

# SANT GADGE BABA AMRAVATI UNIVERSITY GAZETTE



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PART- TWO

( Extra-Ordinary )  
Monday, the 26<sup>th</sup> August, 2019  
NOTIFICATION

No. 106/ 2019

Date :- 26/08/2019

**Subject:- Introduction of Syllabi for Bachelor of Science (Animation) in the faculty of Inter-disciplinary Studies.**

It is notified for general information of all concerned that the authorities of the University have accepted the Syllabi for **Bachelor of Science (Animation)** in the faculty of Inter-disciplinary Studies Semesters III to IV which is to be implemented from the Academic Sessions 2019-20 and onwards is appended herewith as Appendix 6

Dated : 26 /08/2018

Sd/-  
(Dr. T.R. Deshmukh)  
Registrar  
Sant Gadge Baba Amravati University,  
Amravati

Appendix 6

**Semester –III**  
**Subject Code: 2ANI301**  
**Subject: Communication & Presentation-I**

**Maximum Marks: 40**

**Objective:** Preparation for client's presentation regarding client's letters, book design, technical and creative writing & its process.

**Course Outcome:** After completion of the course the student will be able to

1. Construct business letters.
2. Describe role of communication in print media.
3. Design book layout.
4. Develop the concept of creative writing and its process.
5. Write technical reports.

## Course Content

### Theory:

#### Unit 1: Business Correspondence and Application Letters

Common section in Application letters, Structure of Application Letters: Introductory Paragraph, Main Body Paragraph, Closing Paragraph, Background details, Common problems in Application Letters, Types of Application Letters: Types Complaint an adjustment letters, Complaint letters, Adjustment letters, Inquiry letters: types and context, Format of a letter of Inquiry, Solicited, Unsolicited inquiry letter, Inquiry letter: Content and organization

#### Unit 2: Book Design

Component of a book, Book design and layout, Lists, Graphics and Tables, Graphics: An overview, Drawing, a diagrams and photos, Charts and graphs, Uses of illustration and photos, Formatting a requirements, Producing illustrations, Table: Format, Producing tables, Document graphics indicating sources

**Unit 3: Technical Writing**

Technical reports, Types of technical reports, Audience and situation in technical reports Audience analysis, Topics in technical reports, General characteristics of technical reports, Checklist for a technical report, Some more technical reports, Technical background reports Subjects and organization of technical background reports, Primary research reports, Subjects and organization of primary research reports, Business plans, Sections of business plans, Format of business plans, Technical description of products or products requirements, Contents and arrangement of specifications, Graphics in specifications, Structure-degree revision, Check contents, Check the structure if the contents, Check the organizations, Strength topic sentences and overviews, Strengthen transitions, Check paragraph length and content

**Unit 4: Creative Writing**

Choose the right story structures, Consider the full packages, Consider multi-media, Consider interactivity, Choosing the structure of your text, Consider alternate story forms, Structures, Types of structures, Narrative structures, Structural devices, Structural issues

**Unit 5: Creative writing process**

Time and confidence, Where do you get your idea, Oral and visual writing, Drawing on your own expressions, Looking back into your past, Importance of reading, Writing non-fictions, Writing for children, Sending your work to a publisher, Mind mapping, Idea collections sheets, Category ideas, Converting to mind map form, Converting to liner form

**References:**

1. Business Communication:- K.K. Sinha, Galgotia Publication, 2012, 4<sup>th</sup> Edition
2. Technical English: Writing, Reading and Speaking:- Nell Ann Pickett, Longman Publication, 2000, 8<sup>th</sup> Edition
3. The Cambridge Introduction to Creative Writing:- David Morley, Cambridge University Press, 2007

**Semester –III****Subject Code: ANI302****Subject: History of Animation-II****Maximum Marks: 40**

**Objective:** Understanding History of Art & Animation, Know how about animators, their styles, films & Animation scenario

**Course Outcome:** After completion of the course the student will be able to

1. Describe information about legend personalities of Disney.
2. Define worldwide animation styles.
3. Review of Famous films.
4. Describe Information about Indian pioneers and famous animators with working styles.
5. Use of Animation skills in various fields.

**Course Content****Theory:-****Unit I: Disney's Nine Old Men**

Les Clark, Wolfgang "Woolie" Reitherman, Eric Larson, Ward Kimball, Milt Kahl, Frank Thomas, Ollie Johnston, John Mitchell Lounsbery, Marc Fraser Davis

**Unit II: Famous Animation Styles**

Feature Film Style, Limited Animation, Manga, Anime

**Unit III: Some of the Famous Films**

Overview of Animation & VFX Movies

**2D Animation Films:** Jungle Book, Beauty and the beast, Lion king

**3D Animation Films:** Toy story, Tangled, Moana

**Live & Animated Films:** Avatar, Avengers, Jurassic Park, Dinosaur

**Unit IV: The Famous Indian Animators**

Pioneers, Famous Animators and their working styles.

**Unit V: Application of Animation**

Ad Films, News and Broadcasting, 3D Motion Paintings, Interactive Media

**References:**

1. Animation A World History- Giannalberto Bendazzi, Taylor and Francis, 2015, Volume 1
2. Animated Life: A Lifetime of Tips, Tricks, Techniques and Stories from a Disney Legend- Floyd Norman, Focal Press, 2013, 1<sup>st</sup> Edition
3. Hollywood Cartoons- Michael Barrier, Oxford University Press, 1999, 1<sup>st</sup> Edition
4. Illusion of Life- Frank Thomson, Hyperion, 1995

**Semester –III**

**Subject Code: 2ANI303**

**Subject: Computer Languages-I**

**Maximum Marks: 40**

**Objective: Understanding Fundamentals & Principals of web designing.**

**Course Outcome:** After completion of the course the student will be able to

1. Define the basic of web design.
2. Develop the concept of web publishing
3. Design a responsive web site
4. Recall HTML tags.
5. Introduce the basic concept of CSS.

**Course Content**

**Theory:-**

**Unit 1: Introduction To Web Technologies**

Definition, History and Concept of Internet, web site hosting, Content management system, Introduction of Dreamviewer, FTP

**Unit 2: Web Publishing**

Introduction, types, structure of website, working on website, Web Authoring Software, web standards.

**Unit 3: Web Design Principles**

Introduction and concept, Golden Rule of Web Design, Wireframe, Aesthetics, Page Design, Navigation bars, Different Color Schemes for Website,

**Unit 4: Elements Of Html**

Introduction, common tags, Text, Lists, Tables and Frames, Hyperlinks, Images and Multimedia, Forms and controls.

**Unit 5: Introduction to Cascading Style Sheets**

Cascading Style sheet: Concept, Types, Linking ,Properties, CSS Styling, Working with block elements and objects, Lists and Tables, CSS Id and Class, Box Model(Introduction, Border properties, Padding, Properties, Margin properties Positioning, Floating, Align, Pseudo class, Navigation Bar, CSS Color, Creating page Layout and Site Designs.

**References:**

1. Learning Web Design: A Beginner's Guide to HTML, CSS, Graphics, and Beyond-Jennifer Niederst Robbins, O'Reilly Media, 2012, 4<sup>th</sup> edition
2. Web Design in a Nut Shell Author -Jennifer Robbins, O'Reilly Media, 2009, 3<sup>rd</sup> edition
3. HTML and CSS: Design and Build Websites- Jon Duckett, Wiley, 2014, 1<sup>st</sup> edition

**Semester –III**

**Subject Code: 2ANI304**

**Subject: Story Writing & Development -I**

**Maximum Marks: 40**

**Objective:** Creating Ideas, story writing & screenplay with appropriate research & developments

**Course Outcome:** After completion of the course the student will be able to

1. Describe basic concept of story writing process.
2. Explain the process of story development
3. Use the knowledge of story writing for short & Feature film (Live & Animation), Documentary, Comics
4. Develop the concept of screenplay.
5. Describe concept dialogue and sound design.

**Course Content:**

**Theory**

**Unit 1: Idea or Concept**

Idea & concept design, Conceptual writing, Information and Research

**Unit 2: Story design and development**

Structure of stories, Start & Establishment, In-between drama, Climax, End.

**Unit 3: Uses of stories**

Novel, Fiction, Autobiography, Films ( Live & Animation): Short Film, Documentaries, Feature Film, Ad Films, Interactive Media

**Unit 4: Screenplay for various media**

Details of Screenplay, Location & Timing description, Characters & Props description, Communication between characters, Value addition content writing, Sound, Music & Special effects writing.

**Unit 5: Dialogue Writing**

Dialogue writing and Design, Dialogue or Sound design for characters, props and special effects, Voice over & Songs writing.

**References:**

1. Ideas for the Animated Short Finding and building stories:- Karen Sullivan, Gary Schumer, Focal Press, 2008, ISBN: 978-0-240-80860-4
2. Fade In:- Robert Berman, Michael Wiese Production, 1997, 2<sup>nd</sup> Edition

**Semester –III**

**Subject Code: 2ANI305**

**Subject: Drawing for Animation-I**

**Maximum Marks: 80**

**Objective:** Practicing Drawing for creating animated characters & props

**Course Outcome:** After completion of the course the student will be able to

1. Draw simple and dynamic figure of human, animal and birds
2. Illustrate Human, Birds, Animals Figures with details.
3. Demonstrate drawing & painting in various forms.

**Course Content:**

**Practical's:**

**Unit I: Human Figure Study**

Human figure study with various action, Dynamic human figure drawing

**Unit II: Animal Figure Study**

Animal figure study with various action, Dynamic Animal figure study

**Unit III: Bird Study**

Birds figure study with various action, Dynamic Birds figure study

**Unit IV: Drawing With Details**

Human Head, Hands & Legs, Animals Head & Legs, Birds heads and wings.

**Unit V: Drawing & Painting**

Concept Art, Still Life, Painting And Murals.

**References:**

1. Dynamic Figure Drawing:- Burne Hogarth, Watson-Guptill Publications, 1996, 1<sup>st</sup> Edition
2. Force character Design from Life Drawing:- Michael Mattesi, Focal Press, 2008, ISBN-9780240809939
3. Figure Study Made Easy :- Aditya Chari, Grace™ Prakashan, 2005, 1<sup>st</sup> Edition
4. Bridgman's Life Drawing:- Bridgman George B Bridgman, Dover Publications,
5. Animal Drawing Manual:- Gleann Vilppu, G.V. Vilppu publication, 2000, 1<sup>st</sup> Edition.

**Semester –III**  
**Subject Code: 2ANI306**  
**Subject: Animation-II**

**Maximum Marks:80**

**Objective:** To understanding Animation principal & Acting techniques through 2D hand drawn (cell or traditional) & 2D digital animation.

**Course Outcome:** After completion of the course the student will be able to

1. Illustrate character design and symbolic rigging (Cell & Digital).
2. Apply knowledge of animation technique.
3. Construct dialogue & Facial expression.
4. Associate Animation principal & Animation Acting (Cell & Digital)
5. Compose scene with action, emotions & multiple characters.

**Course Content**

**Practical's:**

**Unit 1: - Character design & Symbolic Rig**

Cell animation, Digital animation, Human, Animal, Birds

**Unit 2:- Human, Animal & Birds**

Cell animation, Digital animation, Human (Walk\Run\Jump), Animals(Walk, Run, Jumps & Gallops), Birds (Fly, Take off, Landing)

**Unit 3:- Dialogue & Facial Expression.**

Blend Shapes Construction: a. Lips Shapes & Lips Sync. b. Expressions

**Unit 4:- Animation Action with Rules**

Action With Animation Rules.  
(Arc/Timing/ Anticipation/ follow-through & cutioning)

**Unit 5:- Acting Synchronization with Multiple Character**

Scenes development with Action, emotion & Synchronization with character & background.

**References:**

1. Animator Survival Kit: - Richard Williams, Faber &Faber, 2002, 1<sup>st</sup> Edition.
2. Timing for Animation: - Harold Whitaker, CRC Press,2009,2<sup>nd</sup> Edition
3. Adobe Animate CC Classroom in a Book, Russell chun, Adobe press,2017,1<sup>st</sup> Edition

**Semester –III**  
**Subject Code: 2ANI307**  
**Subject: Character & Props-I**

**Maximum Marks: 40**

**Objective:** Making 2D & 3D generated props & characters for Animation and VFX base live films.

**Course Outcomes:** After completion of the course the student will be able to

1. Define knowledge of 3D animation and assets building.
2. Describe pipeline for 3D Animation films.
3. Demonstrate 3D character modeling, texturing, lighting and rendering process.
4. Demonstrate 3D props modeling, texturing, lighting and rendering.
5. Compose Lighting on props.
6. Demonstrate compositing techniques.

**Course Content:**

**Practical's:**

**Unit-1:- General Information of 3D Animation & Assets Building**

Concept, Features and uses of 3D animation softwareø.

**Unit-2:- Pipeline For 3D Animation Films.**

Process for 3D Animation films: Pre-production, production and post-productions

**Unit-3:-Nurbs and Surface Modeling.**

Props Modeling, Logo Modeling, Conversion of Nurbs to Polygon.

**Unit-4:- 3D paint Tool & Application of Basic materials.**

Using 3D paint Tool for texturing Props, use of Basic Materials for Text & Logo.

**Unit-5:- Basic Lighting And Rendering**

Lighting on Props, Lighting on Logo, Rendering, Images & Compositing

**References:**

1. Maya Professional tips and techniques: - Lee Lanier, Sybex,2007,ISBN:- 0470107405
2. 3ds Max 7.5 Projects :- Boris Kulagin, BPB Publications, 2006, ISBN:1-931769-43-5

**Semester –III**

**Subject Code: 2ANI308**

**Subject: Layout & Background Design**

**Maximum Marks: 40**

**Objective:** Creating 2D hand drawn & 2D digital backgrounds for Animation films

**Course Outcomes:** After completion of the course the student will be able to

1. Compose Layout design & Blue sketch.
2. Memorize Layout terms and techniques.
3. Use of Camera angles & Editing Rules for dynamic layout.
4. Develop digital colour application.
5. Demonstrate basic concept of Matt painting.

**Course Content:**

**Practical's:**

**Unit I: Basic of Layout Design**

Composition Rules, Layout for TV & Film Layout, Layout for Interactive media

**Unit II: Types of Layout**

One field layout (TV/Film), Pan Layout (TV/Film): Horizontal Pan (Right to left & Left to Right), Vertical Pan (Up to Down & Down to top), Cross Pan, Subjective layout & Motion Techniques

**Unit III: Camera Angles & Editing Rules for Dynamic Layouts**

Setting Up Your shots with Dynamic camera angles & editing rules.

**Unit Iv: Study From Copy Layout & BG (Hand drawn & digital)**

Copying the layout, Copying the colour background

**Unit V: Stylization & Colour Application (Hand drawn & digital)**

Realistic layout with appropriate colour schemes, Stylize layout with appropriate colour schemes

**References:**

1. Setting Up Your Shots: Great Camera Moves Every Filmmaker Should Know :- Jeremy Vineyard, Michael Wiese Productions,1999, ISBN :- 0941188736
2. Layout and Composition for Animation:- Ed Ghertner, Focal Press, 2010,1<sup>st</sup> Edition
3. Layout Background Layout:- Mike Fowler, Imprint,2002,Limited Edition ISBN:- 9780973160208

**Semester –III**

**Subject Code: 2ANI309**

**Subject: Rigging & Blendshapes-I**

**Practical**

**Maximum Marks: 40**

**Objective:** Understanding the process used to create skeletons and interconnected control setup to Animate 3D objects & models.

**Course Outcomes:** After completion of the course the student will be able to

1. Describe the basic concept of Rigging.
2. Express Basic knowledge of Rigging (Characters & Props)
3. Application of Rigging
4. Application of constraint rigging.
5. Create Direct & Indirect connection in Rigging.

**Course Content:**

**Practical's:**

**Unit 1:- Introduction to Rigging**

Rigging: concept, Software used, Rigging tools

**Unit 2:- Fundamentals of Rigging**

Joints, Parenting, Understanding Pivot, Outliner, Hyper Graph, Hyper Shade, Channel Control

**Unit 3:- Linear and Non-Linear Deformers**

Lattice, Clusters, Bend, Squash, Wave

**Unit 4:- Constraints Rigging**

Point, Orient, Parent, Scale, Aim

**Unit 5:- Direct & Indirect Connection**

Set driven, Expression

**References:**

1. Maya Professional tips and techniques: - Lee Lanier, Sybex,2007,ISBN:- 0470107405
2. 3ds Max 7.5 Projects :- Boris Kulagin, BPB Publications, 2006, ISBN:1-931769-43-5
3. Character Rigging and Animation :- Alias, Wavefront Publication,2002, ISBN:- 9780973005233

**Semester –III**

**Subject Code: 2ANI310**

**Subject: Acting & Music**

**Maximum Marks: 40**

**Objective:** Learning animation acting and music composition.

**Course Outcomes:** After completion of the course the student will be able to

1. Understand Acting for Animation.
2. Recall Acting Rules.
3. Discuss relationship between character and audience & Analysis character in details.
4. Express movement/speech/camera techniques
5. Knowledge of Music editing & recording software .
6. Arrange Equalization, Dynamics effects and Mixing.

**Course Content:**

**Practical's:**

**Unit 1:- Seven Essential Acting Concepts**

1. Thinking tends to lead to conclusions,
2. Emotion tends to lead to action,
3. Acting is reacting, Acting is doing,
4. Your character need to have an objective,
5. Your character should play an action until something happens to make him play a different action All Action begins with movement,
6. Empathy is the magic key audiences empathize with emotion,
7. A scene is a negotiation.

**Unit 2:- The Audience, The Character, The Scheme**

The Actor Audience Contract, Suspending Disbelief And Animation, Theatrical Reality Versus Regular reality, Holding the mirror UP to Nature, Personality Animation, Character Analysis, Primal Analysis, Negotiation, Status Negotiations Scenes Begin in the Middle, The Rehearsal, Emotion And Empathy, Paul Ekman and the expression of Emotion, Charlie Chaplin and Emphy, Acting is a process of Exposing ,Not hiding , Adrenaline Moments, How to use the Adrenaline moment concept, Heroes And Villains

**Unit 3:- Moment/ speech/cameras & Technique**

Animating force Versus form , Body Language, Power Centers, The psychological gesture, Effect of Alcohol and Drugs on movement, Laban movement Theory, Space ,Effort, Acting listening, Acting for Camera, The Actor Generally leads the camera simplify your Action, Avoid Ambivalence, Never Deny the Reality of your scene partner, What kind of Animal would your Character bes, Remember the Fruit Salad, Line Action Reference, Rotoscoping, Mocap, Character Rhythm, The look of memory, The use of Symbolism and foreshadowing, Practical Application for Animators, Mirrors

**Unit 4:- The Form/ The Medium & Film Analysis**

Comedy Farce, Caricature, Video Games, Television Commercials, Implied Visual Message, No new products, No conflict, Picture - Not Words, Playing to the Camera, Classroom, Power Centre Games, Animal Exercises, What is my Profession? What is my Age?, Given Circumstances Game, Gibberish Exercise, Boss And Workers game, The iron giant an Acting Analysis Scene by scene, Postscript what is method Acting ?, Recommended Reading And Additional Study, Works cited

**Unit 5: Introduction to Recording and Editing**

Music Production Process, Basic studio introduction, Sound design and dubbing, Music Production Tools. Record enabling a track, setting up track, setting input levels, recording with effects, Tools, Vocal track and multi track editing, Panning, Import & Export Files, Copy & Paste, Fades

**Unit 6: Equalization & Dynamics (effects) and Mixing**

EQ type, Filters, setting up send effects, using various effects, setting effect levels, VST channel Mixer, Working with video files, Plugins, Inserts, Automation tracks

**References:**

1. Acting for Animators:- Ed Hooks, Heinemann Drama,2000,1<sup>st</sup> Edition ISBN:- 032500580
2. Acting and performance for animation:- Hayes, Derek; Webster, Chris, Focal Press,2013, ISBN: 978-0-240-81239-7
3. Acting and Character Animation:- Rolf Giesen, Anna Khan, CRC Press,2017,1<sup>st</sup> Edition
4. The science of sound recording :- Jay Kadis, Focal press, 2013, ISBN:-978-0-240-82154-2
5. Introduction to sound recording:- Martinn, Geoff, Martinn, Geoff, 2011
6. Designing sound for Animation:- Robin Beauchamp, Focal Press,2013, 2<sup>nd</sup> Edition

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**Semester –IV**

**Subject Code: 2ANI401**

**Subject: Communication & Presentation-II**

**Maximum Marks: 40**

**Objective:** Making Presentation for Clients & preparation for it as well as fluency in language and uses right words & Phrases also known how about the software which are required for the presentation.

**Course Outcome:** After completion of the course the student will be able to

1. Develop the skill of presentation.
2. Application of presentation software.
3. Describe of Basics of projectors and how projectors are connected to computer system.
4. Develop skills for Job interview.
5. Develop life skills.

**Course Content**

**Theory**

**UNIT 1: Delivering Presentation**

Analyzing And Audience, Avoiding Common Mistakes Made By Presenters, Bad Delivery Habits, Do Not Go Blank During Your Presentation, Eliminating Filler Words And Action Giving Your First Public Presentation, Integrating Movement In Presentation, Making Eye Contact With Your Audience, Overcoming Your Fear Of Presenting, Planning Breaks During Presentation, Presenting To Different Types Of Audiences, Tips For Keeping Your Presentation Interesting

**UNIT 2: Visual Presentations**

The Basics Of File Compression, Capturing Bitmaps At The Correct Resolution For Projection, Choosing The Right Colors For Your Next Presentation, Fonts And PowerPoint : TrueType And Postscript, Graphic Types And Electronic Presentations, Quick Tips For Effective Visuals, Using Different Backgrounds Within A Single Presentation, Tips For Converting Multimedia Presentations To Html, Proper Use Of Flipcharts

**UNIT 3: Knowing Projectors**

Types Of Projectors, Connecting Laptops To Projectors, Connecting PowerBooks To Projectors, Connecting Projectors To Public Address System Or External, Speakers Connecting Projectors To Video Devices, Setting Up Projectors And Determining The Correct Image Size

**UNIT 4: Employment Communication- Job Interview**

Factors involving Job interview, Characteristics of Job interview, Job interview process, Job interview techniques- Manners and etiquettes to be maintained during an Interview  
Sample questions commonly asked during interview, Interview attire

**UNIT 5: Life Skills**

Teamwork, Leadership styles, Critical and creative thinking skills, Problem solving skills

**References:**

1. The Handbook of Communication Skills:- Owen Hargie, Routledge, 2006,3<sup>rd</sup> Edition
2. Public speaking and presentation demystified:- Melody templeton, McGraw-Hill, 2009,1<sup>st</sup> Edition, ISBN- 9780071601214
3. PowerPoint Advanced Presentation Techniques:- Faithe Wempen, Wiley,2004, ISBN:- 9780764568817

**Semester –IV**

**Subject Code: 2ANI402**

**Subject: History of Animation-III**

**Maximum Marks: 40**

**Objective:** Understanding History of Art & Animation, Know how about the Animation History, Animators, styles, films & Animation scenario

**Course Outcome:** After completion of the course the student will be able to

1. Prepare case study on Oscar-winning animated films.
2. Describe Information about the legends in Animation Film making.
3. Describe working style in universal studio.
4. Discuss animation Scenario.

**Course Content**

**Theory**

**Unit I: Secrets of Oscar-winning Animation (Information)**

Neighbors, Frank Film, Le Chateau de Sable (the Sand Castle), A Legy(The fly), Anna & Bella, The Man who Planted trees

**Unit II: Secrets of Oscar-winning Animation (Case Study)**

Balance, Manipulation, Mona Lisa Descending a staircase, Quest, The Old Man and the Sea, Father and Daughter, Harvie Krumpet

**Unit III: A Story of Two Legends**

Walt Disney, Steven Spielberg

**Unit IV: The Work style of Universal studio**

Introduction & Working Style, SFX & VFX

**Unit V: Today's Animation Scenario**

Worldwide Animation Scenario, Indian Animation Scenario

**References:**

1. Industrial Light & Magic: The Art of Special Effects;- Thomas G. Smith, Ballantine Books,
2. Animated Life: A Lifetime of Tips, Tricks, Techniques and Stories from a Disney Legend: Floyd Norman, Focal Press,2012, 1<sup>st</sup> Edition,ISBN: 978-0-240-81805-4
3. Secrets of Oscar winning Animation: Oliver Cotte, Focal press,2006,ISBN: 9780240520700
4. Illusion of Life:- Frank Thomson, Hyperion,1995, 1<sup>st</sup> Edition, ISBN:- 0786860707

**Semester –IV**

**Subject Code: 2ANI403**

**Subject:- Computer Languages-II**

**Maximum Marks: 40**

**Objective:** Use of scripting language in Animation, Interactive media

**Course Outcome:** After completion of the course the student will be able to

1. Develop basic concepts of scripting language
2. Practice fundamentals of Python.
3. Write programs of Python and MEL scripting.

**Course Content**

**Theory**

**Unit 1: Introduction to scripts and scripting**

Script, Origins of scripting, Characteristics of scripting languages, Applications of Scripting Languages , Web scripting.

**Unit 2: Fundamentals of Python**

Python Overview, differences between MEL and Python, Various Commands, the limitations of MEL, Basic MEL/Python commands.

**Unit 3: Data Types**

Core Data Types, Variables, Comments, Numeric Types, Operators, Division and Truncation, Is, getattr, setattr Commands, Escape Sequences, Basic String Operations, Indexing and Slicing Strings, Modifying Strings, String Methods, String Formatting, Print Function, Lists, Lists - Adding and Removing Objects, Sorting Lists, Tuples, Dictionaries

**Unit 4: Python Statements**

If/Else Flow Control, Logical and/or Operators, Maya Commands: Errors and Warnings, For Loops, While Loops, Commands: select, Errors and Warning

**Unit 5: Functions**

Function Basics, Return Statements, Args, Keywords and Defaults, Pass by Reference, Built-in Functions, Simple Example Using Functions

**References:**

1. The world of scripting languages:-David Barron, ,2000 , ISBN:- 0-471-99886-9
2. MEL Scripting a Character Rig in Maya:Chris Maraffi, Ballantine Books,2008
3. Practical Maya Programming with Python: Robert Galanakis, Packt Publishing, 2014

**Semester –IV**

**Subject Code: 2ANI404**

**Subject: - Story Writing & Development-II**

**Maximum Marks: 40**

**Objective:** Creating content and its development for film, Production and Post production.

**Course Outcome:** After completion of the course the student will be able to

1. Describe Production content development.
2. Develop the concept of visual screen play.
3. Design dialogue and sound for Animation.
4. Describe Pre production design.
5. Describe Post Production & Films output.

**Course Content**

**Theory**

**Unit 1: Content development**

Background (Locations), characters & Props (casting), creative direction, art direction, technical direction, Rough sound track

**Unit 2: Visual Screen Play**

Story boarding, Animatics

**Unit 3: Sound design & Dubbing**

Dialogues design & Dubbing, Songs & Visual effects

**Unit 4: Production**

Staging, Production for live or Animation, Green screen shoot (Croma), SFX, VFX, Compositing & Rendering

**Unit 5:Post Production**

Editing, On-line effects, Final output

**References:**

3. Ideas for the Animated Short Finding and building stories:- Karen Sullivan, Gary Schumer, Focal Press,2008, ISBN: 978-0-240-80860-4
4. Fade In:- Robert Berman, Michael Wiese Production, 1997, 2<sup>nd</sup> Edition

**Semester –IV**

**Subject Code: 2ANI405**

**Subject: Drawing For Animation-II**

**Maximum Marks: 80**

**Objective:** Practicing Drawing and Painting for creating animated characters & props.

**Course Outcome:** After completion of the course the student will be able to

1. Illustrate various kinds of character art & design.
2. Express character attitude & Facial expression.
3. Compose story boarding design for various media.

**Course Content**

**Practical**

**UNIT I: Character Design (A)**

Cartoon, Iconic

**UNIT II: Character Design (B)**

Realistic, Semi realistic

**UNIT III: Character Design (C)**

Mix & Match, Super Realistic

**UNIT IV: Character Attitude & Expression sheet (Bible)**

Character Attitude chart, Character Expression chart, Character lip sync, Character Family chart

**UNIT V: Basic of Story Board Design**

Story Board For TV, Story Board for Interactive.

**Reference**

1. Dynamic Figure Drawing:- Burne Hogarth, Watson-Guption Publications, 1996, 1<sup>st</sup> Edition
2. Force character Design from Life Drawing:- Michael Mattesi, Focal Press, 2008, ISBN-9780240809939
3. Figure Study Made Easy :- Aditya Chari, Grace™ Prakashan, 2005, 1<sup>st</sup> Edition
4. Bridgman's Life Drawing:- Bridgman George B Bridgman, Dover Publications,
5. Animal Drawing Manual:- Gleann Vilppu, G.V. Vilppu publication, 2000, 1<sup>st</sup> Edition.

**Semester –IV**

**Subject Code: 2ANI406**

**Subject: Animation-III**

**Maximum Marks: 80**

**Objective:** Making action with emotions for animated films from 3D generated Digitalized models.

**Course Outcome:** After completion of the course the student will be able to

1. Practice Animation principals using 3D software.
2. Illustrate Path Animation.
3. Demonstrate bouncing ball.
4. Illustrate wave principal.
5. Apply Animation principal ( Bouncing Ball & Wave Principal)

**Course Content**

**Practical:**

**Unit 1: Introduction to 3D Animation.**

Overview, animation principals

**Unit 2: Path Animation.**

Straight path, Zig Zag Path, Weight & Timing

**Unit-3:- Bouncing Ball.**

Understanding Animation principal by using various kinds of Balls.

**Unit-4:- Wave Principle.**

Understanding wave principal by using Props & Characters.

**Unit-5:- Ball With Biped and Quadruped characters.**

A) Ball with Biped : a. Walk. b. Run. C. Jump.

B) Ball with Quadruped : a. Walk. b. Run. C. Gallops.

**Reference**

1. Animator Survival Kit: - Richard Williams, Faber &Faber, 2002, 1<sup>st</sup> Edition.
2. Timing for Animation: - Harold Whitaker, CRC Press,2009,2<sup>nd</sup> Edition
3. Maya Professional tips and techniques: - Lee Lanier, Sybex,2007,ISBN:- 0470107405
4. 3ds Max 7.5 Projects :- Boris Kulagin, BPB Publications, 2006, ISBN:1-931769-43-5

**Semester –IV**  
**Subject Code: 2ANI407**  
**Subject: Matt Painting-I**

**Maximum Marks: 40**

**Objective:** Making 3D generated digital locations for 3D animated and live films

**Course Outcome:** After completion of the course the student will be able to

1. Illustrate Digital Painting techniques.
2. Composed Matt painting with 2D & 3D generated contents.
3. Composed Matt with Animated & Live Objects
4. Use of Matt painting in various media.

**Course Content**

**Practical:**

**UNIT I: Introduction to Matt painting**

History, Use of Matt Painting, Types of Matt Painting

**UNIT II: Copy of Matt painting by Famous Matt designers**

Copy Matt Painting on Paper, Copy Matt Painting digital

**UNIT III: Matt Painting for TV (Live / Animation)**

Understanding Sequence & scene description, Requirement gathering and specification, Content development (2D / 3D/ Live), Layout & Colour schemes, Final Matt painting with TV Ratio.

**UNIT IV: Matt Painting for Film (Live / Animation)**

Understanding Sequence & scene description, Requirement gathering and specification, Content development (2D / 3D/ Live), Layout & Colour schemes, Final Matt painting with Film Ratio.

**UNIT V: Matt Painting for Drama or Live show**

Understanding Sequence & scene description, Requirement gathering and specification, Content development (2D / 3D/ Live), Layout & Colour Scheme, Final Matt Painting with HD Ratio.

**Reference**

1. Digital Matt painting handbook:- David B. Mattingly, Sybex,
2. Techniques of Dylan cole: Dylan cole, Gnomon workshop
3. Setting Up Your Shots: Great Camera Moves Every Filmmaker Should Know :- Jeremy Vineyard, Michael Wiese Productions,1999, ISBN :- 0941188736
4. Layout and Composition for Animation:- Ed Ghertner, Focal Press, 2010,1<sup>st</sup> Edition

**Semester –IV**  
**Subject Code: 2ANI408**  
**Subject: Rigging & Blend shapes-II**

**Maximum Marks: 40**

**Objective:** Understanding the process used to create skeletons and interconnected control setup to Animate 3D objects & models.

**Course Outcome:** After completion of the course the student will be able to

1. Illustrate basic prop Rigging (Characters & Props)
2. Demonstrate basic mechanical rigging.
3. Practice fundamentals of Blendshapes
4. Illustrate winged character rigging.
5. Practice Basic cartoon rigging.

**Course Content**

**Practical:**

**Unit 1:- Basic Prop Rigging**

Understanding Phenomenon of Prop rigging

**Unit 2:- Basic Mechanical Rigging.**

Rigging Mechanical Props & Character

**Unit 3:- Fundamentals of Blendshapes.**

Understanding deformation of props, character & BG.

**Unit 4:- Winged Character Rigging.**

Winged character: Birds, Insects, creatures

**Unit 5:- Basic Cartoon Rigging.**

Biped Character rigging and skinning

**References:**

1. Maya Professional tips and techniques: - Lee Lanier, Sybex,2007,ISBN:- 0470107405
2. 3ds Max 7.5 Projects :- Boris Kulagin, BPB Publications, 2006, ISBN:1-931769-43-5
3. Character Rigging and Animation :- Alias, Wavefront Publication,2002, ISBN:- 9780973005233

**Semester –IV**

**Subject Code: 2ANI409**

**Subject: Dynamics & Visual Effects**

**Maximum Marks: 40**

**Objective:** Learning fundamentals of dynamic stimulation in computer graphics

**Course Outcome:** After completion of the course the student will be able to

1. Describe basic concept of Dynamics
2. Practice dynamics tools.
3. Use nParticle system.
4. Illustrate container effects in 2D & 3D.
5. Illustrate Fluid effects.

**Course Content**

**Practical:**

**Unit 1:- Dynamics and Visual Effects.**

Dynamics: Introduction, Applications, Software, Introduction to Visual effects (VFX)

**Unit 2:- Dynamics tools**

Basic of Dynamics tools

**Unit 3:- Fundamentals of nParticle System.**

Fundamentals of nParticle System.

**Unit 4:- Basic Dynamic 2D & 3D Container Effects.**

Smoke, Fire, Cloud

**Unit 5:- Basic Dynamics Fluid Effects.**

Ocean, Pond\Wake, Motor Boat.

**References:**

1. Maya Professional tips and techniques: - Lee Lanier, Sybex,2007,ISBN:- 0470107405
2. 3ds Max 7.5 Projects :- Boris Kulagin, BPB Publications, 2006, ISBN:1-931769-43-5
3. Character Rigging and Animation :- Alias, Wavefront Publication,2002, ISBN:- 9780973005233

**Semester –IV**

**Subject Code: 2ANI410**

**Subject: Characters & Props-II**

**Maximum Marks: 40**

**Objective:** Making 2D & 3D generated models, props for Animation Films also creating 3D proxy character & props for VFX based live films.

**Course Outcome:** After completion of the course the student will be able to

1. Describe the concept of Polygon modeling.
2. Use of Polygon modeling.
3. Use of UV and texturing on Props and character models.
4. Use of Lighting on Props and character.
5. Apply Transfer Map on Props & characters.

**Course Content:**

**Practical**

**Unit-1:- Introduction of Polygon Modeling.**

Polygon: Concept, components, Polygonal vertices, Polygonal faces, Polygonal edges

Polygonal UVs, Basic polygonal primitive objects , Creating polygonal primitives

**Unit-2:- Polygon Modeling.**

Exterior Modeling , Interior Modeling, Character and Props Modeling.

**Unit-3:- UV's And Texturing.**

Types of Mapping, Introduction of UVø Text Editor, Application of UV and Texturing on Props and character models.

**Unit-4:- Lighting.**

Types And Used of lights, Application Lighting on Props & Character.

**Unit-5:- Transfer Maps and Rendering.**

Application & used of Transfer maps, Render Settings, Render Engines, Mental Ray on props & characters.

**References:**

1. Maya Professional tips and techniques: - Lee Lanier, Sybex,2007,ISBN:- 0470107405
2. 3ds Max 7.5 Projects :- Boris Kulagin, BPB Publications, 2006, ISBN:1-931769-43-5

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