

Programme Name : M. Sc. – Media Technology (M.Sc.-MT)

Semester : First

S.No.	Course Code	Title of the Course	Credit Hr.				Regular/Deficiency
			L	T	P	Total	
1	MSMT-711	Models of Communication & Communication Theories	2	1	0	3	Regular
2	MSMT-712	Print Journalism & Technologies	2	1	0	3	Regular
3	SFMC-736	Media Management-I (Print & Radio)	2	1	0	3	Regular
4	MAMC-717	International Communication	2	1	0	3	Regular
5	MSMT-713	Cyber laws & Media Ethics	3	0	0	3	Regular
6.	MSMT-714	Film Production Analysis	1	0	2	3	Regular
7	COMP-705	Computer Orientation	2	0	1	3	Regular
8	LNG-600	Science & Technical Writing				Non-credit	
						Total Credits	21

Semester : Second Semester

S.No.	Course Code	Title of the Course	Credit Hr.				Regular/Deficiency
			L	T	P	Total	
1.	MSMT-721	Visual Effects, Animation & Graphics Design	1	0	2	3	Regular
2.	MSMT-722	Tools & Techniques of Still photography	1	0	2	3	Regular
3.	MSMT-723	Video Editing & Technologies	1	0	2	3	Regular
4.	MSMT-724	New Media Technologies	2	1	0	3	Regular
5.	MSMT-725	Radio Program Production & Sound Engineering	1	0	2	3	Regular
6.	MSMT-726	Development of Electronic Media	2	1	0	3	Regular
7	ECE- 605	Image Processing	2	1	0	3	Regular
8	SFMC-727	Media Economics	3	0	0	3	Regular
						Total Credits	24

Semester : Third Semester

S.No.	Course Code	Title of the Course	Credit Hr.				Regular/Deficiency
			L	T	P	Total	
1.	MSMT-731	Science Communication	2	1	0	3	Regular
2.	MSMT-732	Cinematography Tools & Techniques	2	0	2	4	Regular
3.	MSMT-733	Media Research & Evaluation	2	1	0	3	Regular
4	MSMT-734	Video Production & Technologies	2	0	3	5	Regular
5	MSMT-736	Web Technology	2	0	1	3	Regular
6	ECE- 801	Multimedia Communication	2	1	0	3	Regular
7	MSMT-737	Industrial Training	0	0	2	2	Regular
						Total Credits	23

Semester : Fourth Semester

S.No.	Course Code	Title of the Course	Credit Hr.				Regular/ Deficiency
			L	T	P	Total	
1.	MSMT-741	Printing Technology	2	1	0	3	Regular
2	MSMT-742	Digital Film Production	0	0	8	8	
3	ECE- 606	TV & Satellite Communication	2	1	0	3	
4	MSMT-744 MSMT-745	Elective Paper-I Electronic News Production/ TV Advertising	1	0	2	3	Regular
			1	0	2		
5	MSMT-746 MSMT-747 MSMT-748	Elective Paper-II 2D- Animation / 3D- Animation/ Web Content Writing	1	0	2	3	Regular
			1	0	2		
			2	0	1		
6	MSMT-743	Project & Dissertation				Non-credit	
Total Credits						20	

Syllabus

Models of Communication & Communication Theories (MSMT-711)

Credit Hours 3(2+1+0)

Unit – I

Definitions of Communication – scope – Communication process – Variables of communication – Source – Message – Channel - Receiver – Feedback –
Types of communication – interpersonal – group – mass communication. Mass communication: characteristics of print, radio, television, film.

Unit – II

Basic models of communication – Shannon & Weaver – Lasswell – Berlo.
Advanced models of communication – two step flow of communication, opinion leaders – characteristics – Definitions of innovation – Rogers and Shoemakers model of communication.
Gate keeping models – White’s model, Galtung and Ruge model of selective gate keeping – Models of communication – Verbal and non-verbal.

Unit – III

Market communication concept: characteristics – reinforcement – sleeper effect. Organizational communication – Newcomb’s balance theory – congruity– Dissonance – Social judgment model.
Mass theory – Society – Magic bullet theory – Theories of selectivity.

Unit – IV

Normative theories – Authoritarian – Libertarian – Communist – Social responsibility – Development media – Democratic participant theory.

Unit – V

Sociological theories of communication – Cultivation theory – Agenda setting – Socialization – Dependency theory.

Reference Books:

14. David Berlo (1960). *The Process of Communication*. London.
15. Uma Narula (1976), *Mass Communication Theory and Practice*. New Delhi: Har Anand.
16. Denis Mcquail and Windhal. *Communication models*.
17. John Fiske: *Introduction to communication studies* London: Routledge.
18. Denis Mcquail (1993) *Media performance*. London: Sage.
19. Denis Mcquail (2005) *Mass communication theory*. New Delhi: Sage.
20. DeFluer and Ball Rockech: *Theory of Mass communication*.

Print Journalism & Technology
(MSMT-712)

Credit Hours 3(2+1+0)

Unit – 1

Origin of press- News books – Evolution of modern Newspapers – Growth of Newspapers in India – Hickey’s Gazette-Bombay Chronicle.

Unit – 2

Early journalism in Bengal – Bombay and Madras Presidencies – Growth of National press-Press in 19th Century – Raja Ram Mohan Roy – Balagangadhar Tilak. Indian Press and freedom movement – Gandhi’s contribution to Indian Journalism – Nehru era- Government v/s Press – Indian Press and Emergency – Recent trends in English Journalism.

UNIT-3

PROFESSIONAL ASSOCIATIONS, AGENCIES & ILLUSTRATIONS

Press Commissions, Press Council, Working Groups, News agency, Press Information Bureau, Publication Division, Office of the registrar of News paper in India, Photo Division, Research & reference division, National Library. Importance of Illustrations: News Photos, Cartoons & Caricatures.

Unit 4

Printing Processes:

Types of printing processes and their principles, suitability and limitations ,Comparative study of all printing processes ,Methods of surface preparation, layout, suitability and limitations, technique Raw materials used for all major processes i.e. types of inks and substrates

Unit 5

Press techniques:

Preparation of artwork and reproduction techniques such as continuous tone to halftone, dot, screen angle and ruling, colour theories, measurement of colour Image setter technology – types, working, principles, advantages, limitations and applications

Cyber laws & Media Ethics

(MSMT-713)

Credit Hours 3(3+0+0)

Unit – I

Indian constitution – Salient Features – Fundamental rights – Article 19 (1) (A)– Freedom of the press.

Unit – II

Official secrets Act 1923 – Books and Registration of newspapers Act 1956 – Working Journalists Act 1955 Press and Publication (Parliamentary Proceedings) Act 1976.

Unit – III

Press Council of India Act, 1978 – Indian Cinematography Act, 1950 – Laws of defamation – Contempt of court – Freedom of the press – Ramesh Tapar v/s state of Madras – Brij Bhushan v/s state of Delhi – Virendra v/s state of Punjab– Ramji Lal Modi v/s state of Uttar Pradesh – Sakal Newspapers v/s Union of India– Bennett Coleman and Co v/s Union of India – Indian Express v/s Union of India(1986).

Unit – IV

Censorship Law and Internet – emerging trends – Laws relating to cable and satellite TV – Cyber Law – Cyber Crime – Cyber Ethics - Convergence Bill – Communications Commission of India (CCI) – Intellectual Property Rights – Rights to Privacy and Internet. privacy intrusion ,access ,privilege ,FOIA ,Open Records/Meetings Acts Activities ,Instructor's presentations

Unit -V

Regulation of Telecommunications

Rational for telecommunication regulation ,responsibility of licensee ,advertising fairness doctrine and access to the media ,broadcasting political messages ,emerging technologies ,broadcasters and obscenity ,diversification of ownership

Film Production Analysis

(MSMT-714)

Credit Hours 3(1+0+4)

Unit -1

Evolution of Cinema – the early days

Emergence of the narrative cinema and American, German, French and Russian Cinema in the era of silent motion pictures

Advent of sound and colour in motion picture, cinemas of the world in post salient motion picture era

Evolution of cinema in India and the its current status

Unit -2

Objective / purpose of storytelling

Elements of story

Structure of a story

Elements of visual storytelling

Unit-3

Studies in media language

The screenplay: its nature, function and form

Fiction, elements of drama and a narrative

Elements of fictional and non fictional narrative

Unit-4

Introduction to Indian music

Indian Dance form

Elements of Painting & Sculpture

Introduction to Indian culture & history; human psychology; philosophy and essence of world religions; political beliefs and economic theories

Unit-5

Analysis of one commercial movie from the all aspects of cinema

Visual Effects , Animation & Graphics Design

MSMT-721

Credit Hours 3(1+0+4)

Unit-1

Specialization: PhotoShop & Illustrations

- Basic of Art : Maging Designing, Logo Creation, Advertising Designing
- Cartoon Creation & Image Editing
- Special Effect: Filter & Plug ins , Adobe after effects

Unit-2

- Matte painting
- Digital painting
- Digital design

Unit-3

- Layer based compositing
- Node based compositing
- Match moving
- Camera traking

Unit -4

- Editng
- Title graphics
- Audio –video synchronisation

Unit -5

- Basic of F.C.P
- Sound Editing
- Concept of non-linear editing
- Making of channel ID's
- AD film making

Tools & Techniques of Still Photography

(MSMT-722)

Credit Hours 3(1+0+4)

UNIT-1

CAMERA HISTORY & LENSES

Early experiment and later developments CAMERA HISTORY: ITS TYPE AND FUNCTIONS, Pin hole, Box, Studio, Field, Pocket, Folding, SLR, TLR, Miniature, Stereoscopic, Panoramic, Video,

UNIT-2

ELEMENTRY PHOTOGRAPHY OPTICS

Refraction of light, dispersion, image formation, principal focus & focal length, size . of images, intensity of images, speed of lenses, diaphragm notation, principles of axis, depth of field, depth of focus, factors controlling of depth of field & focus, variation of aperture with distance of subject, defecates of images, chromatic and spherical aberration, curvature of field, distortion astigmatism.

Unit-3

Basics of Digital photography and its techniques, Cine & Digital cameras and choice of camera & seizes, Principal parts and there function- various shutters, view finders, rising and folding, cross movement and swing back focusing systems, attachments, and accessories.

UNIT-4

SPECIAL TECHNIQUES OF PHOTOGRAPHY

Infrared, ultraviolet, x-ray, polarized , coping, micro photography, microfilming and lanternslides, shadow grams, macro photography, finger prints & document photography, commercial, industrial and advertising photography, photo-engraving, color separation, principals of photographic pictorials - elements composition, arrangements of lines and tones, rendering color contrast in monochrome, principals of perspective.

UNIT-5

PRINTING

Papers characteristics, grade and selection, paper exposure, development, fixing, washing, drying, types of enlargers and methods of illumination, determination of exposure, selection of papers, projection control of the image.

Video Editing & Technologies

(MSMT-723)

Credit Hours 3(1+0+4)

Unit -1

Basic Concepts

Non-linear editing.

Hardware requirements

‰ Introduction to Adobe Premiere

Unit -2

Editing Aesthetics

‰ Concept of time and space

‰ Editing news and documentary

‰ Selection of relevant music

‰ Editing for different formats of T V Programmes

Unit -3

Editing Basics

‰ TRIM BIN, TIME LINE, PREVIEW in context of NLE layout

‰ Creating a time line

‰ Main tools of editing-Selection, Range Select, Rolling, Edit, Razor, Hand Tool, Cross fade, In point, Zoom tools etc.

Unit-4

Advance editing

‰ Audio mixing

‰ Dissolve transitions and fading patterns

‰ Special audio-video effects

‰ Titling and graphics

Unit-5

Taking editing output

‰ Rendering edited text

‰ Authoring VCD/ACD/DVD

‰ Packaging and Marketing

New Media Technologies

(MSMT-724)

Credit Hours 3(2+1+0)

Unit 1

Multimedia, Interactivity, Hypermedia – User Directed Navigation, Hardware Considerations for Multimedia, Applications of Multimedia – Education, Commerce and Entertainment.

Unit – II

The New Media, Creating New Media Content, Defining The Audience, Design and Storyboarding, Choosing Tools, Authoring, Technologies that support New Media – MPEG and JPEG, Quick Time and Quick Time VR, Video for Windows (AVR formats), Real Audio and Real Video, Shockwave, Distributing New Media Content – CD ROM, Internet, Television.

Unit – III

Computer graphics and Design, Window Based PC's Types of Graphic files, working with Bitmaps, working with Vectors, File formats and compatibility issues.

Unit – IV

Getting Images into the Computer – Scanners, Digital Cameras, Clip Art, Electronic Photographs, Introduction to Photoshop – Applications and Use of Photoshop, Optical Fibers.

Unit – V

e-Publishing, Security issues on the Internet.
Emergence and Role of Social Media, Social Networking, Google, Blogs, Face Book, Twitter, WikiPaedia, You Tube.

Radio Program Production & Sound Engineering

(MSMT-725)

Credit Hours 3(1+0+4)

Unit 1

Characteristics of Audio medium

- Mission and objectives,
- Social commitment of audio – medium,
- “Public service” and “public interest” broadcasting,
- Development and expansion of radio network in India,

Unit 2

Radio program genres

- Philosophy of radio programming,
- Concept of content and form,
- Generation of program ideas and process of production,
- Classification of radio program formats and concept of creativity,
- Conducting various types of interviews,
- Planning and production of radio documentaries,

Unit 3

Interactive program formats

- Concept and significance of phone-in-program,
- Field generated and participatory programs,
- Special audience programs-youth, farmers, women, children, senior citizens etc.

Unit 4

Production techniques

- Writing of radio scripts,
- Training of artists and arranging of rehearsals,
- Recording of programs, selection of sound effects, editing and mixing techniques,
- Art of comparing and announcing (voice quality, modulation and pronunciation techniques)
- Process of planning, scheduling and transmission,
- Evaluation of programs and quality control.

Unit 5

Studio facilities, equipment , Properties of sound, layout of a studio,

- Acoustics, quality of a audio signal,
- Types and use of microphones , Tape recorders, mixerconsoles, control panels, audio tapes etc.
- Analogue and digital recording,
- Mono and stereo sound systems.
- A.M. and F.M. modulation systems,
- Satellite transmission and its advantages,

Development of Electronic Media
(MSMT-726)

Credit Hours 3(2+1+0)

Unit-1

Development of electronic media technology

- Invention and application of telephone, telegraph, wireless, film, picture tube, satellite, digital technology.
- Main inventors of radio, television and cyber media.

Unit-2

Global Radio

- Trends in growth and development of Radio in the world.
- Case study of Europe, France, US, Germany, Australia, China, Russia, Japan, Naigeria and developing countries.

Unit-3

Global Television

- Trends in growth and development of Television in the world.
- Brief introduction to the growth and development of television in UK, US, Germany, Australia, China, Russia, Japan and developing countries.

Unit-4

Global Network

- Introduction to leading media groups/organisation
- AOL, Time Warner, Disney, Bertelsmann, Via com, News Corporation, Sony .Major Indian Networks: Zee group, Sun group, Enadugroup, TV Today Network, STAR India, Sahara group, NDTV group.
- Local and regional group

Unit-5

New Communication Technologies

- Formats and standards
- Satellites Communication, Cable TV, HDTV, DTH, Broadband service, Interactive TV, Web Radio, Sky Radio, Fiber optics, etc.
- Digital Vs Analogue

**IMAGE PROCESSING
(ECE-605)**

Credit Hr: 3(2+1+1)

1. Digital Image Processing

Elements of a Digital image processing system, Structure of the Human eye, image formation and contrast sensitivity, sampling and Quantization, Neighbours of a pixel, Distance measures, Photographic film structure and exposure, Film characteristics, Linear scanner. Video camera, image processing applications.

2. Image transforms

Introduction to Fourier transform-DFT, Properties of two dimensional FT, Separability, Translation, Periodicity, Rotation, Average value, FFT algorithm, Walsh transform, Hadamard transform, Discrete cosine transform.

3. Image Enhancement

Definition, Spatial domain methods, Frequency domain methods, Histogram modification technique, Neighborhood averaging, Median filtering, Lowpass filtering, Averaging of multiple images, image sharpening by differentiation and high pass filtering.

4. Image Restoration

Definition, Degradation model discrete formulation, Circulant matrices, block circulant matrices, Effect of diagonalization of circulant and block circulant matrices, Unconstrained and constrained restorations inverse filtering, Wiener filter, Restoration in spatial domain.

5. Image encoding

Objective and subjective fidelity criteria, Basic encoding process, The mapping, The quantizer, The coder, Differential encoding, Contour encoding, Run length encoding, Image encoding relative to fidelity criterion, Differential pulse code modulation.

6. Image analyses and computer vision

Typical computer vision system, Image analysis techniques, Spatial feature extraction, Amplitude and Histogram features, Transform features, Edge detection, Gradient operators, Boundary extraction, Edge linking, Boundary representation, Boundary matching, Shape representation.

References.

- .Rafael, C. Gonzalez., and Paul, Wintz, "Digital Image Processing", Addison-Wesley Publishing Company.
- . Jain Anil K., "Fundamentals of Digital Image Processing", Prentice Hall.
- . Sosenfeld, and KaK, A.C., "Digital Image Processing", Academic Press..
- . William K. Pratt., "Digital Image Processing", John Wiley and Sons.

Science Communication

MSMT-731

Credits Hr. 3(2+1+0)

Unit-1:-

Science Communication. Definition aims & importance in India, origin & development of Science Journalism present & future.

Unit-2:-

Promoting scientific outlook & using Science & Technology for Social charge.

Unit-3:-

Science Reporting, Popular Science writing, Science News- Internews, Drama, Science Writing for children, feature, essay & fiction.

Unit-4:-

Development of Science & Technology in ancient India with emphasis on various egiograph Cimcriptions & Architecture, Health Journalism including infections & bacterial deseases, Balances Human diet & vitamins first aid in accidents & popular Science writing for man.

Unit-5:-

Writing materials in ancient India, Scientific temper & rural society & India's Science policy. Major Indian Science & Technology Institution, work & contribution in the Society.

Cinematography Tools & Techniques

(MSMT-732)

Credits Hr. 4(2+0+4)

Unit 1

Introduction to T.V technology

- Picture formation
- T.V Scanning : Horizontal & Vertical
- Frame & field rate
- Resolution video bandwidth, sync. blanking signals, colour burst, sensitivity, linearity etc.
- Television standards: NTSC, PAL, SECAM.

Unit 2

Principle of Video Camera

- Primary & secondary colours
- Photo conduction, photo voltaic, photo emissive effect
- Working principle of video camera
- CCD cameras : Three CCD, single CCD colour camera
- Various sizes of pickup devices

Unit -3

Components and Controls of Video Camera.

- Parts of a video camera
- Different controls on video camera
- Power switch, preheat, genlock, white balance, gain, iris, pedestal etc.
- Zoom control: servo, manual, remote, zoom extenders.
- Focus control : auto, manual , remote, back focus, macro focus.
- Camera view finders (B/W and colour). Its indicators and control.

Unit 4

Balancing of Colours of a video camera.

- Colour temperature
- White balance: Process and need.
- Camera filters
- Camera control unit (CCU)
- Waveform monitor for output level of video
- Vectorscope

Unit 5

Video camera lenses.

- Perspective
- Types and use-normal lens, telephoto lens, wide-angle lens.
- Zoom lens.
- Tripod, types of tripod heads, dolly, trolley & other accessories.
- Different types of camera angles and use
- Camera movements – types & use.

Media Research & Evaluation (MSMT-733)

Credits Hr. 3(2+1+0)

Unit 1

Concept of research

- Meaning, definition and nature of research
- Communication research : Importance of media research
- Area of Media Research
- Problems of objectivity in research.
- Planning to research.

Unit 2

Methods/techniques of research

- Hypothesis and variables
- Research design and its types
- Methods of research – Census, Survey, Random, Sampling - meaning, types and problems
- Survey research, experimental and field research, panel research
- Reliability, validity and objectivity

Unit 3

Tools and methods of research

- Sources of data - primary and secondary source
- Questionnaire and schedules
- Observation - participatory and non participatory
- Interview method
- Case study
- Content analysis of audio and video

Unit 4

Research and electronic media

- Importance of research in media
- Application of research in electronic media
- Formative and summative research
- Ethical issues in media research
- Media research as a tool of reporting

Unit 5

Application of Statistics

- Tabulation and classification of data
- Data analysis, software for data analysis interpretation
- Elementary statistics - mean, median and mode
- Inferential statistics - correlation and regression and test of significance, principle and theory
- Graphic and diagrammatic representation of data
- Indexing, citation and bibliography
- Research report writing

Video Production & Technologies **MSMT-734**

Credits Hr. 5(2+0+6)

Unit 1

Introduction to Video Production

- Video production: meaning and scope
- Video production process: pre production, production, post production
- Production personnel and their duties and responsibilities
- Types of video programmes production
- Television studio and ENG production

Unit 2

Introduction to Video Camera

- Working principle of a video camera
- Different types of video cameras
- CCD
- Components of video camera
- Types of lenses
- White balance : process and need
- Camera control unit
- Basic shots and their composition
- Concept of looking space, head room and walking Space

Unit 3

Lighting for Television

- Importance of lighting in television
- Lighting equipment and control
- Lighting techniques and problems
- Illumination system : inclusive of inverse square Law & Luxmeter

Unit 4

Editing Concepts and Fundamentals

- Editing - meaning and significance
- Grammar of editing – (i) Grammar of Picture (ii) Grammar of Audio, eye line, point of view and continuity type- match cut, jump cut, tempo, transition, special effects
- Importance of cut away and cut in shots
- Editing problems and ethics

Unit 5

Editing Techniques

- Criteria for editing - picture, narration and music
- Editing equipment - recorder, player, Video Switcher, audio mixer, monitor, speaker, special effect generator, non linear workstation
- Types of editing - assemble and insert editing, on line and off line editing, cut to cut and AB roll editing, Non linear editing (basic softwares)

Web Technology

(MSMT-736)

Credit Hr: 3(2+0+2)

Unit-1

Internet –Introduction

- History, evolution and development
- Services of internet: e-mail, chatting, newsgroups, Chat rooms, bulletin board services etc
- Fundamentals of internet: WWW, IP, Web page, web sit, search engines
- Working of internet : networking and its classification
- Networking topologies, types of servers, serversoftware
- Internet protocols (TCP/IP, FTP, HTTP)

Unit-2

Web Development Tools

- Language for creation of web pages:Introduction ofHTML, DHTML, XML and VRML
- Basic structure of HTML , creating hyperlinks, frame,form
- Web development tools: Microsoft front page Xpress,
- Introduction to Fireworks, Dreamweaver
- Handling tools: Flash.
- GUI

Unit-3

Cyber space and new media

- Concept of Cyber space, Traffic jam
- Theories of new media
- Structure of a web news portal office
- Introduction to major Indian portals: Rediff.com,Webduniya.com
- Introduction of web Radio, web advertising

Unit-4

Communication and team members

- Powers and limitation of internet
- Evolution of Internet language
- Role of web master, application programmer and network engineer
- Role of web team members: writer, copyeditor, visualizer, graphics designer, project manager, website manager, animator, audio-video expert

Unit-5

Production and work process

- Techniques of web media
- Editing, layout and use of pictures in web
- Web publishing tools
- MS publishing Wizard, Introduction to MS personalweb server, FTP server,
- Embedding scripts in HTML documents.

**MULTIMEDIA COMMUNICATION
(ECE – 801)**

Credit Hr: 3(2-1-0)

1. MULTIMEDIA COMMUNICATION:

Introduction to various multimedia comm. Techniques, Applications Networks ,
Protocols and Standards, bandwidth and compression issues.

2. Digital communication basics

Source encoding, Channel encoding, Circuit switched Networks; packet switched
networks, ATM, Frame Relay,.

3. Multimedia Information Representation

Different types of multimedia information , Information representation.

4. Compression Techniques

Encoding and decoding techniques, Text compression , Huffman, Run LENGTH, Variable
length, Lossy / lossless compression.

5. Multimedia file formats

Various files formats for multimedia and their applications, BMP, PNG,TIFF,JPEG, DFX,
AVI, MPEG Audio/ video Standards, Challenges for encryption and decryption .

6 World Wide Web

The Internet , internet multimedia , Enterprise networks, Entertainment Networks,
High Speed Modems , Application Support Functions, Audio / Video Streaming, Video
Conferencing ,

Texts / References:

1. Multimedia communication by fred Halsall, Prentice Hall.
2. Digital communication by Proakis, Prentice Hall.
3. Internet Resources.
4. Related IEEE/IEE publications.

**Industrial Training
MSMT-736**

Credit Hours 2(0+0+4)

The students will undergo training in different media house or corporate sectors for one month.

Printing Technology

(MSMT-741)

Credits Hr. 3(2+1+0)

Unit 1.

Techniques & Materials

Units and Measurements - Force and measurement - Properties of Matter, Thermal properties of Materials, Illumination and Electromagnetic Spectrum, Acids, Alkalies and pH, Electronics & Mechanical components, Hydraulics . Materials, Metals used for Image carriers for different processes - Light sensitive materials, substrates, papers, Boards and their characteristics, Printing Inks - Constituents and general characteristics, Requirements of paper and ink for various printing processes.

Unit 2.

Print Designing

Factors involved in Print planning, Typography and Design principles, various kinds of printed products - their formats, Designing factors, colour application. Selection of Types of various jobs. Basic structure of Computer, Hardware - Input and Output Devices, Software used in Desktop Publishing; Digital imaging method, Scanners, Image Editing, Colour Correction, Colour Management, Laser Printer.

Unit 3.

Preproduction Reproduction Camera, - Optical principles, Line and Half-tone Photography - contact Photography, Principles of colour Separation - Electronic colour – Scanners, Colour Management Systems - Automatic Film Processor - Plate making Techniques - Plate Selection, Care and Storage, Autoplate Processor, Computer - to - plate Imaging, Quality Control Aids.

Unit 4.

Printing Principles involved in different printing processes - Machines for letterpress, Offset, Gravure, Flexography and Screen Printing. Construction of Machines - Production Control - Workflow - Delivery and Drying Methods - Web Offset - Wet-on Wet Printing - Printing problems - causes and remedies. Ware House Operation - Forwarding, Covering and Finishing Operations - Automation in Binding and Finishing, Production Control - Workflow sequence - Carton Designing and Flexible Packaging - Printing Process for Packaging - Surface Coating and Lamination.

Unit 5.

Management Structure of Organisation - Office Procedures, Costing and Estimating - Classification of Accounts, Leadership - Delegation and Authority, - Human Relation - Productivity - Quality Control System (ISO) - Selection and use of ISO - Benefits of Quality Systems - Inspection and Testing.

Digital Film Production

(MSMT-742)

Credit Hr: 8(0+0+16)

Unit -1:

Writing concept, story & script for the digital film

Unit-2:

Conceptualizing different Visual Effect (VFX) and Special Effects (SFX) according to the requirement of the film

Unit-3:

Making story board for shot selection and division,

Unit-4:

Scheduling process and production process,

Unit-5:

05 to 15 minute fiction film production

T.V & SATELLITE COMMUNICATION
(ECE-606)

Credit Hr: 3(2+1+0)

- 1. Elements of TV :**System: Picture transmission and reception .sound,. composite video signal . fundamental of Monochrome and colour television system. Modulation Schemes. Bandwidth requirement Frequency allocation. Standard of monochrome & colour t v system .
- 2. Picture tubes & Camera Tubes:** monochrome & colour picture tubes. Various camera tubes
- 3. Television broadcasting and receivers:** T.V. Transmitter monochrome and colour. T.V Receiver block diagram .
- 4. Introduction to modern T.V. Systems :** Introduction to cable T.V. system .HDTV. Satellite T.V
- 5. Introduction :** Origin and brief history of satellite communication ,elements of a satellite link current status of satellite communication .
- 6. Orbital Mechanism and Launching of Satellite:** Equation of orbit. Describing the orbit. Locating the satellite in the orbit locating the satellite with respect to earth orbital elements. Look angle determination. Elevation and Azimuth calculation. Geostationary and other orbits. Original perturbations. Orbit determination. Mechanics of launching a synchronous satellite. Selecting a launch vehicle.
- 7. Space Craft:** Satellite subsystem Altitude and orbit Control system (AOCS),Telemetry Tracking and Command (TT& C) Communication subsystem. Transponders. Spacecraft antennas, Frequency re-use antennas.
- 8. Satellite Channel and link Design:** G/T ratio of earth stations. Design of down links and uplinks using C/N ratio. FM improvement factor for multi-channel signals. Link Design for FDM/FM, TVs signals and Digital signals.
- 9. Earth Station Technology:** Earth station design. Earth station tracking. Design of small earth station antenna, low noise amplifiers.
- 10. Multiple Access Techniques:** Frequency Division Multiple Access (FDMA),FDMA/FM/FMFDMA, Time Division Multiple Access, Frame structure and synchronization, Code Division Multiple Access, Random Access.

References:

1. Pratt T & Bostian C.W: Satellite Telecommunication. Wiley& Sons. 1986.
2. Roddy D: Satellite Communication .Prentice Hall. 1989.
3. Dhake/ Modarm Television & Video Engineering /TMH.

4. R.R.Gulati/ Colour Television:Principles &Practice/New Age.

Elective Paper-I

**ELECTRONIC NEWS PRODUCTION
(MSMT-744)**

Credits Hr. 3(1+0+4)

Unit – I

Electronic Media : Origin and growth of Doordarshan, MANA TV, DD-8, Private Television Channels, Entertainment Channels, ETV, Gemini TV, MAA TV, ZEETV, Reality Shows, Children, Youth, Fashion Programmes.

Unit – II

News and News based Programmes in Televisions, Journalist Dairy, News Channels: New Era in Television filed. Launching

Unit – III

Television – Nature and characteristics of Television Broadcasting – Television programme production – Structure and Organization of Television Studio, Television programme production, Stages of production, Television crew.

Unit – IV

Television camera – Types, Function and Operations – Lighting, Sound – Producing Television programmes – News, Documentary, Interview and Special Audience programmes.

Unit – V

Television post production techniques: Editing – Linear and non-linear editing –Working with software: Adobe Premier, Adobe After Effects and Visual Studio.

Elective Paper-I
TV Advertising
(MSMT-745)

Credits Hr. 3(1+0+4)

UNIT -1

Introduction to Advertising, Definition, Origin & development, Growth of advertising in India, Scope (Effects on Economy/Industry) Facets of advertising (As an act of commerce, as hidden persuader) Purpose of Advertising, Need for advertising, Functions of advertising

UNIT-2

Advertising Agency Organisational Structure / Patterns Skills required for various jobs Functions of advertising agencies Their role importance selection of advertising agency Agency commission & fee

UNIT-3

Advertising Budget, Advertising expenditure & process of budgeting Factors affecting advertising expenditure Methods of determining advertising expenditure Administering the budget

UNIT-4

Production, Stages of the production process - Thumbnail sketches, roughs, storyboard, copy/script/final artwork etc. Related inputs - Photography, camera, sound system, Elements of a broadcast copy Copy writing techniques for audio & video Use of visual signs, sound, audio - video effects, words Script writing for radio television ad

UNIT-5

Advertising effectiveness, Methods of measuring effectiveness
Pre-testing & Post – testing Regulation of advertising in India Misleading & deceptive advertising Laws related to advertising Self - regulatory advertising

Elective-II

2D Animation (MSMT-746)

Credits Hr. 3(1+0+4)

UNIT – 1

Principles of Animation Straight Ahead Action & pose to pose Action Motion Tweens, Shape Tweens and frame by- frame animations Graphic, Button, and Movie Clip Symbols – Libraries and Instances Digital 2D Animation orientation – Basic factors affecting the illusion of motion – Impact of digital techniques on the craft of film and video animation – Professional animation practice and job description – Prevailing file format standards and other compatibility issues – History and future trends of computer animation application in the visual arts.

UNIT – 2

2D graphics editing features – Basic geometric transformations – Boolean, operations on shapes – Object stroke attributes - Objects fill attributes – Shading, techniques (blends – gradients) – Packaged effects (extensions – plug-ins) – Features specific to the program in use.

UNIT – 3

2D animation frame-sequencing features – Straight-ahead animation – Key frames animation – Motion paths – Applying geometric transformation over time – Intertwining options – Looping and palindrome motion – Features specific to the program in use. 2D animation application software interface - Default setting and user preferences – Document setup. Import and export formats – Document and timeline window feature – Tools and commands palettes – Media-selection tools and techniques Asset-management features.

UNIT – 4

2D graphics-creation features – Underlying data type: raster – vector – Raster, painting and/or import features – Vector shapes – Vector free-form and control-point placement tools – Features specific to the program in use.

Unit -5

Flash Animation – Fireworks E-card – using Flash’s drawing tools to set a scene for an animation – creating the scene for a Fourth of July exploding fireworks E-card – a future lesson will demonstrate how to animate it – Flash Animation 4 - Animating E-card – set the stage for our E-card – use a new kind of symbol called a Movie Clip. Flash Tip – Tools of the Trade – Drawing in Flash With a Graphics Tablet – frame-by-frame vector animation with this high-tech – but inexpensive – plug and playtool – Animation Tip – Tools of the Trade – Light Tables – 2D animation for cell painting – computer animation – a light table.

Elective-II

3D Animation (MSMT-747)

Credits Hr. 3(1+0+4)

UNIT – 1

Polygonal Modeling – Using primitives - Converting , Sided Polys to Quads – Creating Linear Templates – Working With Poly Editing Tools: Making Simple Hand – Sub div Proxy Modeling – Splitting Polygons – Creating Areas of Details on a Poly Mesh(Surface)

UNIT - 2

Modeling with NURBS – Lofting, Revolved Surface, Extruded Surface, Planar Surface, Beveled Surface, Boundary Surface – Combining Techniques and Surface History – Modeling with Deformers – Editing NURBS Surfaces – Using NURBS Surfacing to Create Polygons – Converting NURBS to Polygons - Patch Modeling – Using Artisan to Sculpt NURBS

UNIT – 3

Modeling with Deformers and Subdivisions Surfaces – The Lattice – Creating a Base Poly Model, Converting it to a subdivision Surface and Converting Back to Polygons – Human Hand and Character’s Head, Basic Animation – Creating Keys – Setting Breakdown Keys – Bouncing a Ball – Creating and Editing Keys Using the Graph Editor – Adding “Whiz Bang”, Squash and Stretch – Converting Cycled Animation to Curves

UNIT -4

Character Animation – Preparing to Animate – The Animation Process – Pose-to-

Pose blocking – Establishing Timings – Refining Animation Non-Linear Animation – Creating Poses – Creating Clips – Modifying, blending and Sharing Clips – Animating with Maya’s new Body IK Setup.

UNIT – 5

Character Animation – Skeletons – Clusters and Lattices Forward and Inverse Kinematics – Using the IKRP Solver, IKSC Solver, IK Spine handle Solver, IK Spring Solver, Human IK Solver – Switching between FK and IK – The Animation Process: Posing, Timing and Refining.

Elective-II
Web Content Writing
(MSMT-748)

Credits Hr. 3(2+0+2)

Unit-1

FYI - information on domains, Web design patterns, Site development processes, Naming conventions, Purpose of a website, Planning your site

Design principles Effective Page Layouts Layout options Using tables, layers, frames working with forms Using CSS to add interest and flexibility to a design

Unit-2

Principles of effective navigation More than one way to navigate Hierarchical organization Task-based organization Other ways to organize your navigation Making navigation easy bread crumbs links, embedded & external error messages unified browsing hierarchy high-visibility buttons Accessibility issues

Unit-3

Hypertext Markup Language (HTML)

A Overview Code as language, Dreamweaver vs. basic text editors or “straight code”

Tags Appropriation – “View Source” browser option Tags & attributes Required Common Extra

Unit-4

Table structure and hierarchy, Browser differences, Folder hierarchy – path File Transfer Protocol (FTP)

Cascading Style Sheets (CSS)

Typography, Consistency, Types of styles, Specifying class within HTML document Text rollovers

Unit-5

Web-safe colors, Hexadecimal value, Slicing the page, Saving & naming

Concept, Context, & Content, Linking to related sites, Sitemap

