

**SES's L. S. RAHEJA COLLEGE OF ARTS AND COMMERCE
(AUTONOMOUS)**



**Syllabus of Animations and Graphics under NEP 2020 vertical - OE
with effect from 2024-25**

Department of Information Technology and Data Science

HoD/Sr. Person of the Department: Prajakta Joshi

Date of approval by the BoS: 27/04/2024

Approved by the Academic Council: 29/04/2024

Ratified by the Governing Body on: 06/05/2024



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| Program: FYBFM | | | Semester : II | | |
| Course : Animations and Graphics | | | Code: UGBFMIIOE324 | | |
| Academic Year: 2024-2025 | | | Batch: 2024-2027 | | |
| Teaching Scheme | | | Evaluation Scheme | | |
| Lectures | Practical | Tutorials | Credits | Internal Continuous Assessment (ICA) (weightage) | Term End Examinations (TEE) (weightage) |
| 30 | Nil | Nil | 2 | 20 | 30 |

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| Learning Objectives : | <ol style="list-style-type: none"> To train the students to acquire skills in generating marketable computer graphics and animated pictures, especially in the area of advertisements. To train the students to acquire skills and mastery in the use of different software producing graphics and animation. The course introduces the basic concepts of computer graphics. |
| Learning Outcomes : | <ol style="list-style-type: none"> Understand the basics of computer graphics, different graphics systems and applications of computer graphics Compare various algorithms for scan conversion and filling of basic objects Illustrate various animation effects |
| Pedagogy: | Practical based learning, problem-based learning, peer learning |

| Module | Module Content | Module Wise Pedagogy Used | Module Wise Duration |
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| I | <p>Basic elements of graphics: Overview of Computer Graphics, Computer Graphics Application and Software, Description of some graphics devices, Input Devices for Operator Interaction, Active and Passive Graphics Devices, Display Technologies, Calligraphic Refresh Graphics Displays, Raster Refresh (Raster-Scan) Graphics Displays, Technical Differences of Vector & Raster Imaging, Cathode Ray Tube Basics, Color CRT Raster Scan Basics, Video Basics, The Video Controller.</p> <p>Image Manipulation and Storage: What is an Image? Digital Image- Pixels – Bit Depth – DPI – LPI - Resolution - File Formats (Print and screen media Formats -GIF, JPEG, TIFF, etc.) - Compression: Lossy -</p> | Practical based learning, problem-based learning, peer learning | 15 |

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| | Lossless - Colour: Colour Coding - Process colour (CMYK) – RGB Spot Colour - Colour systems, JPEG, Image Processing - Digital image enhancement | | |
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| II | <p>Animation Basics : Planning an Animation, Principles of Animation: Timing – Slow-in/Slow-out Line of Action – Path of Action –Key Drawings (Extremes and Breakdowns) – Maintaining Volume –Timing Ladder and Numbering of Animation Drawings – In Between, Squash and Stretch: Anticipation – Action & Reaction, Wave Principle: Secondary Action – Follow through and overlapping action. Difference Between Time-Lapse and Stop Motion Animation Techniques</p> <p>Basics of Animation Acting: Character animation, Posing, Timing, and Staging, Voice Acting, Facial Expressions, Body Language.</p> <p>CASE STUDY: Animation & VFX around the World: - Indian, American, European Studios.</p> | <p>Practical based learning, problem-based learning, peer learning</p> | <p>15</p> |
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REFERENCE BOOKS

1. J. D. Foley, A. Van Dam, S. K. Feiner, J. F. Hughes, Computer Graphics - Principles and Practice, Pearson
2. Steve Marschner, Peter Shirley, Fundamentals of Computer Graphics, CRC press
3. Hearn, Baker, Computer Graphics, Pearson