of the unit, Student are able to:

1) Understand how to apply and edit gradients and patterns using available tools
2) Arrange objects and use layers to manage artwork
3) Understand how to apply and edit gradients and patterns using available tools
4) Arrange objects and use layers to manage artwork
5) Insert and import text and apply character and paragraph formatting and effects to text

Group II: After completion of the unit, Student are able to:

1) Place and edit an image.
2) Draw objects using the Pen tool.
3) Apply a range of Illustrator effects.
4) Understand how to save and export in a variety of file formats to suit different purposes, and to print an Illustrator document.

Practical Animation Lab-VI (BASP 211) (Credits-02)
(BAST—203: Sound Editing+ BAST -204: Programming –II (Object Oriented language)

Course Objective: Students Should:

1) Learn an audio and video editing along with educating students to think like filmmaker.
2) Understand the basic elements that make up and shuffle the sounds.
3) Learn the basic and essential techniques to work with sound files.
4) Select appropriate media relative to concepts and forms of art.
5) Applying multi track mixing and editing in adobe.

Experiments:

Group-I

1. Importing and Changing File Property and format
2. Mono and Stereo Channels
3. Editing Multi – Chanel Audio
4. Recording Audio
5. Removing Noise From Sound
6. Applying Sound Effects (Effect Control)
7. Mixing multi-track
8. Editing Video in Adobe audition
9. Creating 5.1 surround sound
10. Exporting Final Sound

Group-II

1. Write a C++ program to calculate Fibonacci Series.
2. Write a C++ program to calculate Prime number.
3. Write a C++ program to calculate Sum of Digits.
4. Write a C++ program to calculate Swap two numbers without using third variable.
5. Write a C++ program to calculate to Check Whether Number is Even or Odd.
6. Write a C++ program for OOPs Concepts.
7. Write a C++ program for Constructor.
8. Write a C++ program for Destructor.
9. Write a C++ program for Inheritance.
10. Write a C++ program for Encapsulation.

Course Outcome:

Group I: After completion of the practical, Student are able to:

1. appreciate the tasks required to organise and create commercial music
2. demonstrate knowledge of the history of sound-recording technology
3. Recognise the impact of technological change on sound recording
4. Understand some of the decisions made by contemporary sound recordists, including the placement of microphones.

Group II- After completion of the Practical, Students are able to:

1. Understand work flow to solve problems
2. Ability to develop programs.
3. Ability to work solve mathematical problems.
4. Ability to work with Solve problems digitally.

Reference Book:

1) Adobe Audition cc User Manual , 7 Adobe Systems Incorporated, 2018
2) Maxim Jago, Bible of Adobe Audition, 28 June 2012.
3) Delores Etter , Jeanine Ingber Problem Solving with C++ , publisher Pearson (4th edition), 6 September 2016
4)Rick Mercer Mac Millan , Computing fundamentals with C++, Object oriented programming & design (2nd edition)
5) Object Oriented Neural Networks in C++ Joey Rogers Academic Press

Practical Animation Lab VII (BASP 212) (Credits-02)
(BAST-205: Introduction of Mass Communication, culture & Media literacy + BAST-206: Database Management System)

Course Objective: Students Should:

1. Recognize how mass media technologies have changed the cultures that use them.
2. knowledge and essential skills required for working in various media organizations with different mass communication apparatuses and varied audiences need.
3. protect the data from physical harms and unauthorized systems.
4. Understand the relational model and relational database management system.

Experiments:

Group-I:-

1. Case study on earlier websites of newspapers, E-books and E-publishing
2. Design Newspaper lay out with help of any Newspaper
3. Design Creative Magazines Cover Page and Book Cover Page
4. Design any Creative Title of Movie
5. Design Video Game Poster
6. Design Web-Page
7. Digital storytelling: Tools of multimedia journalists;
8. Case study on Use of various online tools to manage text, links, photos, maps, audio, video,
9. Case study on Status of online journalism today
10. Case study on Blogs.

Group II:

1) Creating Database using Microsoft Access.
2) Creating Database, Table using Microsoft Access and Insert Values in it.
3) Creating Table and apply primary key, Foreign key on it.
4) Creating Table and draw ER diagram for College Management System
5) Creating Table and draw ER diagram for Hospital Management System

6) Write down SQL query on **CREATE** , **INSERT**, **WHERE, UPDATE** commands (taking 5 Examples).
7) Write down SQL query on **GROUP BY, ORDER BY, DELET, DROP,ALTER** commands (taking 5 Examples).
8) Creating Relational Algebra Query.
9) Creating Database using SQL server 2000/2005/2008.
10) Creating Student Table using SQL server 2000/2005/2008.

Course Outcome:

Group I: After completion of the unit, Student are able to:

1. Differentiate between interpersonal versus mediated communication.
2. Recognize the characteristics of the mass media and the media industries.
3. Understand the basic principles and features of audience research.
4. Identify the short-term and long term influences of the media.

Group II: After completion of the unit, Student are able to:

1. Know and understand database design, relational algebra and SQL.
2. Learn Design ER-models to represent simple database application scenarios
3. Convert the ER-model to relational tables, populate relational database and formulate SQL
4. queries on data.
5. organizations, indexing methods including B tree, and hashing.

Reference Book:

1. Nath, Shyam. Assessing the State of Web Journalism. Authors Press, New Delhi, 2002
2. Chakravarthy, Jagdish. Net, Media and the Mass Communication. Authors press, New Delhi, 2004
3. Bhargava, Gopal. Mass Media and Information Revolution. Isha Books, New Delhi, 2004
4. Menon, Narayana. The Communication Revolution. National Book Trust.
5. Korth , Database concepts Tata McGraw Hill Publications -5th Edition, 1 January 2011.
6. Database systems by Ramkrishna and Gherke - Tata McGraw Hill Publications 3rd edition, 2003.
7.Prof. Rajendra Salokhe , Oracle SQL,PL/SQL programming, aruta publishers.

Animation Lab VIII BASP 213 (Credits-02)

(BAST-207: Web Development-I (HTML) + BAST-208: Programming-II (PHP and using Dreamweaver cc)

Course Objective: Students Should:

1) Familiar with graphic design principles that relate to web design and learn how to implement theories into practice.
2) Develop skills in analyzing the usability of a web site.
3) Understand how to plan and conduct user research related to web usability.
4) Learn the language of the web: HTML and CSS

Experiments:

Group-I:

1) Create HTML pages using basic HTML tags,
2) Create HTML page and display FRAME and TABLE
3) Design page using CSS.
4) Insert images and clip art using HTML.
5) Working with Hyperlinks and Tabular information of Students bio data using HTML.
6) Create a form design with controls using HTML.
7) Design a simple Web site template and themes using HTML.
8) Design a simple Login form and Registration form using HTML.
9) Design a simple Website with site map, search facility using Dream viewer.
10) Design a simple Login form and Registration form using Dream viewer.
11) Design a simple College Website using Dream viewer.

Group-II:

1) Write a program by using If-Else control structure in PHP.
2) Write a program by using Do-While control structure in PHP.
3) Write a program by using For, For each Switch control structure in PHP.
4) Write a program by using Array in PHP.
5) Write a program for creating Web page and its dataBAST connectivity using PHP.
6) Write a program to Insert employee details in employee table.
7) Write a program to Select and Delete employee details.
8) Write a program to show current date, time and convert a string to a date,
9) Write a program for Create, Read, Write File using PHP.
10) Create College Website using PHP
11) Create Website for Animation science department using PHP

Course Outcome:

Group I: After completion of the unit, Student are able to:

1. Simple and impressive design techniques, from basics till advanced to focus on goal oriented and user centric designs.
2. Know How to and where to start research, planning for website & actually build excellent web sites.
3. Learn pro level skills in SEO with keyword research and content stratergy for your website.
4. Study the web elements like buttons, banners & Bars and of course complete UI designs.

1. **Group II: After completion of the unit, Student are able to:**
2. Learn the skills of successfully designing the website.
3. Learn proper knowledge of appropriate insertion of texts, formats and columns or tables.
4. Learn basics of the application of the software, and the exact areas you want to use it for.

Reference Book:

1) Thomas A. Powell ,The Complete Reference HTML and XHTML 4/e, TMH,2003.
2) Wendy Willard , HTML beginners guide , TMH , 2000.
3) Steven Holzner ,HTML black book , Dreamtech Press, Jul 3, 2000.
4) Prof. DepaliR.Dhainje , Server Database and Application Development,
5) Rasmus Lerdorf& Kevin Tatroe, Programming PHP O'Reilly(SPD), Apr 28, 2006.
6) Steven Holzner, PHP: The Complete Reference - McGraw-Hill Education, December 10th 2007.
7) Robin Nixon , Learning PHP, MySQL & JavaScript: With JQuery, CSS & HTML5