

Detailed Syllabus for
Bachelor of Science:
Bachelor of Science (Graphics & Animation)
(Three Years Full Time Undergraduate Degree Program)
Effective from July 2026



Department of New Media Technology
Makhanlal Chaturvedi National University of Journalism & Communication, Bhopal
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Makhanlal Chaturvedi National University of Journalism and Communication, Bhopal
Department of New Media Technology

Bachelor of Science (Graphics & Animation): B.Sc. (GA)

1. ABOUT THE PROGRAMME:

B.Sc. (Graphics & Animation) is a Three year (Six Semesters) Undergraduate programme that prepares a student to work for the Digital Media industry as a creator of Graphics and Animation content, while working on convergence of elements like Text, Graphics, Audio, Video and Animation.

The programme has compulsory and elective core courses including Aesthetics and Technicality of Design, Foundational Components of Multimedia, Editing of Image, Audio and Video, 2D & 3D Animation, Color Theory & Color Composition, Game Design, Video Editing, Augmented and Virtual Reality, 3D Design with MAX, 3D Design with MAYA, Visual Effects, Animation for New Media, and UI/UX Design in addition to other courses. The Skill enhancement courses include Graphics Design, Visual Communication & Media, Graphics Design for Gaming, Design and Business Management. The Ability Enhancement Compulsory Courses are given as per UGC specification. The Open Elective (OE) courses offered include Word Processing and Presentation for Multimedia, Digital Content Production, Character Animation, Advertising for New Media, Data Analytics for Journalism, Social Media Analytics, whereas the student is free to choose One Open Elective per semester from the pool of Open Elective offered by various Departments of the University.

This programme is highly recommended for students who are creative and focused to upgrade their skill set for Graphics and Animation content creation. The content developed helps better understanding and improve human communication in day to day life, at professional and personal space.

2. ELIGIBILITY: The eligibility for 3-Year B.Sc. (GA) programme is 10+2 level from a recognized board.

3. CAREER AVENUES:

The major areas where one could plan a career through this programme are: Graphics Design, Animation Industry, Digital Media, Advertising, Entertainment Industry, Fashion and Interior designing, Publishing Industry, E-learning, Cartoon Production, Visual content creation, Digital Marketing and many more.

4. PROGRAMME OBJECTIVES (PO):

The B.Sc. (GA) program is designed with the following educational objectives:

1. To inculcate Art, Aesthetics and Technology of Graphics and Animation elements in Students.
2. To equip the Students with skills for Digital Media Content Development, ranging from Graphics Design for Gaming to Advertising for New Media.
3. To make the Students understand the theoretical aspects of Graphics and Animation and develop the practical ability for Content creation, Editing and Visual Effects.
4. To empower the Students to work as trained professionals for Online Platforms, with the capability of Social Media Analytics.
5. To prepare the Students to become entrepreneurs, creating Employability, professionals with Media Ethics and Researcher questing for New Dimensions of Societal issues.

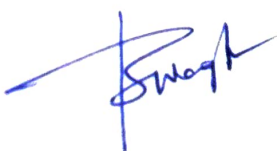



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5. PROGRAMME EDUCATIONAL OUTCOMES (PEO):

On successful completion of B.Sc. (GA), Students shall be able to

1. Understand and identify the requirements of various Graphics and Animation elements for a given task.
2. Demonstrate Skills in Designing, and Developing Graphics and Animation Content for Digital Media.
3. Develop competence in understanding the theoretical aspects and choose appropriate platform for implementing any given concept.
4. Analytically explore the Social Media Content in different platforms.
5. Demonstrate Skills to distinguish between work responsibility and accountability in Digital Media Platforms, as an Entrepreneur and an Individual.

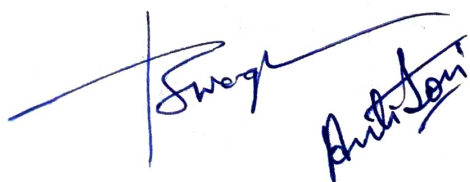

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Makhanlal Chaturvedi National University of Journalism & Communication
(Department of New Media Technology)
B.Sc. (Graphics & Animation)

	Course	Core Course (Compulsory) (CCC) (6Credits)	Core Course (Elective) (CCE) (6 Credits)	Ability Enhancement Compulsory Course (AECC) (3 Credits)	Skill Enhancement Course (SEC) Elective (3 Credits)	Open Elective (3 Credits)	Total Credits
SEM I	1CCC-1	Principles of Art & Design		1AECC-1 Communicative English		(Any one in Each semester From Pool of OE)	24
	1CCC-2	Fundamentals of Multimedia					
	1CCC-3	Basics of Communication					
SEM II	2CCC-4	Digital Photography		2AECC-2 Environmental Studies		(Any one in Each semester From Pool of OE)	24
	2CCC-5	AI for Animation					
	2CCC-6	Layout Design					
SEM III	3CCC-7	Audio Editing	3CCE-1 Website Design OR 3CCE-2 Design Concept & Technology		3SEC-1 Graphics Design	(Any one in Each semester From Pool of OE)	24
	3CCC-8	Script Writing & Storyboarding					
SEM IV	4CCC-9	Digital film making	4CCE-3 Video Editing Or 4CCE-4 Game Design		4SEC-2 Design Thinking and Product Design	(Any one in Each semester From Pool of OE)	24
	4CCC-10	2D Animation					
SEM V	5CCC-11	Augmented and Virtual Reality	5CCE-5 3D Design with MAX OR 5CCE-6 3D Design with MAYA		5SEC-3 Graphics Design for Gaming	(Any one in Each semester From Pool of OE)	24
	5CCC-12	Visual Effects					
SEM VI	6CCC-13	Portfolio Management	6CCE-7 Animation for New Media OR 6CCE-8 UI/UX Design		6SEC-4 IPR & Cyber Security	(Any one in Each semester From Pool of OE)	24
	6CCC-14	Project					
Total Credits		84	24	6	12	18	144

Open Elective Courses offered by Department of New Media Technology	
OE-1	Computer Essentials With AI
OE-2	Digital Content Creation
OE-3	Character Animation
OE-4	Advertising for New Media
OE-5	Data Analytics for Journalism
OE-6	Social Media Data Analytics

- CCC - Core Course Compulsory (CCC) (6 Credits Each)**
CCE - Core Course Elective (CCE) (6 Credits Each, Any One)
AECC - Ability Enhancement Compulsory Course (AECC) (3 Credits Each)
SEC - Skill Enhancement Course (SEC) (3 Credits Each)
OE - Open Elective (3 Credits Each, Any One)



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Programme Structure

Semester – 1

S No	Course	Course ID	Course Name	Credit	Marks			
					Th	P.	IA	Total
1	1CCC-1	1 BSc (GA) 1	Principles of Art & Design	6	50	30	20	100
2	1CCC-2	1 BSc (GA) 2	Fundamentals of Multimedia	6	80	-	20	100
3	1CCC-3	1 BSc (GA) 3	Basics of Communication	6	80	-	20	100
4	1AECC-1	1 BSc (GA) 4	Communicative English	3	40	-	10	50
5	OE-1	1 BSc (GA) 5	Computer Essentials With AI	3	-	40	10	50

Semester – 2

S No	Course	Course ID	Course Name	Credit	Marks			
					Th	P.	IA	Total
1	2CCC-4	2 BSc (GA) 1	Digital Photography	6	50	30	20	100
2	2CCC-5	2 BSc (GA) 2	AI for Animation	6	80	-	20	100
3	2CCC-6	2 BSc (GA) 3	Layout Design	6	50	30	20	100
4	2AECC-2	2 BSc (GA) 4	Environmental Studies	3	40	-	10	50
5	OE-2	2 BSc (GA) 5	Digital Content Creation	3	-	40	10	50

Semester – 3

S. No	Course	Course ID	Course Name	Credit	Marks			
					Th	P.	IA	Total
1	3CCC-7	3 BSc (GA) 1	Audio Editing	6	50	30	20	100
2	3CCC-8	3 BSc (GA) 2	Script Writing & Storyboarding	6	80	-	20	100
3	3CCE-1 3CCE -2	3 BSc (GA) 3	A. Website Design OR	6	50	30	20	100
			B. Design Concept and Technology	6	50	30	20	100
4	3SEC-1	3 BSc (GA) 4	Graphics Design	3	-	40	10	50
5	OE-3	3 BSc (GA) 5	Select any one Course from Open Elective	3	-	40	10	50

Semester – 4

S. No	Course	Course ID	Course Name	Credit	Marks			
					Th	P.	IA	Total
1	4CCC-9	4 BSc (GA) 1	Digital Film Making	6	50	30	20	100
2	4CCC-10	4 BSc (GA) 2	2D Animation	6	50	30	20	100
3	4CCE -3	4 BSc (GA) 3	A. Video Editing OR B. Game Design	6	80	-	20	100
	4CCE -4			6	80	-	20	100
4	4SEC-2	4 BSc (GA) 4	Design Thinking and Product Design	3	-	40	10	50
5	OE-4	4 BSc (GA) 5	Select any one Course from Open Elective	3	-	40	10	50

Semester – 5

S. No	Course	Course ID	Course Name	Credit	Marks			
					Th	P.	IA	Total
1	5CCC-11	5 BSc (GA) 1	Augmented and Virtual Reality	6	50	30	20	100
2	5CCC-12	5 BSc (GA) 2	Visual Effects	6	50	30	20	100
3	5CCE -5	5 BSc (GA) 3	A. 3D Design with MAX OR B. 3D Design with MAYA	6	50	30	20	100
	5CCE -6			6	50	30	20	100
4	5SEC-3	5 BSc (GA) 4	Graphic Design for Gaming	3	-	40	10	50
5	OE-5	5 BSc (GA) 5	Select any one Course from Open Elective	3	-	40	10	50

Semester – 6

S. No	Course	Course ID	Course Name	Credit	Marks			
					Th	P.	IA	Total
1	6CCC-13	6 BSc (GA) 1	Portfolio Management	6	50	30	20	100
2	6CCC-14	6 BSc (GA) 2	Project	6	-	80	20	100

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3	6CCE -7 6CCE -8	6 BSc (GA) 3	A. Animation for New Media OR B. UI/UX Design	6 6	50 50	30 30	20 20	10 0 10 0
4	6SEC-4	6 BSc (GA) 4	IPR & Cyber Security	3	40	-	10	50
5	OE-6	6 BSc (GA) 5	Select any one Course from Open Elective	3	-	40	10	50

Open Electives

S No	Course	Course ID	Course Name	Credit	Marks			
					Th.	P.	IA	Total
1	OE-1	1BSc (GA) 5	Computer Essentials With AI	3	-	40	10	50
2	OE-2	2 BSc (GA) 5	Digital Content Creation	3	-	40	10	50
3	OE-3	3BSc (GA) 5	Character Animation	3	-	40	10	50
4	OE-4	4BSc (GA) 5	Advertising for New Media	3	-	40	10	50
5	OE-5	5BSc (GA) 5	Data Analytics for Journalism	3	-	40	10	50
6	OE-6	6BSc (GA) 5	Social Media Data Analytics	3	-	40	10	50

B.Sc. (GA) Programme Education Outcome (PEOs)/ Programme Graduate Aptitude (PO):

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PO13	PO14	PO15
PE01	3	3	3	3	3	2	2	2	3	3	2	2	1	1	2
PE02	3	3	3	3	3	2	2	3	3	3	3	2	2	3	3
PE03	3	3	3	3	3	2	2	3	3	3	2	2	3	2	3
PE04	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3
PE05	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

Programme Graduate Aptitude (PO):

PO1 Disciplinary Knowledge

PO4 Problem Solving

PO7 Cooperation/Team Work

PO10 Information /Digital Literacy

PO13 Moral and Ethical Awareness/Reasoning

Readiness/Qualities

PO15 Lifelong Learning

PO2 Communication Skills

PO5 Analytical Reasoning

PO8 Scientific Reasoning

PO11 Self-Directed Learning

PO3 Critical Thinking

PO6 Research Related Skills

PO9 Reflective Thinking

PO12 Multicultural Competence

PO14 Leadership

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Mapping Value: 3-Strong 2- Moderate 1-Weak

PO1: Disciplinary Knowledge: Capable of demonstrating comprehensive knowledge and understanding of one or more disciplines that form a part of an undergraduate programme of study.

PO2: Communication Skills: Ability to express thoughts and ideas effectively in writing and orally; Communicate with others using appropriate media; confidently share one's views and express herself/himself; demonstrate the ability to listen carefully, read and write analytically, and present complex information in a clear and concise manner to different groups.

PO3: Critical Thinking: Capability to apply analytic thought to a body of knowledge; analyse and evaluate evidence, arguments, claims, beliefs on the basis of empirical evidence; identify relevant assumptions or implications; formulate coherent arguments; critically evaluate practices, policies and theories by following scientific approach to knowledge development.

PO4: Problem Solving: Capacity to extrapolate from what one has learned and applies their competencies to solve different kinds of non-familiar problems, rather than replicate curriculum content knowledge; and apply one's learning to real life situations.

PO5: Analytical Reasoning: Ability to evaluate the reliability and relevance of evidence; identify logical flaws and holes in the arguments of others; analyse and synthesise data from a variety of sources; draw valid conclusions and support them with evidence and examples, and addressing opposing viewpoints.

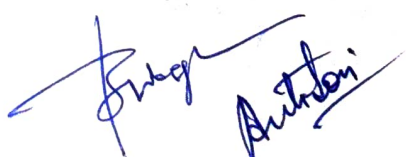
PO6: Research Related Skills: A sense of inquiry and capability for asking relevant/appropriate questions, problematising, synthesising and articulating; Ability to recognise cause-and-effect relationships, define problems, formulate hypotheses, test hypotheses, analyse, interpret and draw conclusions from data, establish hypotheses, predict cause-and-effect relationships; ability to plan, execute and report the results of an experiment or investigation.

PO7: Cooperation/Teamwork: Ability to work effectively and respectfully with diverse teams; facilitate cooperative or coordinated effort on the part of a group, and act together as a group or a team in the interests of a common cause and work efficiently as a member of a team.

PO8: Scientific Reasoning: Ability to analyse, interpret and draw conclusions from quantitative/qualitative data; and critically evaluate ideas, evidence and experiences LOCF 4 from an open-minded and reasoned perspective.

PO9: Reflective Thinking: Critical sensibility to lived experiences, with self awareness and reflexivity of both self and society.

PO10: Information/Digital Literacy: Capability to use ICT in a variety of learning situations, demonstrate ability to access, evaluate, and use a variety of relevant information sources; and use appropriate software for analysis of data.



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PO11: Self-Directed Learning: Ability to work independently, identify appropriate resources required for a project, and manage a project through to completion.

PO12: Multicultural Competence: Possess knowledge of the values and beliefs of multiple cultures and a global perspective; and capability to effectively engage in a multicultural society and interact respectfully with diverse groups.

PO13: Moral and Ethical Awareness/Reasoning: Ability to embrace moral/ethical values in conducting one's life, formulate a position/argument about an ethical issue from multiple perspectives, and use ethical practices in all work. Capable of demonstrating the ability to identify ethical issues related to one's work, avoid unethical behavior such as fabrication, falsification or misrepresentation of data or committing plagiarism, not adhering to intellectual property rights; appreciating environmental and sustainability issues; and adopting objective, unbiased and truthful actions in all aspects of work.

PO14: Leadership Readiness/Qualities: Capability for mapping out the tasks of a team or an organization, and setting direction, formulating an inspiring vision, building a team who can help achieve the vision, motivating and inspiring team members to engage with that vision, and using management skills to guide people to the right destination, in a smooth and efficient way.

PO15: Lifelong Learning: Ability to acquire knowledge and skills, including "learning how to learn", that are necessary for participating in learning activities throughout life, through self-paced and self-directed learning aimed at personal development, meeting economic, social and cultural objectives, and adapting to changing trades and demands of work place through knowledge/skill development/reskilling.

1 B.Sc. (GA) 1**1CCC-1: Principles of Art and Design**

Theory	50	Practical	30	Internal	20	Credits	6
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COURSE OBJECTIVES

1. To understand the fundamental concepts, elements, principles, and significance of Art and Design in society, culture, and industry.
2. To develop observation, drawing, visual communication, creativity, critical thinking, and aesthetic appreciation skills.
3. To explore traditional, contemporary, and digital art practices along with various artistic techniques and media.
4. To gain practical skills in sketching, illustration, typography, and the use of digital art and design tools.
5. To create original and effective artworks by integrating traditional and digital media with creative design principles.

COURSE OUTCOMES

1. Demonstrate an understanding of the elements, principles, and aesthetics of Art and Design in creating visual compositions.
2. Apply drawing, sketching, and visual communication techniques to effectively express creative ideas.
3. Create original artworks and design solutions using both traditional and digital media.
4. Analyze and evaluate artworks and design compositions using artistic, aesthetic, and design principles.
5. Utilize illustration, typography, and digital design software to produce professional-quality visual content for diverse applications.

UNIT-1	Fundamentals of Art and Design	L	T	P
1.1	Introduction to Art and Design, Definition, Nature and Purpose of Art, History of Art, Contemporary Art Practices (Lecture, Practical, Demonstration)	2	-	1
1.2	Visual and Performing Arts, Introduction to Visual Arts, Performing Arts and their Applications. (Lecture, Practical, Demonstration)	1	2	1
1.3	Elements of Art, Point, Line, Shape, Form, Space, Texture and Value. (Lecture, Practical, Demonstration)	2	1	-
1.4	Color Theory and Composition, Colour Wheel, Colour Harmony, Contrast, Tone, Proportion and Visual Composition. (Lecture, Practical, Demonstration)	2	1	2

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1.5	Principles of Design Unity, Balance, Rhythm, Harmony, Emphasis, Movement and Perspective. (Lecture, Practical)	2	-	1
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UNIT-2	Types of Art and Visual Communication	L	T	P
2.1	Calligraphy and Typography Lettering, Typography, Composition and Layout Design. (Lecture, Practical, Demonstration)	2	-	1
2.2	Graphic Communication Logo Design, Posters, Magazine Layouts, Advertisements and Branding Basics. (Lecture, Practical)	1	2	1
2.3	Drawing Studies Aesthetic Studies, Shading Techniques, Object Drawing, Human Anatomy Basics, Memory Drawing and Model Drawing. (Lecture, Demonstration)	2	1	1
2.4	Cartooning and Caricature Definition, History, Types of Cartoons, Caricatures and Famous Indian Cartoonists. (Lecture, Demonstration)	2	1	1
2.5	Traditional and Folk Art Forms Warli, Madhubani, Gond, Kalamkari and Other Indian Folk Art Forms. (Lecture, Practical)	2	-	1

UNIT-3	Techniques of Drawing	L	T	P
3.1	Fundamentals of Drawing Definition, Techniques, Areas of Application and Drawing Tools. (Lecture, Practical, Demonstration)	2	-	1
3.2	Drawing Tools and Materials Pencil, Charcoal, Ink Pens, Markers and Their Uses. (Lecture, Practical, Demonstration)	1	2	1
3.3	Observation and Perspective Drawing Difference between Photography and Drawing, One-Point and Two-Point Perspective. (Lecture, Practical, Demonstration)	2	1	-

UNIT-3	Techniques of Drawing	L	T	P
3.4	Media and Rendering Techniques Pencil Rendering, Wax Colours, Water Colours and Mixed Media Techniques. (Lecture, Demonstration)	2	1	2
3.5	Creative Composition Portrait Drawing, Landscape Composition and Creative Themes. (Lecture, Demonstration)	2	-	1

UNIT-4	Sketching and Illustration	L	T	P
4.1	Introduction to Sketching Definition, Types and Applications of Sketching. (Lecture, Practical, Demonstration)	2	-	1
4.2	Tools and Techniques of Sketching Sketching Materials, Observation Skills and Visual Recording. (Lecture, Practical)	1	2	1
4.3	Practical Sketching Use of Colors, Light and Shade, Quick Sketching Techniques. (Lecture, Practical)	2	1	1
4.4	Converting Photographs into Sketches Traditional and Digital Methods. (Lecture, Demonstration)	2	1	1
4.5	Storytelling through Illustration Comic Strips, Pocket Cartoons, Character Development and Visual Narratives. (Lecture, Demonstration)	2	-	1

UNIT-5	Digital Illustration using Adobe Illustrator	L	T	P
5.1	Introduction to Digital Illustration Raster and Vector Graphics, Applications of Adobe Illustrator, Interface and Workspace. (Lecture, Practical)	2	-	1
5.2	Illustrator Tools and Panels Toolbox, Layers, Artboards, Selection Tools, Shape Tools and Properties Panel. (Lecture, Practical, Demonstration)	1	2	1

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5.3	Vector Drawing Techniques Pen Tool, Anchor Points, Paths, Shape Builder Tool and Text Tools. (Lecture, Practical, Demonstration)	2	1	1
5.4	Typography and Graphic Design Type on Path, Poster Design, Logo Design and Layout Composition. (Lecture, Practical, Demonstration)	2	-	1
5.5	Colour, Export and Portfolio Development Colour Modes (RGB and CMYK), File Formats, Exporting Artwork and Introduction to AI-Assisted Creative Features. (Lecture, Demonstration)	2	1	1

Practical / Projects/Assignments:

1. Prepare a 12-hue colour wheel with tints and shades, along with 3 visual composition charts demonstrating Symmetry, Contrast, and Rhythm using traditional media.
2. Design a hand-drawn logo and an A3 brand poster integrating traditional Indian folk art styles (Warli/Madhubani/Gond) with modern typography.
3. Draw two perspective observation studies (1-Point interior and 2-Point exterior) and one fully shaded still-life object composition using graphite pencils or charcoal.
4. Create a character turnaround sheet (Front, 3/4th, and Side views) and a 6-panel comic strip or storyboard narrative. (Mapped to Unit 4)
5. Develop a print-ready vector logo or illustration in Adobe Illustrator using the Pen Tool, shape builders, and AI-assisted recoloring features, exported in CMYK format (.pdf / .png).

Suggested readings

1. Das, B. (2024). Visual communication and graphic design in India: Principles and practice. Oxford University Press India.
2. Gurney, J. (2010). Color and light: A guide for the realist painter. Andrews McMeel Publishing.
3. Mulick, M. (2004). Perspective. Jyotsna Prakashan.
4. Ocvirk, O. G., Stinson, R. E., Wigg, P. R., Bone, R. O., & Cayton, D. L. (2012). Art fundamentals: Theory and practice (12th ed.). McGraw-Hill Education.
5. Singhania, N. (2023). Indian art and culture (5th ed.). McGraw Hill Education India.

E-resources

1. e-PG Pathshala (MHRD / UGC India)
<https://epgp.inflibnet.ac.in> — Open-access curriculum modules for undergraduate and postgraduate Fine Arts and Visual Communication.
2. SWAYAM (Government of India)
<https://swayam.gov.in> — National portal hosting online courses on Art History, Visual Communication, Graphic Design, and Digital Illustration.
3. NPTEL — Humanities and Social Sciences (Art & Design Division)
<https://nptel.ac.in> — IIT and IISc course materials covering Visual Design, Drawing Fundamentals, and Typography.
4. Google Arts & Culture

<https://artsandculture.google.com> — High-resolution digital archives, virtual gallery tours, and historical art study collections.

5. Draw box (Drawing & Spatial Fundamentals)

<https://drawabox.com> — Structured exercises focusing on perspective, spatial reasoning, and mark-making mechanics.

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1 B.Sc. (GA) 2**1CCC-2 Fundamentals of Multimedia**

Theory	80	Practical	-	Internal	20	Credits	5
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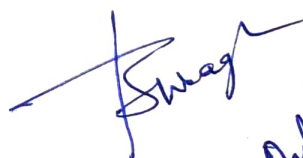
COURSE OBJECTIVES

1. To provide a comprehensive understanding of multimedia principles and components.
2. To explore the multimedia production workflow from concept to delivery.
3. To develop critical awareness of multimedia design principles and communication strategies.
4. To examine contemporary trends such as AI in media, short-form content, and immersive media.
5. To analyze the impact and application of multimedia in various domains like education, advertising, journalism, and entertainment.

COURSE OUTCOMES:

1. Define and describe the structure and applications of multimedia
2. Understand multimedia elements and their role in communication
3. Explain the production pipeline from pre-production to publishing
4. Critically evaluate multimedia content based on design, narrative, and purpose
5. Identify current trends in multimedia platforms and technologies

Unit 1	Introduction to Multimedia	L	T	P
1.1	Definitions and scope of multimedia (Lecture, Discussion, Assignment)	2	1	-
1.2	Types of multimedia: linear, non-linear, interactive (Lecture, Discussion, Participation)	2	1	-
1.3	Elements of multimedia: text, audio, video, images, animation (Lecture, Discussion, Practice)	2	1	-
1.4	Multimedia delivery platforms: web, mobile, AR/VR, OTT (Lecture, Discussion, Practice, Assignment)	2	1	-
1.5	Introduction to file formats and media standards (Lecture, Discussion, Quiz)	2	1	-


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Unit 2	Design Principles in Multimedia Communication	L	T	P
2.1	Visual design basics: layout, balance, contrast, alignment, repetition, proximity (Lecture, Discussion, Practice, Assignment)	2	1	-
2.2	Typography and color theory: readability, branding, psychological effects (Lecture, Discussion, Practice, Assignment)	2	1	-
2.3	Storytelling in multimedia: narrative arcs, visual narrative (Lecture, Discussion, Practice)	2	1	-
2.4	Image Ethics and Visual Manipulation, Responsible use of photo editing Deepfakes, AI-altered images, and visual misinformation (Lecture, Discussion, Practice)	2	1	-
2.5	Social Media Visual Trends Visual content styles across platforms (Instagram, Pinterest, LinkedIn) Thumbnail design, carousel layout, meme design ethics (Lecture, Discussion, Group activity)	2	1	-

Unit 3	Text and Graphics	L	T	P
3.1	Text - Introduction, Standards - ASCII, Unicode, Fonts (Lecture, Discussion, Practice)	2	1	-
3.2	Graphics - Introduction, Types, Color and color models, digital images (Lecture, Discussion, Practice, Assignment)	2	1	-
3.3	Image processing, Graphic file formats (Lecture, Discussion, Practice, Quiz)	2	1	-
3.4	Graphics input and output devices (Lecture, Discussion, Assignment)	2	1	-
3.5	Graphics Software (Lecture, Discussion, Practice)	2	1	-

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Unit 4	Audio and Video	L	T	P
4.1	Audio - Introduction, attributes, Mono V/s Stereo audio, audio channels (Lecture, Discussion)	2	1	-
4.2	Analog V/s Digital audio, Musical Instrument Digital Interface (MIDI), File formats (Lecture, Practice)	2	1	-
4.3	Audio recording and editing - hardware and software, Podcasting, Digital Radio (Lecture, Practice)	2	1	-
4.4	Video - Introduction, Video frames and frame rate, video recording and editing - hardware and software, File formats (Lecture, Discussion, Practice)	2	1	-
4.5	Animation - Introduction, Principles, Types and Uses, Animation Software (Lecture, Discussion, Practice)	2	1	-

Unit 5	Emerging Trends in Multimedia	L	T	P
5.1	Artificial Intelligence in media creation: generative art, deepfakes, AI voice (Lecture, Discussion)	2	1	-
5.2	Short-form video storytelling (Reels, Shorts): structure and style (Lecture, Discussion, Practice)	2	1	-
5.3	Multimedia for immersive experiences: AR filters, VR, gamification (Lecture, Discussion, Practice)	2	1	-
5.4	Motion graphics and kinetic typography (Lecture, Discussion)	2	1	-
5.5	Cloud-based design and collaborative platforms (Canva, Figma) (Lecture, Discussion)	2	1	-


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Practical / Projects/Assignments:

1. To prepare a multimedia element project.
2. To prepare a project of graphics file format.
3. To develop an Audio Storytelling project.
4. To identify types of Animation.
5. To prepare a list of web elements.

Suggested Readings:

1. Banerji, A., & Ghosh, A. M. (2022). *Multimedia technologies*. McGraw Hill India.
2. Godse, A. P., & Godse, D. A. (2021). *Computer graphics and multimedia*. Technical Publications.
3. Mukhopadhyay, A. (2022). *Introduction to computer graphics and multimedia*. Vikas Publishing.
4. Parekh, R. (2021). *Principles of multimedia* (4th ed.). McGraw Hill India.
5. Thareja, R. (2023). *Multimedia and web technology*. Oxford University Press India.

E- Resources:

1. Li, Z., & Drew, S. (2004). Fundamentals of Multimedia [Ebook]. Pearson Education International.
2. Parekh, Ranjan. (2012). 2012: Principles of Multimedia (2/e)
3. https://www.strumentimusicali.net/manuali/SONY_SOUNDFORGEPRO10_ENG.pdf
4. Sony Soundforge Pro Manual
5. https://ocw.mit.edu/?utm_source

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19
HOD NMT

1 B.Sc. (GA) 3**1CCC-3: Basics of Communication**

Theory	80	Practical	-	Internal	20	Credits	6
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COURSE OBJECTIVES:

1. To introduce the fundamental concepts, elements, processes, and functions of communication.
2. To develop an understanding of human, interpersonal, social, and cultural communication.
3. To familiarize students with different types, forms, modes, and skills of communication.
4. To identify communication barriers and develop strategies to overcome them.
5. To introduce major communication theories and models and their practical applications.

COURSE OUTCOMES:

1. Student will explain the basic concepts, elements, processes, and functions of communication.
2. Student will describe the role of human and interpersonal communication in society and culture.
3. Student will demonstrate effective verbal, non-verbal, listening, and interpersonal communication skills.
4. Student will identify communication barriers and suggest appropriate ways to overcome them.
5. Student will apply communication theories and models to analyze real-life and contemporary communication situations.

UNIT-1	Communication Basics	L	T	P
1.1	Communication: Definitions, Meaning and Scope (Lecture, Discussion)	3	-	-
1.2	Elements, Process and Functions of Communication (Lecture, Discussion and Participation)	3	1	-
1.3	Communication, Information, Language and Meaning (Lecture and Participation)	3	1	-
1.4	Communication and Society: Social Groups, Social Interaction and Social Relationships (Lecture, Group activity)	3	-	-
1.5	Essentiality of Communication in Social Groups (Lecture, Participation, Quiz)	3	1	-

UNIT-2	Human Communication	L	T	P
2.1	Communication: Meaning, Nature, Characteristics and Elements (Lecture and Assignment)	3	1	-
2.2	Socialization and Role of Communication in Socialization (Lecture, Discussion)	3	-	-
2.3	Essentials of Communication to Build the Society (Lecture and Group Activity)	3	1	-
2.4	Mutual Dependency of Language and Communication (Lecture, Practice, Assignment)	3	1	-
2.5	Culture and Communication: Intercultural Communication and Cultural Contexts (Lecture, Discussion)	3	-	-

UNIT-3	Types and Skills of Communication	L	T	P
3.1	Types of Communication: Intrapersonal, Interpersonal, Group and Mass Communication (Lecture and Practical)	3	1	-
3.2	Verbal and Non-Verbal Communication: Body Language, Facial Expressions, Gestures, Eye Contact and Posture (Lecture, Discussion)	2	1	-
3.3	Oral, Written and Visual Communication: Signs, Symbols and Codes (Lecture, Group Activity)	3	1	-
3.4	Communication Skills: Speaking, Presentation Skills, Communication Etiquette and Professional Communication (Lecture, Discussion)	3	1	-
3.5	Listening Skills: Importance, Types of Listening and Developing Effective Listening Habits (Lecture, Group activity)	2	1	-

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UNIT-4	Communication Barriers & Modes	L	T	P
4.1	Barriers to Communication: Physical, Semantic, Psychological, Cultural, Organizational and Technological Barriers (Lecture, Discussion)	3	1	-
4.2	Strategies for Effective Communication and Overcoming Communication Barriers (Lecture, Group activity)	3	-	-
4.3	Traditional Modes of Communication: Folk Media, Oral Traditions, Storytelling, Theatre and Community Communication (Lecture, Assignment, In Class Exercise)	3	-	-
4.4	Electronic and Digital Communication: Telephone, Mobile Communication, Email, Video Conferencing and Social Media (Lecture, Discussion)	3	1	-
4.5	Internet, Multimedia and Digital Communication: Opportunities, Challenges, Digital Etiquette and Media Literacy (Lecture, Discussion)	3	1	-

UNIT-5	Communication (Theories & Models)	L	T	P
5.1	Introduction to Communication Theories and Models: Meaning, Nature and Importance	3	1	-
5.2	Basic Communication Models: Aristotle, Lasswell and Shannon-Weaver Models	3	1	-
5.3	Interactive and Transactional Models: SMCR, Osgood-Schramm and Transactional Model of Communication	3	1	-
5.4	Selected Mass Communication Theories: Uses and Gratifications, Agenda Setting and Cultivation Theory	2	1	-
5.5	Contemporary Perspectives: Gatekeeping, Selective Exposure and Sadharanikaran Model of Communication	2	1	-

Suggested Practical Activities/Assignments:

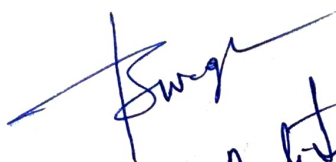
1. Analysis of a Real-Life Communication Situation Using a Communication Model.
2. Digital Communication and Email Etiquette Exercise.
3. Case Study: Miscommunication and Its Consequences.
4. Identify three real-life communication barriers experienced in daily life or online communication and suggest practical solutions.
5. Record a short self-introduction or two-minute speech and evaluate your verbal and non-verbal communication skills.

Suggested Readings

1. Baran, S. J. (2019). *Introduction to mass communication: Media literacy and culture* (10th ed.). McGraw-Hill Education.
2. DeVito, J. A. (2016). *The interpersonal communication book* (14th ed.). Pearson.
3. Kumar, K. J. (2012). *Mass communication in India* (4th ed.). Jaico Publishing House.
4. Littlejohn, S. W., Foss, K. A., & Oetzel, J. G. (2017). *Theories of human communication* (11th ed.). Waveland Press.
5. McQuail, D., & Deuze, M. (2020). *McQuail's media and mass communication theory* (7th ed.). SAGE Publications.

Suggested E-Resources:

1. Government of India. (n.d.). *SWAYAM: Study webs of active-learning for young aspiring minds*. <https://swayam.gov.in>
2. University Grants Commission. (n.d.). *e-PG Pathshala*. <https://epgp.inflibnet.ac.in>
3. Ministry of Education, Government of India. (n.d.). *National Digital Library of India*. <https://ndl.iitkgp.ac.in>
4. Ministry of Education, Government of India. (n.d.). *SWAYAM Prabha*. <https://www.swayamprabha.gov.in>
5. UNESCO. (n.d.). *Communication and information*. <https://www.unesco.org/en/communication-information>


Amita






23
HOD NMT

1 B.Sc. (GA) 4
1AECC-1: Communicative English

Theory	40	Practical	-	Internal	10	Credits	3
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COURSE OBJECTIVE

1. To improve basic Grammar and essential of language skills
2. To train to identify the nuances of Phonetics, intonation, and enhance pronunciation skills
3. To enable students to practice modern usage of English as it is spoken and written today, with speech practice, reading passages, and comprehension
4. To enhance English vocabulary and Language Proficiency
5. To enable students to acquire a basic knowledge of phonetics required for effective communication

COURSE OUTCOMES

1. Use Grammatical English and the essentials of language skills and identify the numbers of phonetics, intonation, and flawless pronunciation
2. Implement English Vocabulary at command and Language Proficiency
3. Identify common errors in Spoken and Written Communication
4. Understand and Improve the Nonverbal Communication and Kinesics
5. Perform well in campus recruitment, engineering, and all other general competitive examinations

UNIT-1	Introduction to Sentence and Grammar	L	T	P
1.1	Sentences: Simple, Compound, Complex, Assertive, Interrogative, Imperative, Exclamatory (Lecture, Practice)	1	1	-
1.2	Clauses: Co-ordinate, Sub-ordinate, Relative, Adverb, Comparative (Adverb + Adjective) Articles: Usage of 'A', 'AN', 'THE' Preposition (Lecture, Practice)	1	1	-
1.3	Position of Prepositions, Place Relations Time Relations and other relations (Lecture, Practice)	1	1	-
1.4	Basic English Grammar and Part of Speech- Noun, Pronoun (Lecture, Practice)	1	1	-
1.5	Adjective, Verbs, Adverbs, Preposition, Articles, Conjunctions (Lecture, Practice)	1	-	-

UNIT-2	Tenses	L	T	P
2.1	The Sequence of Tenses, Tenses: Simple Present (Lecture, Practice)	1	1	-
2.2	Progressive Perfect (Lecture, Practice)	1	1	-
2.3	Present Perfect Progressive along-with Past Tense (Lecture, Practice)	1	1	-
2.4	Indications of futurity, Reported speech Modals (Will, Shall, Would and Other) (Lecture, Practice)	1	1	-
2.5	Voice: Active and Passive (Lecture, Practice)	1	-	-

UNIT-3	Introduction to Listening Skills and Phonetics	L	T	P
3.1	Introduction to Phonetics, Sound Mispronounced, Silent and Non silent letter (Lecture, Practice)	1	1	-
3.2	Homonyms, Aspiration, Pronunciation of The, word ending age, some Plural forms (Lecture, Practice)	1	1	-
3.3	Articles: Use of articles-Indefinite an Definite Articles (Lecture, Practice)	1	1	-
3.4	Speech Sound: Vowels and Consonants: Exercises on it, Propositions Kind of Proposition and Prepositions often Confused (Lecture, Practice)	1	1	-
3.5	Word Accent - Rules for Word Accent, Stress Shift, Question Tags, Question Tags for Assertive Sentences, One word Substitutes and Exercises (Lecture, Practice)	1	-	-

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UNIT-4	Comprehension of Unseen Passage, Vocabulary and Speaking Skills	L	T	P
4.1	Short answer type questions to test understanding of the passage (Lecture, Practice)	1	1	-
4.2	Usage of Dictionary and Thesaurus, Diction - Words meaning and Usage (Lecture, Practice)	1	1	-
4.3	Spelling rules, Verb patterns, Idioms and Phrases , Common error in Spellings and Sentences (Lecture, Practice)	1	1	-
4.4	Words formation, Strong and Weak forms of words, Extempore and Public Speaking (Lecture, Practice)	1	1	-
4.5	Information Transfer, Listening Comprehension, Common Errors in Pronunciation (Lecture, Practice)	1	-	-

UNIT-5	Paragraph Writing	L	T	P
5.1	Paragraph writing based on expansion of given ideas. Note-taking/Note-making (Lecture, Practice)	1	1	-
5.2	Introducing oneself and others, Letter Formats & writing (Lecture, Practice)	1	1	-
5.3	Dialogue speaking and writing in different situations (Lecture, Practice)	1	1	-
5.4	Developing the ability to question and answer in a discourse (Lecture, Practice)	1	1	-
5.5	Practice of Introducing to an Interview board, Emergence of new English's (Lecture, Practice)	1	-	-

Practical/Projects/Assignments:

1. Creating a Digital Profile – LinkedIn (Resume/Video Profile)
2. Word Games
3. Writing Slogans
4. Role Play
5. Extempore and Debates
6. Writing Picture Stories

Suggested Readings:

1. Agarwal, M. (2021). *Modern English communication*. Cambridge University Press India.
2. Koneru, A. (2022). *Professional speaking and writing skills*. McGraw Hill India.
3. Kumar, S., & Lata, P. (2022). *Communication skills* (3rd ed.). Oxford University Press India.
4. Popat, P. (2023). *English language and professional communication*. Pearson India.
5. Raman, M., & Sharma, S. (2021). *Technical communication: Principles and practice*. Oxford University Press.

E-Resources:

1. Basic English Grammar rules with example sentences accessed at <https://basicenglishspeaking.com/basic-english-grammar-rules/>
2. Basic English Grammar rules accessed at <https://grammar.yourdictionary.com/grammar-rules-and-tips/basic-english-grammar-rules.html>
3. English Grammar accessed at <https://www.englishgrammar101.com/>
4. Basics of English Grammar accessed at <https://www.talkenglish.com/grammar/grammar.aspx>
5. Complete Handbook of English Grammar accessed at <https://www.learngrammar.net/english-grammar>


Anshu





27

HOD NMT

1 B.Sc GA 5

OE 1- Computer Essentials With AI

Theory	-	Practical	30	Internal	10	Credits	2
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COURSE OBJECTIVES

1. Identify various components of the computer.
2. Acquaint the students with the application of computers and understanding the latest trends in information technology.
3. To familiarize the student with various office automation software and component of office automation.
4. To make him comfortable to use MS Office Tools.
5. To develop expertise in word processing, spreadsheet, and presentation skills.

COURSE OUTCOMES

1. Use and identify various peripheral devices of the computer.
2. Use the Windows operating system and create files and folders, Printer Setting, Mouse, and keyboard Setting.
3. Create a document in word, Check Spellings, Mail Merges Documents, and Use various features of words.
4. Create an excel sheet, use various formulas, make different types of graphs for given data.
5. Make slides and use of animation and transition effects in PowerPoint presentations.

Unit 1	Computer System Concepts	L	T	P
1.1	Computer System Concepts, Application area, advantage & disadvantage, Components of a computer system -Control unit, ALU, Input/Output, Memory, Mother Board, Generations of computers (Discussion, Practical)	-	1	1
1.2	Types of PC, Primary Vs Secondary Memory, Introduction to Types of Software: Application, System software (Discussion, Practical)	-	-	1
1.3	Computer Network LAN, WAN MAN, Programming Languages: Machine, Assembly, High Level Language, 4GL (Discussion, Practical)	-	-	1
1.4	Translators: Assemblers, Compilers and Interpreter (Discussion, Practical)	-	-	1
1.5	Introduction to AI, History, Definition, and Applications of AI, Types of AI, Definition, Scope, and Goals of AI, Advantages and Limitations of AI (Discussion, Practical)	-	-	1

Unit 2	Operating System (Windows 11)	L	T	P
2.1	Overview of Windows Operating System, Basic Operations-How to Start a computer, Login, Logoff, Shutdown (Discussion, Practical)	-	-	1
2.2	Personalizing Desktop-Desktop Background, Screen Saver, Themes, setting date & time, Task bar, Files & Folders, Create, Copy, Rename, Moving & Delete Files & Folders, Create & Using Shortcuts, Recycle Bin (Discussion, Practical)	-	1	1
2.3	Accessories: MS Paint, Notepad, Windows Media Player, Calculator, Language Settings, add, remove devices and software Programs and fonts, Enhance the performance of computer- using Disk Clean-up, using Disk Defragmenter (Discussion, Practical)	-	-	1
2.4	Introduction to Internet, Browser, WWW and URL, Features of Web Browser. (Discussion, Practical)	-	-	1
2.5	Overview of AI Productivity Tools (ChatGPT, Copilot, Gemini, Notion AI) (Discussion, Practical)	-	-	1

Unit 3	Introduction to MS Office (2013)	L	T	P
3.1	Introduction to MS Word, Features & Area of use. Working with MS Word, Menus & Commands, Ribbon, Toolbars & Buttons, Shortcut Menus, Wizards & Templates, Different Page Views and layouts (Discussion, Practical)	-	-	1
3.2	Applying various Text Enhancements- Fonts, Styles, Text Attributes, Formatting Text and Documents: Auto format, Paragraph and Page Formatting (Discussion, Practical)	-	-	1
3.3	Line spacing, Margins, Borders and Shading, Tabs and Indents, Text Editing using various features, Bullets, Numbering, Spell Check Working with Headers and Footers, Find & Replace (Discussion, Practical)	-	1	1
3.4	Mail-Merge. Tables: Creating a simple table, working with table, Conversion of text to table (Discussion, Practical)	-	-	1
3.5	Introduction to Google Docs, Smart Compose Editor and AI Summarizer (Discussion, Practical)	-	-	1

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Unit 4	Graphics in MS-Word	L	T	P
4.1	Importing graphics, Clipart, insert picture, Using Clip Art, Shapes and SmartArt in documents, using drawing features, drawing objects, text in drawing (Discussion, Practical)	-	-	1
4.2	Taking and inserting Screenshots in Documents, Using WordArt and Drop Cap features in documents. Using AI tools for grammar checking and content suggestions (Discussion, Practical)	-	-	1
4.3	MS PowerPoint: Introduction & area of use, working with MS PowerPoint, creating a New Presentation, Using Wizards (Discussion, Practical)	-	-	1
4.4	Slides & its different views, Inserting, Deleting and Copying of Slides; Using Animation and Transitions (Discussion, Practical)	-	1	1
4.5	Overview of AI Tools for Presentation (Beautiful.ai, Tome, Canva), Generate an AI-based presentation using online tools (Discussion, Practical)	-	-	1

Unit 5	MS Excel Spreadsheet	L	T	P
5.1	Basics & features, concepts of Workbook & Worksheets, Using Wizards, Various Data Types, selecting cells, Entering and editing text, Entering and editing Numbers (Discussion, Practical)	-	-	1
5.2	Removing & Resizing of Columns & Rows, entering and editing Formulas, referencing cells, moving cells, Copying Cells, Sorting Data, Inserting Rows, Inserting Columns, inserting cells, Deleting parts of a worksheet, Different Views of Worksheets(Discussion, Practical)	-	-	1
5.3	Formatting: Page setup, Cell Formatting, changing column widths and Row heights, auto format, changing font sizes and Attributes, centering text across columns, using border buttons and Commands (Discussion, Practical)	-	-	1
5.4	Changing colors and shading, hiding rows and columns, Working with Data & Ranges, Column Freezing, Labels, Hiding, Splitting, merging etc. Charts in excel, working with Chart, different types of charts (Discussion, Practical)	-	-	1
5.5	Introduction to Copilot, Using AI in Excel: Data Insights, Trend Prediction, AI Formulas, and Chat-based Analysis, Using AI features like "Analyze Data" and Chat GPT for formula generation (Discussion, Practical)	-	1	1

Practical / Projects/Assignments:

Load Microsoft Word & type the following text and do the following tasks:

Television

How does television affect our lives? It can be very helpful to people who carefully choose the shows that they watch. Television can increase our knowledge of the outside world, there are high quality programmers that helps us to understand many fields of study, science, medicine, the arts and so on. Moreover, television benefits very old people, who can't often leave the house as well as patients in hospitals. It also offers non-native speakers the advantage of daily informal language practice. They can increase their vocabulary and practice listening.

On the other hand, there are several serious disadvantages of television. Of course, it provides us with a pleasant way to relax and spend our free time, but in some countries, people watch the 'blood tube' for an average of six hours or more a day. Many children stare at a television screen for more hours each day than they do anything else including studying & sleeping. It's clear that the tube has a powerful influence on their lives and that its influence is often negative.

- a. Save your work as "Television" on Desktop.
- b. Set the heading: Font Times New Roman Size 18, align Centre & Bold,
- c. Set the remaining text with font Calibri & size 12
- d. Underline the heading & change all letters to uppercase
- e. Run the spell checker.
- f. Apply indentation to the first line of the second paragraph
- g. Change the line spacing of the paragraphs to 1.5.
- h. Replace the word "screen" with monitor.
- i. Apply a 6pt width page border to the document
- j. Change the Page orientation to Landscape
 1. Type the given text in similar format using list in the word:
 1. Select the first, then hold CTRL whilst selecting the rest
 - Right click on them
 - Double click on them
 - Use the TAB button
 2. How do you get capital letters using just one finger?
 - Use the SHIFT LOCK key
 - Use the TAB key
 - Use the ESCAPE key
 - Use the CTRL key
 3. What is the short cut for copying data to the clipboard?
 - CTRL + C
 - CTRL + X
 - CTRL + Z
 - CTRL + V

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2. Create a table as shown below.

Student Name		Marks1	Marks2
First Name	Last Name		

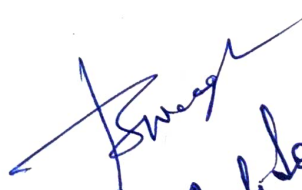
1. Enter the detail in the table
 - a) Insert one row after Marks 2 and name its heading as Total
 - b) Calculate total of Marks1 & Marks2 and enter in Total Column
 - c) Bold the Student Name, Marks1, Marks2 ,& Total
3. Send a letter to your classmates using mail merge.
4. Write about introduction of computer and insert pictures related to it.
5. Open Microsoft Excel and perform the following
 - a. Input experimental data into Microsoft Excel worksheet.
 - b. Properly format and organize data inserted.
 - c. Perform calculations using built-in functions.
 - d. Generate simple and effective tables and graphs
 - e. Integrate both graphs and tables created in MS Excel into MS Word document.
6. Make Power Point Slides to explain various input and output devices.
7. Make Power Point Slides to show various tourist places of Madhya Pradesh.
8. Apply text and slide transitions
9. Insert image & sound file in Presentation
10. Create a project report using MS Word + AI summarizer
11. Develop a sales report and analyze it using Excel + AI insights
12. Prepare a multimedia presentation with AI design tools
13. Create a student database using MS Access and connect it to Excel
14. Use AI assistant (ChatGPT/Copilot) to automate office workflows

Suggested Readings:

1. Balagurusamy, E. (2023). *Fundamentals of computers and AI integration*. McGraw Hill India.
2. Bansal, S. (2024). *Digital literacy and AI tools for students*. PHI Learning.
3. Goel, A. (2021). *Computer fundamentals and modern computing*. Pearson India.
4. Sinha, P. K. (2022). *Computer fundamentals with AI concepts* (7th ed.). BPB Publications.
5. Thareja, R. (2022). *Fundamentals of computers and modern AI*. Oxford University Press India.

E-Resources:

1. https://www.tutorialspoint.com/computer_fundamentals/index.html
2. https://www.tutorialspoint.com/word/word_getting_started.html
3. <http://www.apcce.gov.in/doc/04.MS%20Excel.pdf>
4. <https://www.tutorialspoint.com/powerpoint/>
5. <https://www.tutorialspoint.com/windows10/>


Swagata





33

HOD NMT

2 B.Sc. (GA) 1
2CCC-4: Digital Photography

Theory	50	Practical	30	Internal	20	Credits	6
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COURSE OBJECTIVES

1. To acquaint students with knowledge of the digital camera
2. To teach various aspects of lighting and its impact on photography
3. Learn students about different camera lenses and other basic photographic equipment
4. Introduce various aspects of Photography
5. To develop the concept of color and composition in digital photography

COURSE OUTCOMES

1. Define the various theoretical and practical aspects of digital photography
2. Identify the various aspects of a digital camera
3. Apply the usage of light in taking pictures
4. Generate their technical skills for different types of photography
5. Identify the various aspects of different color tones and composition

UNIT-1	Basics of DSLR/SLR Camera	L	T	P
1.1	Evolution of Camera (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	2	-	1
1.2	History of Photography (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	2	1
1.3	Photography Camera basics (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	2	1	1
1.4	Types of DSLR/SLR camera (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	2	1	1
1.5	Parts of DSLR /SLR camera: Lens, Aperture, Shutter, Camera Sensor, ISO Setting (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	2	-	1

UNIT-2	Aesthetics of Photography	L	T	P
2.1	Impact of color in Photography: Association of color moods, hue, and saturation (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	2	-	1


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2.2	Tone, shade, brightness, color contrast, Complementary color (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	2	1
2.3	Rule of Thirds, Balancing Elements, Leading lines (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	2	1	1
2.4	Texture, Viewpoint, Depth of field, Patterns, Color (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	2	1	1
2.5	Symmetry, Background, Compositional Rules (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	2	-	1

UNIT-3	Lighting Technique in Photography	L	T	P
3.1	Color Temperature, White balance (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	2	-	1
3.2	Basic lighting technique, Three point lighting and its effects (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	2	1
3.3	Lighting angles and directions (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	2	1	1
3.4	Lighting for set, Atmosphere (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	2	1	1
3.5	Types of Photography lights (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	2	-	1

UNIT-4	Photography Lenses and Equipment's	L	T	P
4.1	Controlling The Image (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	2	-	1
4.2	Using different Focal Length Lenses, Filters and, its types (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	2	1
4.3	Close up equipment's (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	2	1	1
4.4	Camera mounting device- Tripods, monopod (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	2	1	1

4.5	Storage media, Flash (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	2	-	1
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UNIT-5	Photoshop Software and Types of Photography	L	T	P
5.1	Sports & Action Photography, Portrait Photography, Candid Photography (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	2	-	1
5.2	Product Photography, Wildlife & Nature Photography, Archaeological Photography, Architecture Photography, Aerial Photography (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	1	2	1
5.3	Fundamental photo-editing techniques in Photoshop (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	2	1	1
5.4	Crop and straighten, Improve lighting and color, Remove unwanted content, Add creative effects, Sharpen and save (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	2	1	1
5.5	Non-Destructive Edits With Photoshop Layers, Edit Pictures Using Adjustment Layers, Select Areas with the Marquee and Lasso Tools, Using Masks (Lecture, Discussion, Practice, Demonstration, Assignment, Presentation)	2	-	1

Practical / Projects/Assignments:

1. **Mini Project** with Print Types of Photography:-Nature photography, Product Photography, Portrait Photography, Architecture Photography

2. Camera Handling & Exposure Practice:-

Take a series of 3 photos with varying shutter speeds

Take 3 photos experimenting with aperture and depth of field

ISO test in different lighting conditions (low light, daylight, artificial)

3. Composition Techniques

Apply visual rules and framing creatively

Tasks:- Capture 1 photo for each of the following:-Rule of Thirds, Symmetry or Patterns
Leading Lines, Framing within the Frame, Negative Space.

4 Lighting Techniques:-

Learn how to use natural and artificial light

Tasks:- Portrait in natural light

Portrait using artificial light (lamp, soft box, etc.) Object photo using a 3-point lighting setup

5. Basic Editing and Post-Processing

Objective: Learn digital enhancement using photo editing tools

Tasks:

Edit 3 of your best photos using:

- Crop and straighten
- Brightness/contrast
- Color balance/white balance
- Sharpening and noise reduction

Suggested Readings:

1. Desai, A. (2022). *Visual storytelling through photography*. SAGE India.
2. Kumar, M. (2023). *Adobe Photoshop for Indian photographers*. BPB Publications.
3. Sharma, O. P. (2021). *Practical photography in the digital age*. Hind Pocket Books.
4. Singh, R. (2024). *Mastering digital photography and editing*. Pearson India.
5. Tiwari, P. (2022). *Digital photography and image editing handbook*. MCNUJC Press.

E- Resources:

1. Adobe Lightroom Tutorials
<https://helpx.adobe.com/lightroom-cc/tutorials.html>
2. Adobe Photoshop Tutorials
<https://helpx.adobe.com/photoshop/tutorials.html>
3. Nikon Learn & Explore
<https://www.nikonusa.com/learn-and-explore>
4. SWAYAM
<https://swayam.gov.in>
5. NPTEL
<https://nptel.ac.in>

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2 B.Sc. (GA) 2
2CCC-5: AI for Animation

Theory	50	Practical	30	Internal	20	Credits	6
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COURSE OBJECTIVES

1. To introduce students to the role and applications of Artificial Intelligence in modern animation, design, and creative workflows.
2. To familiarize students with free and user-friendly AI tools for visual content creation, animation, and video editing.
3. To develop practical skills in using AI tools for enhancing creativity, productivity, and workflow efficiency.
4. To enable students to design and produce original animation and storytelling projects using AI-powered tools.
5. To encourage critical evaluation of AI in animation with respect to creativity, ethics, innovation, and professional practice.

COURSE OUTCOMES

1. Explain the role and significance of Artificial Intelligence in modern animation and design workflows.
2. Demonstrate proficiency in using free and user-friendly AI tools for visual content creation, animation, and video editing.
3. Design and develop an original AI-assisted project that showcases animation, storytelling, and creative problem-solving skills.
4. Critically evaluate the application of AI in animation with respect to creativity, ethics, and workflow efficiency.
5. Integrate AI tools effectively into creative projects to enhance speed, quality, innovation, and overall productivity.

UNIT-1	Introduction to AI in Animation & Design	L	T	P
1.1	Overview of AI and its applications in creative industries (Lecture, Practical, Demonstration)	2	-	1
1.2	Evolution of animation: From hand-drawn to AI-assisted workflows (Lecture, Practical, Demonstration)	1	2	1
1.3	Key concepts: Machine learning vs AI, Generative AI, Deepfakes (Lecture, Practical, Demonstration)	2	1	-

1.4	Ethical use of AI in creative content (originality, copyright, deepfakes) (Lecture, Practical, Demonstration)	2	1	2
1.5	Introduction to major free AI platforms (Runway ML, Canva AI, Pika, etc.) (Lecture, Practical)	2	-	1

UNIT-2	AI Tools for Visual Design and Image Generation	L	T	P
2.1	Using DALL·E, Craiyon, and Adobe Firefly for concept art and character creation (Lecture, Practical, Demonstration)	2	-	1
2.2	AI-based enhancement: Remini, Let's Enhance, Fotor AI, Upscale.media (Lecture, Practical)	1	2	1
2.3	Creating design elements using Canva Magic Design and Designify (Lecture, Demonstration)	2	1	1
2.4	Style transfer and image remixing using DeepArt, Paintschainer, and Artbreeder (Lecture, Demonstration)	2	1	1
2.5	Mood board and storyboard generation using Magician for Figma and Promptomania (Lecture, Practical)	2	-	1

UNIT-3	AI-Assisted Animation Techniques	L	T	P
3.1	Text-to-animation tools: Introduction to Pika Labs, Kaiber, and Animaker AI (Lecture, Practical, Demonstration)	2	-	1
3.2	Creating AI-generated motion graphics using Runway ML and Genmo.ai (Lecture, Practical, Demonstration)	1	2	1
3.3	Image-to-animation with EbSynth, Storyboard Hero, and Fliki (Lecture, Practical, Demonstration)	2	1	-

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3.4	Mediums of drawing: Pencils, Wax Colour, Water Colours Face and lip-sync animation using DeepMotion, Wav2Lip, CrazyTalk Animator (Lecture, Demonstration)	2	1	2
3.5	Using Wonder Studio for AI character animation in live-action footage (Lecture, Demonstration)	2	-	1

UNIT-4	AI in Video Editing and Post-production	L	T	P
4.1	Auto video editing with Wisecut, Veed.io, CapCut AI, and Descript (Lecture, Practical, Demonstration)	2	-	1
4.2	Auto background removal and replacement with Unscreen, Runway ML, Remove.bg (for video) (Lecture, Practical)	1	2	1
4.3	AI colour grading and style matching with Autoenhance.ai and LUT generators (Lecture, Practical)	2	1	1
4.4	AI for voice-overs and narration using ElevenLabs, Murf AI, and Lovo.ai (Lecture, Demonstration)	2	1	1
4.5	Subtitles, dubbing, and translation using Veed.io, HeyGen, and Captions.ai (Lecture, Demonstration)	2	-	1

UNIT-5	Creative Workflows and Portfolio Development with AI	L	T	P
5.1	Integrating AI into pre-production, production, and post-production pipelines (Lecture, Practical)	2	-	1
5.2	Combining multiple AI tools into a cohesive animation workflow (Lecture, Practical, Demonstration)	1	2	1


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5.3	Best practices for prompting and customizing AI outputs (Lecture, Practical, Demonstration)	2	1	1
5.4	Building an AI-assisted design/animation portfolio (Lecture, Demonstration)	2	-	1
5.5	Future of animation careers in the AI era:Trends and ethical guidelines (Lecture, Demonstration)	2	1	1

Practical/ Project / Assignment:

1. Develop a comparative study board analyzing generative AI outputs (Runway ML, Canva AI, Pika) versus traditional animation pipelines, including an ethical compliance declaration on copyright and originality.
2. Design a complete visual asset package comprising concept art, character turnaround sheets, and an A3 storyboard layout using Adobe Firefly, Artbreeder, and Figma.
3. Produce a 15–30 second AI-assisted motion sequence demonstrating text-to-video generation, image-to-animation camera moves, and lip-sync audio alignment using Pika Labs, EbSynth, and Wav2Lip.
4. Assemble a fully edited, auto-captioned, and color-graded video reel incorporating AI voice-over narration and dynamic background removal using CapCut AI, ElevenLabs, and Runway ML.
5. Create and document a complete 3-minute AI-assisted animated short video showcasing an integrated pre-production to post-production pipeline, accompanied by a curated digital portfolio

Suggested readings

1. Block, B. (2020). The visual story: Creating the visual structure of film, TV, and digital media (3rd ed.). Routledge.
2. Millington, I. (2019). Artificial intelligence for games (3rd ed.). CRC Press.
3. Parent, R. (2012). Computer animation: Algorithms and techniques (3rd ed.). Morgan Kaufmann.
4. Williams, R. (2012). The animator's survival kit: A manual of methods, principles and formulas for classical, computer, games, stop motion and internet animators (4th ed.). Faber & Faber.
5. Zelman, M. (2023). Generative AI for creative professionals: Tools, techniques, and ethical workflows for visual design and animation. Focal Press.

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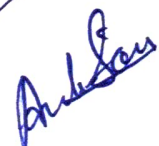
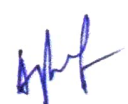
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E- Resources:

1. Runway Academy & Learning Hub <https://academy.runwayml.com> — Official tutorials on generative video models, motion brush techniques, and AI-assisted post-production.
2. Adobe Creative Cloud AI Tutorials <https://helpx.adobe.com/firefly/using/generative-ai-overview.html> — Official technical documentation and workflows for Adobe Firefly, generative fill, and vector recoloring.
3. SWAYAM (Government of India) <https://swayam.gov.in> — National educational portal offering online modules on Computer Graphics, Animation, and Machine Learning applications.
4. NPTEL — Digital Art & Computer Animation Division <https://nptel.ac.in> — IIT and IISc course repository covering foundational 2D/3D animation concepts and digital media processing.
5. Unreal Engine Learning Portal <https://dev.epicgames.com/community/learning> — Real-time rendering, virtual production, and AI-assisted character pipelines.


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2 B.Sc. (GA) 3

2CCC-6: Layout Design

Theory	50	Practical	30	Internal	20	Credits	6
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COURSE OBJECTIVES

1. Create layouts based on the Principles of Design and Page Layout Concepts
2. Develop projects through the design process and methods
3. Evaluate layouts using design vocabulary
4. Understand the tools in Adobe InDesign
5. Identify and apply appropriate tools in Adobe InDesign for producing e-publications

COURSE OUTCOMES

1. Understanding the core principles of design
2. Identify effective and aesthetically pleasing Layout and the relevant design elements associated with it
3. Demonstrate typographic, page layout and document-construction skills
4. Develop Skill to produce print publications like brochures, magazines
5. Develop Skill to produce digital publications like an interactive Adobe PDF with form fields

UNIT-1	Introduction to layout design	L	T	P
1.1	Principles and Elements of Design, Elements of Design: Line, Shape, Color, Texture and Space, Principles of Design: Balance, Contrast, Emphasis, Rhythm and Unity Golden Rules of Design and Visual Composition (Lecture)	2	-	-
1.2	Design Thinking and Visual Communication, Design Vocabulary and Terminology, Design Process and Problem-Solving Methods, Visual Communication Fundamentals (Lecture, Practice)	2	-	1
1.3	Page Layout concepts, Layout and Fundamentals of Page Design (Lecture, Practice)	2	-	2
1.4	Layout Process Golden Section, White Space, and harmonious page formats (Lecture, Practice)	3	-	3
1.5	Grid systems, margins, columns, and alignment Types of Page Layout (Lecture)	3	-	-

UNIT-2	Page Layout in Cross Media World	L	T	P
2.1	Introduction to Cross-Media Design, Print, Web and Mobile Publishing, Cross-Media Communication, Design Consistency Across Platforms (Lecture, Practice)	2	-	1
2.2	Digital Publications and Interactive Content, Interactive E-Books, Digital Magazines, Scrolling Web Pages (Lecture, Practice)	1	-	2
2.3	Interactive Design Elements, Hyperlinks and Navigation, Sound, Animation and Multimedia Elements User Engagement Techniques (Lecture, Practice)	2	-	1
2.4	Motion and Presentation Design, Slideshows and Presentations, Digital Storytelling, Multimedia Content Integration (Lecture, Practice)	3	-	3
2.5	Responsive and Adaptive Layouts, Responsive Design Principles, Layouts for Mobile, Tablet and Desktop, Cross-Platform User Experience (Lecture, Practice)	2	-	1

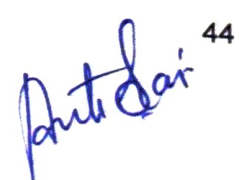
UNIT-3	Adobe InDesign	L	T	P
3.1	Introduction to Adobe InDesign, Interface, Workspace and Tools (Lecture, Practice)	2	-	2
3.2	Document Setup and Page Management, Creating Documents, Working with Pages and Master Pages (Lecture, Practice)	1	-	1
3.3	Working with Text, Text Frames, Flowing Text, Text Formatting (Lecture, Practice)	2	-	2
3.4	Working with Text, Text Frames, Flowing Text, Text Formatting (Lecture, Practice)	2	-	2
3.5	Working with Graphics, Importing Images and Graphics, Text Wrap and Image Placement (Lecture, Practice)	2	-	2


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UNIT-4	Adobe InDesign	L	T	P
4.1	Editing Text, Text Editing, Find and Replace, Spell Check and Text Formatting. (Lecture, Practice)	1	-	2
4.2	Working with Typography, Character Formatting, Paragraph Formatting and Typography Principles. (Lecture, Practice)	2	-	2
4.3	Working with Colour, Colour Models (RGB and CMYK), Swatches and Colour Application. (Lecture, Practice)	2	-	2
4.4	Working with Styles, Character Styles, Paragraph Styles and Object Styles. (Lecture, Practice)	1	-	2
4.5	Importing and Modifying Graphics, Importing Images, Text Wrap, Cropping and Graphic Adjustments. (Lecture, Practice)	2	-	2

UNIT-5	Advanced Publishing using Adobe InDesign	L	T	P
5.1	Creating Tables, Creating and Formatting Tables, Rows and Columns. (Lecture, Practice)	1	-	2
5.2	Working with Transparency, Transparency Effects, Opacity and Blending Options. (Lecture, Practice)	2	-	2
5.3	Printing and Exporting, Preflight, Packaging and Exporting Documents. (Lecture, Practice)	2	-	2
5.4	Interactive PDF Design, Creating Interactive PDF Files, Hyperlinks and Form Fields. (Lecture, Practice)	1	-	2
5.5	Digital Publishing, Fixed Layout EPUB and Digital Publication Workflow. (Lecture, Practice)	2	-	2

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Practical/Projects/Assignments:

1. To understand the fundamental elements and principles of design and their importance in creating effective visual compositions.
2. To understand design vocabulary, visual communication concepts, and the design thinking process.
3. To understand page layout concepts and apply fundamental principles of page design.
4. To apply grid systems, margins, columns, and alignment techniques for professional page layouts.
5. To create a complete professional layout using advanced composition techniques.

Suggested Readings:

1. Yadav, N. S. (2022). *Graphic design*. Rajasthan Hindi Granth Academy. Anubhav Publishing House
2. Agarwal, A. (2023). *Design thinking: A framework for applying design thinking in problem solving*. Cengage India. Somaiya Vidyavihar
3. Ranganathan, K. (2023). *Impactful data visualization: Hide and seek with graphs*. Penguin Business. Penguin Random House India
4. Patel, C. (2023). *Meaning is more: Interior design for India*. CEPT University Press. CCEPT University
5. Das, A. (2022 reprint/latest available edition). *Graphic design basics*. Pearson India.

E- Resources:

1. Adobe InDesign Tutorials
<https://helpx.adobe.com/indesign/tutorials.html>
2. Google Fonts Knowledge
<https://fonts.google.com/knowledge>
3. SWAYAM
<https://swayam.gov.in>
4. NPTEL
<https://nptel.ac.in>
5. Adobe Education Exchange
<https://edex.adobe.com>

2 B.Sc. (GA) 4**2AECC-2: Environmental Studies**

Theory	40	Practical	--	Internal	10	Credits	3
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COURSE OBJECTIVE

1. To demonstrate a congenial learning of Environmental Factors to students
2. To generate in students the awareness about Environmental Problems
3. To define the types of Environmental Ecosystems & its formation to students
4. To associate the knowledge of various Environmental Ethics to students
5. To illustrate to the students the problems relating to the human population on the Environment

COURSE OUTCOMES

1. Recognize various environmental factors
2. Analyze environmental problems
3. Characterize ethical issue for environmental related issue
4. Identity methods to protect environmental
5. Recognize effect to population on environmental

UNIT-1	The Multidisciplinary Nature of Environmental Studies and Natural Resources	L	T	P
1.1	Definition; Scope and importance, Need for public awareness. Natural resources and associated problems. Forest resources: Use and Over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forests and tribal people (Class room lectures)	1	1	-
1.2	Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams benefits and problems (PPTs)	1	1	-
1.3	Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies. Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies (PPTs & Class room lectures)	1	1	-
1.4	Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources, Case studies (PPTs & case study of Microsoft)	1	1	-

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1.5	Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification. Role of an individual in conservation of natural resources. Equitable use of resources for sustainable lifestyles (Class room lectures)	1	-	-
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UNIT-2	Ecosystems, Biodiversity and its Conservation	L	T	P
2.1	Concept, structure and function of an ecosystem, producers, consumers and decomposers, energy flow in the ecosystem, ecological succession, food chains, food webs and ecological pyramids (Class room lectures & PPTs)	1	1	-
2.2	Introduction, types, characteristic features, structure and function of the following ecosystem: - Forest ecosystem, Grassland ecosystem, Desert ecosystem, Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries) (PPTs)	1	1	-
2.3	Biodiversity introduction-Definition: genetic, species and ecosystem diversity. Bio-geographical classification of India. Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values, biodiversity at global, national and local levels, India as a mega-diversity nation, Hot-spots of biodiversity (PPTs & Class room lectures)	1	1	-
2.4	Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts, endangered and endemic species of India (PPTs & Case study related to Kanha Wild life reserve)	1	1	-
2.5	Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity (PPTs & Class room lectures)	1	-	-

UNIT-3	Environmental Pollution	L	T	P
3.1	Definitions. Causes, effects and control measures of: (a) Air pollution (b) Water pollution (c) Soil pollution (d) Marine pollution (e) Noise pollution (f) Thermal pollution (g) Nuclear hazards (PPTs)	1	1	-
3.2	Solid waste Management: Causes, effects and control measures of urban and industrial wastes (PPTs & Class room Lectures)	1	1	-
3.3	Role of an individual in prevention of pollution (PPTs & Class room lectures,)	1	1	-
3.4	Pollution case studies (Case Study)	1	1	-
3.5	Disaster management: floods, earthquake, cyclone and landslides (PPTs & Class room lectures)	1	-	-

UNIT-4	Social Issues and the Environment	L	T	P
4.1	From Unsustainable to Sustainable development. Urban problems related to energy. Water conservation, rain water harvesting, watershed management. Resettlement and rehabilitation of people; its problems and concerns. Case studies (PPTs & Case Studies related to watershed management)	1	1	-
4.2	Environmental ethics: Issues and possible solutions. Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case studies (PPT)	1	1	-
4.3	Wasteland reclamation, Consumerism and waste products (PPT & class room lectures)	1	1	-
4.4	Environment Protection Act- Air (Prevention and Control of Pollution) Act, Water (Prevention and Control of Pollution) Act, Wildlife Protection Act (PPT & class room lectures)	1	1	-

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4.5	Forest Conservation Act, Issues involved in enforcement of environmental legislation, Public awareness (PPT)	1	-	-
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UNIT-5	Human Population and the Environment	L	T	P
5.1	Population growth, variation among nations (PPT & class room lectures)	1	1	-
5.2	Population explosion-Family welfare Program (PPTs)	1	1	-
5.3	Environment and human health (PPTs , class room lectures& GDs)	1	1	-
5.4	Human Rights, Value Education, HIV/AIDS, Women and Child Welfare (PPTs & Class room lectures)	1	1	-
5.5	Role of information Technology in Environment and human health, Case Studies (Class room lectures)	1	-	-

Practical / Projects / Assignments:

1. Project report on ill effects of environmental pollution.
2. Group Study on biotic & a biotic components of environment.
3. Perform a case study on 10 households in your vicinity and mention the type of natural and renewable resources they use or consume on a day-to-day basis.
4. Mention along with photographs and small description of major types of biotic (fauna and Flora (5 each) and a biotic component (minimum 5) that are present in your surrounding areas.
5. Prepare a short story with picture illustrations of the ill effect of environmental pollution in your surrounding areas.

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Suggested Readings:

1. Bharucha, E. (2021). *Textbook of environmental studies for undergraduate courses*. Universities Press.
2. Mishra, A. (2024). *Ecology, environment, and sustainability in India*. Pearson India.
3. Rajagopalan, R. (2022). *Environmental studies: From crisis to cure*. Oxford University Press India.
4. Singh, A. (2022). *Sustainable development and environmental ethics*. Routledge India.
5. Srivastava, S. (2023). *Environmental science and sustainable development*. S.K. Kataria & Sons.

E- Resources:

1. World Wildlife Fund (WWF)
<https://www.worldwildlife.org>
2. National Geographic Environment
<https://www.nationalgeographic.com/environment>
3. SWAYAM
<https://swayam.gov.in>
4. NPTEL
<https://nptel.ac.in>
5. UNESCO – Education for Sustainable Development
<https://www.unesco.org/en/education/sustainable-development>

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2 B.Sc. (GA) 5

OE-2: Digital Content Creation

Theory	00	Practical	40	Internal	10	Credits	3
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COURSE OBJECTIVES

1. To introduce students to the fundamentals, formats, and workflows of digital content creation.
2. To develop practical skills in creating text, visual, audio, video, animation, and multimedia content.
3. To familiarize students with contemporary digital content creation tools and platforms.
4. To develop skills in planning, designing, producing, publishing, and promoting digital content.
5. To introduce students to content strategy, SEO, analytics, and the responsible use of AI tools in digital content creation.

COURSE OUTCOMES

1. Student will explain the fundamentals, formats, and workflow of digital content creation.
2. Student will identify and apply appropriate tools and techniques for creating digital content.
3. Student will create engaging visual, video, infographic, animation, and multimedia content for digital platforms.
4. Student will develop platform-specific digital content using appropriate creative and technical skills.
5. Student will plan, publish, optimize, and evaluate digital content using content strategy, SEO, analytics, and AI-assisted tools responsibly.

UNIT-1	Introduction	L	T	P
1.1	Meaning, Nature and Scope of Digital Content (Discussion)	-	1	-
1.2	Types and Formats of Digital Content: Text, Image, Audio, Video, Infographics, Animation and Interactive Content (Discussion)	-	2	-
1.3	Digital Platforms and Platform-Specific Content (Discussion)	-	1	-
1.4	Digital Media Convergence and Emerging Trends (Discussion, Practice)	-	2	1
1.5	Digital Content Creation Workflow: Ideation, Planning, Production, Editing, Publishing and Promotion (Discussion, Practice)	-	1	1

UNIT-2	Content Planning and Creation	L	T	P
2.1	Identifying Purpose, Objectives and Content Ideas (Discussion, Practice)	-	1	-
2.2	Understanding Target Audience (Discussion)	-	2	-

2.3	Creating Engaging and Quality Digital Content (Discussion, Practice)	-	1	2
2.4	Content Writing and Visual Storytelling for Digital Platforms (Discussion, Assignment)	-	1	-
2.5	Platform-Specific Content Planning (Discussion, Practice)	-	1	1

UNIT-3	Visual and Video Content Creation	L	T	P
3.1	Digital Image Creation and Editing Tools (Discussion, Practice)	-	1	1
3.2	Principles of Visual Design: Composition, Colour, Typography and Branding (Discussion, Practice)	-	1	1
3.3	Digital Photography and Image Optimization (Discussion, Practice)	-	1	1
3.4	Video Creation and Editing Tools (Practice)	-	-	1
3.5	Video Storytelling: Script, Storyboard, Shooting, Editing and Exporting (Discussion, Practice)	-	1	1

UNIT-4	Animation, Infographics and Multimedia Content	L	T	P
4.1	Introduction to Animation and Motion Graphics (Discussion, Practice)	-	1	1
4.2	Infographic Design and Data Visualization (Practice)	-	-	1
4.3	Presentation Design and Visual Storytelling (Discussion, Practice)	-	1	1
4.4	Screen Recording and Screen Capture Content (Discussion, Practice)	-	1	1
4.5	Meme, GIF and Short-form Interactive Content Creation (Discussion, Practice)	-	1	1

UNIT-5	Digital Content Strategy, SEO and AI	L	T	P
5.1	Fundamentals of Digital Content Strategy (Discussion, Practice)	-	1	1
5.2	Understanding Audience, Platform and Content Objectives (Discussion)	-	1	-
5.3	Keywords and Basic SEO (Discussion, Practice)	-	1	1
5.4	Content Promotion, Performance Metrics and Analytics (Discussion, Practice)	-	1	1
5.5	AI and Generative AI Tools for Digital Content Creation: Opportunities, Limitations and Ethical Considerations (Discussion, Practice)	-	1	1

Practical/Projects/Assignments

1. Digital Content Detective: Analyse the content strategy of a brand, creator, news platform, or organisation across three digital platforms.
2. 7-Day Content Challenge: Create a seven-day content calendar with ideas, captions, hashtags, and posting schedules.
3. One Story, Three Formats: Present one story as a social media poster, short video, and visual story.
4. Turn Data into a Story: Convert data or a current issue into an infographic, GIF, or motion graphic.
5. AI vs. Human Content: Compare human-created and AI-assisted content based on creativity, accuracy, originality, and ethics.

Suggested Readings

1. Ahuja, V. (2015). *Digital marketing*. Oxford University Press.
2. Maity, M. (2021). *Digital marketing* (2nd ed.). Oxford University Press.
3. Bhatia, P. S. (2019). *Fundamentals of digital marketing*. Pearson.
4. Gupta, S. (2026). *Social media marketing: AI, analytics and strategy for social media success*. McGraw Hill.
5. Iyengar, A. (2026). *Creator to crorepati: Your guide to navigating (and monetizing) the creator economy*. Penguin Business.

E Resources:

1. Adobe. (n.d.). *Adobe Creative Cloud Learn*. <https://creativecloud.adobe.com/learn>
2. Google. (n.d.). *Google Digital Garage*. <https://learndigital.withgoogle.com/digitalgarage>
3. HubSpot. (n.d.). *HubSpot Academy*. <https://academy.hubspot.com>
4. YouTube. (n.d.). *YouTube Creator Academy*. <https://creatoracademy.youtube.com>
5. Canva. (n.d.). *Canva Design School*. <https://www.canva.com/designschool>