



B.Sc. (Multimedia)

Syllabus

Duration: three year
Eligibility: 10+2 in any discipline

w.e.f. Academic Session: 2014-2015

Institute of Mass Communication and Media Technology

Kurukshetra University

B.Sc. (Multimedia)
Scheme of Examination
w.e.f. Academic Session 2014-15

<i>First Semester</i>	T	P	IA	Total	Time
Paper-101 Art & Creativity	50	30	20	100	3 Hours
Paper-102 Communicative English	80	-	20	100	3 Hours
Paper-103 Computer Fundamentals	50	30	20	100	3 Hours
Paper-104 Introduction to Computer Programming	50	30	20	100	3 Hours
Paper-105 Fundamentals of Multimedia	80	-	20	100	3 Hours
Environment Studies					3 Hours
<i>Second Semester</i>					
Paper- 201 Communication Skills & Personality Development	50	30	20	100	3 Hours
Paper- 202 Communicative Hindi	80	-	20	100	3 Hours
Paper- 203 Computer Graphics	80	-	20	100	3 Hours
Paper- 204 HTML Basics	50	30	20	100	3 Hours
Paper-205 Desktop Publishing (Indesign & Photoshop)	-	80	20	100	3 Hours
<i>Third Semester</i>					
Paper-301 Content Writing & Scripting	50	30	20	100	3 Hours
Paper-302 Photography	50	30	20	100	3 Hours
Paper-303 Animation Techniques	80	-	20	100	3 Hours
Paper-304 Website Designing using Dreamweaver	50	30	20	100	3 Hours
Paper-305 Vector Graphics (Coral Draw & Illustrator)	-	80	20	100	3 Hours
<i>Forth Semester</i>					
Paper-401 Data Communication & Networking	80	-	20	100	3 Hours
Paper-402 Audio Production	50	30	20	100	3 Hours
Paper-403 Video Production	50	30	20	100	3 Hours
Paper-404 2D Animation (Flash)	50	30	20	100	3 Hours
Paper-405 Web Programming using PHP	50	30	20	100	3 Hours
<i>Fifth Semester</i>					
Paper- 501 Applications of Multimedia	80	-	20	100	3 Hours
Paper- 502 Communication Technologies	80	-	20	100	3 Hours
Paper- 503 Web Technologies	50	30	20	100	3 Hours
Paper- 504 Special Effects	50	30	20	100	3 Hours
Paper- 505 Non-Linear Editing (Final Cut Pro)	-	80	20	100	3 Hours
<i>Sixth Semester</i>					
Paper- 601 Information Security	80	-	20	100	3 Hours
Paper- 602 Interactive Courseware Designing	80	-	20	100	3 Hours
Paper- 603 Mobile Computing	80	-	20	100	3 Hours
Paper- 604 Organization Portfolio	80	-	20	100	3 Hours
Paper- 605 Specialization (Elective)	-	80	20	100	3 Hours
Elective I – Web Production (Multimedia Website)					
Elective II- Advertisement Production (Ad Campaign)					
Elective III-Animation Production (Animation Film)					
Elective IV-Video Production (Short Film)					
Elective V- Radio Production (Radio Talk/Drama)					

* *Environment studies paper is qualifying subject compulsory for all students of the UG course and the same will be conducted in the 1st semester of the course.*

** *Viva-Voce of Paper-605 Specialization to be evaluated by a panel of three examiners to be appointed by the Director of the Institute and it is to be submitted to the Institute by the student 20 days prior to the theory examination of the semester in which the Report is supposed to be submitted.*

First Semester

Paper-101: Art & Creativity

Total Marks: 100,
Theory Marks: 50,
Practical Marks: 30,
Internal Assessment: 20
Time: 3 Hours. (for theory paper)

The question paper will be divided into five Units containing nine questions. Students are required to attempt five questions in all. There will be two questions in each unit I to IV and students are required to attempt one question from each unit. Unit V will have only one Compulsory question containing short notes and covering the entire syllabus. All questions carry equal marks.

Unit-I

Aesthetics of Art:- Origin of Aesthetic, Principles of art, Study of human body - Eyes, nose, ears, lips, hand, feet, etc.,

Fine Art:- Painting, Applied Art, Sculpture, Print Making, Architecture

Indian Aesthetic:- Ras, Bhav, Shadaang, Auchitya, Alankaar, Rasa Nispatti

Unit-II

Life Study :- Calligraphy, Sketching, Head and Full life, Living and Non-Living Objects, Living- Human, Birds, Animals etc., Non Living-Building, Rocks, Motor, Motor-Cycle, Car etc.

Unit -III

Drawing :-Forms, Perspective, Color Chart, Color Wheel, Color Scheme, Light and Shade, Line, Shape, Space, Tone, Texture, Pattern, Harmony, Proportion, Dominance, Rhythm, Unity, Balance

Character Designing: Creating appealing characters with a distinctive personality, creating a range of characters that work together as a "Cast"

Unit IV

Clay Modeling: Creating various shapes through clay, volume, space and dimensions of objects, Assembling the body parts of human figure,

Study of animals and birds- Goat, elephant, dog, lion, cow etc.

Simple 2D shape design, Character line-up, 3D Design: Animatability

References:

Jansen, Charles R. *Studying Art History*, Prentice Hall Engle word cliffs, M.J. 07632, 1986

Dhawan, A. K., Dhawan's *Hand Book of History of Art*, Tip Top Trading Co., B-N-1076, HenrySally, *Clay Modeling*,2008

Huguette Kirby, *Crafts from Modeling Clay*,2006

Ghertner, ed. *Layout and Composition for Animation*, Focal Press, New York

Dennis, H.J., *Elementary Perspective*, BailliereTindall and Cox,

Ghertner, ed. *Layout and Composition for Animation*, Focal Press, New York

Perard, Victor, *Anatomy and Drawing*, Grace Prakasham, Arts De Trio, 183, J.S. Road, Bombay.400004 (EO) Printed 2006. ISBN 81-900890-0-5

First Semester

Paper-102: Communicative English

Total Marks: 100,
Theory Marks: 80,
Internal Assessment: 20
Time: 3 Hours. (for theory paper)

Question paper for each theory paper will have two questions from each of the four units. Student will be required to answer any one question from each unit. Unit V of the question paper will have six questions out of which the student will be required to answer any four questions. Each unit will carry equal marks. "Student have to answer question in English except where explicitly asked by the examiner in any question to answer in Hindi as in the case of translation etc."

Unit-I

Growth and development of English language
Introduction to written and spoken English
Different types of spoken English - British, American and Indian

Unit-II

Usage of dictionary and thesaurus
Diction - words meaning and usage
Spelling rules, verb patterns, Idioms and phrases Syntax - different types of sentence formation Basic sentence formation

Unit-III

Common errors in spellings and sentences
Human organs of articulation
Main problems in pronunciation

Unit-IV

Voice analysis
Pitch and tempo for effective presentation
Exercising right pronunciation of difficult words

First Semester

Paper-103 Computer Fundamentals

Total Marks: 100,
Theory Marks: 50,
Practical Marks: 30,
Internal Assessment: 20
Time: 3 Hours. (for theory paper)

The question paper will be divided into five Units containing nine questions. Students are required to attempt five questions in all. There will be two questions in each unit I to IV and students are required to attempt one question from each unit. Unit V will have only one Compulsory question containing short notes and covering the entire syllabus. All questions carry equal marks.

Unit-I

Block diagram of a computer system
Types & functions of Hardware and Software
Types of memory: Primary and Secondary memory
RAM, ROM, PROM, EPROM, EEPROM
Input-output interface

Unit-II

Types of languages: machine, assembly, binary and high level language
Compiler, Interpreter, Assembler
Number systems and number conversions
Binary arithmetic system

Unit-III

Logic gates & truth tables
Boolean algebra and Karnaugh map
Flip-Flops

Unit IV

Operating system and its types
Microsoft Word
Microsoft Power Point
Internet Applications
Search Engines

References:

Computer Fundamentals: PK Sinha
Digital Electronics: VK Puri
Computer System & Architecture: Moris Mano
Computer Organization: Ashwani Kush
Computer Fundamentals by Anita Goel, Pearson Education India

First Semester

Paper-104 Introduction to Computer Programming

Total Marks: 100,
Theory Marks: 50,
Practical Marks: 30,
Internal Assessment: 20
Time: 3 Hours. (for theory paper)

The question paper will be divided into five Units containing nine questions. Students are required to attempt five questions in all. There will be two questions in each unit I to IV and students are required to attempt one question from each unit. Unit V will have only one Compulsory question containing short notes and covering the entire syllabus. All questions carry equal marks.

Unit-1

C fundamentals: Problem definition, algorithms, flow charts and their symbols

Variables, C Expressions, C Tokens, Constant

Data Types

Standard library: Input / output

Unit-2

Operator and Expressions: Precedence of Arithmetic Operations,

Type Conversion in Expression, Operator Precedence & Associability

Managing Input and Output Operations

Decision Making

Unit-3

Array: One Dimensional Array, Declaration and Initialization of One Dimensional

Array, Two Dimensional Array, Multi-dimensional Array

String: Declaring and Initializing Variables, String Handling Functions,

Functions: Definition of Functions, Elements of user Defined functions,

Return values and their types, Function calls, Function Declaration, Recursion

Unit-4

Structures and union: Defining structures, declaring structure variables,

Accessing Structure variables, Structure initialization, union

Pointers

References:

Complete Reference: Herbert Schildt

Let Us C : Yashvant Kanetkar

C Programming : E Balaguruswamy

The C Programming Language : Denis Ritchi

First Semester

Paper-105: Fundamental of Multimedia

Total Marks: 100,
Theory Marks: 80,
Internal Assessment: 20
Time: 3 Hours. (for theory paper)

Question paper for each theory paper will have two questions from each of the four units. Student will be required to answer any one question from each unit. Unit V of the question paper will have six questions out of which the student will be required to answer any four questions. Each unit will carry equal marks.

Students have the option to answer some questions in Hindi and others in English but within an answer to a question the language should be pure (not bilingual) and correct.

Unit-I

Introduction to multimedia

Key elements of multimedia: text, audio, video, graphics, animation

Hardware and software requirements for multimedia

Applications of multimedia

Unit-II

Desktop publishing

Basic design concepts

User interface design

Hypermedia authoring concepts

Unit-III

Process of multimedia production

Various file formats of text, audio, video, graphics and animation

File compression techniques

Creating web based multimedia

Unit-IV

Introduction to animation

Basic audio and video integration techniques

Animation effects

Production process of animation

References:

Multimedia Basics, Volume 1 by Andreas Holzinger, Firewall Media.

Fundamentals of Multimedia, Ze-Nian Li, Mark S. Drew, Pearson Prentice Hall, 2004

Second Semester

Paper-201: Communication Skills & Personality Development

Total Marks: 100,
Theory Marks: 50,
Practical Marks: 30,
Internal Assessment: 20
Time: 3 Hours. (for theory paper)

Question paper for each theory paper will have two questions from each of the four units. Student will be required to answer any one question from each unit. Unit V of the question paper will have six questions out of which the student will be required to answer any four questions. Each unit will carry equal marks. Students have the option to answer some questions in Hindi and others in English but within an answer to a question the language should be pure (not bilingual) and correct.

Unit - I

Communication: Nature, Scope and Significance, communication as a process and a product, Communication and Persuasion

Interpersonal communication: Theories and Models-transactional analysis

Unit - II

Group communication: Theories and Models-Decision making process, leadership, team work communication patterns in-group context

Public communication: Rhetoric Model, Persuasion Model

Non-verbal Communication: Theories and Models, Types of non-verbal behavior Kinesics

Unit - III

Introduction to Personality: Basic of Personality, Human growth and Behavior, Theories Motivation, Body Language, Relationships, Leadership Skills, Team Building and Public Speaking

Unit IV

Techniques in Personality development: Self confidence, Mnemonics, Goal setting, Time Management and Effective Planning

Techniques in Personality Development: Stress Management, Meditation and Concentration Techniques, Self hypnotism, Self acceptance and Self Growth

References:

Wood, Julia T: Communication Mosaics: An Introduction to the field of Communication, 2001. Wadsworth

Larson, Charles U; Persuasion - Reception and Responsibility. Wadsworth, 2001

Personality Development by Rajiv K Mishra, Rupa & Co.

Second Semester

Paper-202: Communicative Hindi

Total Marks: 100,
Theory Marks: 80,
Internal Assessment: 20
Time: 3 Hours (for theory paper)

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Second Semester

Paper-203: Computer Graphics

Total Marks: 100
Theory Marks: 80,
Internal Assessment: 20
Time: 3 Hours. (for theory paper)

Question paper for each theory paper will have two questions from each of the four units. Student will be required to answer any one question from each unit. Unit V of the question paper will have six questions out of which the student will be required to answer any four questions. Each unit will carry equal marks.

Unit I

Meaning of graphics
Elements of computer graphics
Types of computer graphics
Applications of computer graphics
Line and circle drawing algorithms

Unit II

Basic geometric transformations
Matrix representations and composite transformations
2D viewing functions
Clipping operations: point, line, polygon, curve, text

Unit III

3D display methods
3D object representations
3D geometric modeling and transformations:
Transformation, rotation, scaling and composite transformation

Unit IV

Properties of light
Intuitive color concepts
RGB, CMYK, YIQ and HSV color model
Color selection and applications

References:

Computer Graphics, C Version By Hearn & Becker, Pearson Education, India
Computer Graphics by Sinha & Udai, Tata McGraw Hill, India
Fundamentals of Computer Graphics By Peter Shirley, Michael Ashikhmin, Steve Marschner, CRC Press
Fundamentals Of Computer Graphics And Multimedia by D. P. Mukherjee, PHI Learning Pvt. Ltd.

Second Semester

Paper- 204: HTML Basics

Total Marks: 100

Theory Marks: 50,

Practical marks: 30

Internal Assessment: 20

Time: 3 Hours. (for theory paper)

Question paper for each theory paper will have two questions from each of the four units. Student will be required to answer any one question from each unit. Unit V of the question paper will have six questions out of which the student will be required to answer any four questions. Each unit will carry equal marks.

Students have the option to answer some questions in Hindi and others in English but within an answer to a question the language should be pure (not bilingual) and correct.

Unit I

Process of static web designing
Basic elements of web page
Role of typography
Aesthetics in colour and image selection

Unit II

HTML: introduction and basic elements;
Tags and functions
Syntax and document types
Head, title and body elements
Block and text level elements

Unit III

Layout designing of a web page
Links, images, fonts, colour, style sheet and character entities
Text formatting
Interface between HTML and other coding languages

Unit IV

HTML tables and frames
Creating Page Structure with HTML Tables
Diagramming an HTML Table
HTML Frames and Framesets
Web browser support for HTML

References:

“An Introduction to HTML and JavaScript: for Scientists and Engineers” By David R. Brooks, Springer, 2007

“Head First HTML and CSS” By Elisabeth Robson, Eric Freeman, O’Reilly Media Inc.

“Schaum's Easy Outline HTML” By David Mercer, Mcgraw Hill Professional

Second Semester

Paper-205: Desktop Publishing (Indesign & Photoshop)

Total Marks: 100
Practical Marks: 80,
Internal Assessment: 20

There will be only practical examination in this paper. External examiner will evaluate the proficiency of the students in the software. Examiner will give on-the-spot assignments/tasks to the students.

Unit I

InDesign: Workspace
Toolbox, Menus and Palettes
Handling Texts
Control Palette

Unit-II

Frames and tables
Making hyperlinks, printing, make Pdf
Common errors of design
Preparing Images for use in InDesign

Unit-III

Photoshop: Photoshop's Environment, Navigating in Photoshop Image Size and Resolution, Cropping, Selecting Image Areas, Modifying Selections layers, Creating Layers, Transforming Layers, Copying Layers between Images, Arranging Layers, Saving Images in Photoshop Format

Unit III

Blending and Compositing, Defringing, Opacity and Blending Modes, Feathering Edges , Image Modes, Color and Painting, Selecting Colors, Painting Tools, Layer Effects and Filters, Adjusting Image Levels

References:

1. Software Essentials for Graphic Designers: Photoshop, Illustrator, InDesign by Mark Gatter; Laurence King Publishing. Copyright.
2. Adobe Photoshop CS3 by Andrew Faulkner; Peachpit Press. Copyright.
3. Adobe InDesign CS5 Classroom in a Book by Adobe; Pearson Education India. Copyright.
4. Adobe InDesign CS6 Classroom in a Book by Adobe Creative Team
5. The InDesign Effects Book by Ted LoCascio; John Wiley & Sons. Copyright.

Third Semester

Paper-301: Content Writing & Scripting

Total Marks: 100,
Theory Marks: 50,
Practical Marks: 30,
Internal Assessment: 20
Time: 3 Hours. (for theory paper)

Question paper for each theory paper will have two questions from each of the four units. Student will be required to answer any one question from each unit. Unit V of the question paper will have six questions out of which the student will be required to answer any four questions. Each unit will carry equal marks. Students have the option to answer some questions in Hindi and others in English but within an answer to a question the language should be pure (not bilingual) and correct.

Unit-I

Writing: origin, role and scope
Language, dialects and script
Analytical writing & descriptive writing
Writing self-expressions, poetry, sher-o-shayari
Essentials of good writing

Unit –II

Writing for formal communication
Creating user interface
Writing for radio and television voice-overs
Writing news and commercials
Writing for computer aided courseware

Unit-III

Writing for dynamic website
Features of writing for web
Using colours, images, audio and hyperlinks
Researching online resources
Issues of copyright

Unit-IV

Writing fiction and non-fiction
Types of screenplay- Proposal script, shooting script, post-production script
Layout of a story: theme, characters, situation, background
Linking and developing a screenplay
Storyboarding

References:

1. Letting Go of the Words: Writing Web Content that works by Janice (Ginny) Redish, Elsevier
2. Content is currency: Developing Powerful Content for Web and Mobile by Jon Wuebben, Necholas Brealey Publishing
3. Writing Short Films: Structure and content for screenwriters by Linda J. Cowgill, Random House LLC, Copyright
4. Writing for Visual Media by Anthony Friedmann, CRC Press
5. Writing Content: Mastering Magazine and Online Writing by Roger W. Nielsen

Third Semester

Paper-302: Photography

Total Marks: 100,
Theory Marks: 50,
Practical marks: 30
Internal Assessment: 20
Time: 3 Hours. (for theory paper)

Question paper for each theory paper will have two questions from each of the four units. Student will be required to answer any one question from each unit. Unit V of the question paper will have six questions out of which the student will be required to answer any four questions. Each unit will carry equal marks.

Students have the option to answer some questions in Hindi and others in English but within an answer to a question the language should be pure (not bilingual) and correct.

Unit I

Introduction to Photography: History of Photography, Evolution of Photography, Role of Photography in Visual Communication

Camera Basic: Analog and Digital Camera, Types of Digital Camera

Essentials components of digital camera: Focus, Lens, Shutter, Aperture, Sensors, Exposure Basics

Unit II

Types of Photography: Framing and Camera Setting for various types of Photography,

Exercise based on different types of photographs: Candid, Street, News Photography, portraits, product, fashion, wild life, sports etc.

Unit III

Advanced camera features: Exercise based on experimentation with Metering, AEB, Shooting modes, Focus Modes, White Balancing etc.

Camera Angles, Camera Movements and Lightning

Focal Length and Filters

Unit IV

Post production: Camera Raw Editing with Photoshop, Do's and Don'ts of Photography editing,

Photo Editing Techniques: Clipping, cropping, masking, merging, enhancing, noise reduction, repairing, sharpening, blurring, colorizing, saturation control, watermarks

References:

The Digital Photography Book, Part 4; by Scott Kelby, Peachpit Press. Copyright.

Photography: The New Complete Guide to Taking Photographs by John Freeman, Franz Steiner Verlag.

Photography by Keith Wilson Random House, 1994 - Juvenile Nonfiction

Photography by John Ingledew, Laurence King Publishing. Copyright.

A Concise History of Photography by Helmut Gernsheim, Courier Dover Publications

Third Semester

Paper-303: Animation Techniques

Total Marks: 100

Theory marks: 80

Internal Assessment: 20

Time: 3 hours (for theory paper)

Question paper for each theory paper will have two questions from each of the four units. Student will be required to answer any one question from each unit. Unit V of the question paper will have six questions out of which the student will be required to answer any four questions. Each unit will carry equal marks.

Unit I

Animation: origin and growth
Basic principle of animation
Animation: meaning, definition and types

Unit II

Main elements of animation
Role of computers in animation
Computer language for animation

Unit III

Basic computer graphics algorithm
2D and 3D coordinated system
Reflection and rotation matrix

Unit IV

Motion control
Transparency, texture, shadow and anti hashing
Automatic motion control: mechanics, robotics, kinematics

References:

1. Computer Graphics: Principles & Practice In C, 2/E by Foley; Pearson Education India. Copyright.
2. Animation: The Mechanics of Motion, Volume 1 by Chris Webster; Taylor & Francis. Copyright.
3. The complete animation course: the principles, practice and techniques of successful animation by Chris Patmore; Barron's educational Series, Inc., 2003
4. 3D Art Essentials by Ami Chopine; Taylor & Francis.
5. Motion Graphic Design: Applied History and Aesthetics by Jon Krasner; Taylor & Francis. Copyright.

Third Semester

Paper-304: Website designing using Dreamweaver

Total Marks: 100

Theory marks: 50

Practical marks: 30

Internal Assessment: 20

Time: 3 hours (for theory paper)

Question paper for each theory paper will have two questions from each of the four units. Student will be required to answer any one question from each unit. Unit V of the question paper will have six questions out of which the student will be required to answer any four questions. Each unit will carry equal marks.

Unit I

The basic Dreamweaver environment, creating a site profile, the importance of a site profile, organizing the files & folders, folder and file naming rules, creating folders and webpage files , the implementation / coding process.

Unit II

Opening a file for editing, titling pages, creating divisions, adding headings, Paragraph vs. line breaks, tags: logical vs. physical, lists, linking to other websites, linking to the user files, inserting images on web pages, changing images into links , adding an Email link.

Unit III

CSS design, Applying DIVs, working of style sheet, starting a style sheet, font, margins, link colors, stylish headlines, paragraphs, indentation, types of images, organizing images, inserting and formatting tables.

Unit IV

Form elements, head elements, page templates, form objects, accessible forms, page layers, working with layers, flash elements, multimedia contents, browser compatibility testing, uploading the website on web, testing website online, uploading changes, maintaining website.

References:

1. Macromedia Dreamweaver 8 for Windows and Macintosh: Visual QuickStart Guide by Dori Smith; Peachpit Press. Copyright.
2. Macromedia Dreamweaver 8 Unleashed by Zak Ruvalcaba; Sams Publishing. Copyright
3. Macromedia Dreamweaver MX: Training from the Source, Volume 1 by Khristine Annwn Page; Macromedia Press. Copyright.
4. Macromedia Dreamweaver MX Killer Tips by Joseph Lowery, Angela C. Buragli; New Riders. Copyright.
5. Macromedia Dreamweaver 8: Training from the Source by Khristine Annwn Page; Prentice Hall Professional. Copyright.

Third Semester

Paper-305: Vector Graphics (Coral Draw & Illustrator)

Total Marks: 100
Practical marks: 80
Internal Assessment: 20

There will be only practical examination in this paper. External examiner will evaluate the proficiency of the students in the software. Examiner will give on-the-spot assignments/tasks to the students

Unit –I

Introduction to Corel Draw
Coral Draw tools
Shape panel, drawing panel, drawing panel, basic shapes
Working with Objects
Using color & text
Working with color effects

Unit -II

Outlining and Filling Objects
Using Symbols and Clipart
Transforming Objects
Creating Output
Exporting Drawings

Unit -III

Illustrator's interface, setting up the work area, creating standard shapes, path anatomy, basic modification of objects, fills and strokes, working with color, bounding box, setting guides, Appearance Palette, Pathfinder Palette, Align Palette
Setting up a template, using the Pen Tool, path modification, transformation tools (move, scale, rotate, skew)

Unit -IV

Compound paths, Pathfinder, expanding paths, keylines and outlines, defining colors, sampling colors, text creation, body text, paragraph and character attributes, text on path, layout of a mechanical, clipping masks
Pattern creation and usage strategies, using path patterns, Color Guide

References:

1. CorelDRAW X3 Unleashed by Foster D. Coburn; Published by Unleashed Productions, Inc.. Copyright.
2. CorelDraw 12: The Official Guide by Steve Bain; Dreamtech Press.
3. Real World Adobe Illustrator 10 by Deke McClelland; Peachpit Press. Copyright
4. Adobe Illustrator CS4 Classroom in a Book by Adobe Creative Team; Peachpit Press. Copyright.
5. Adobe Illustrator CS5 Illustrated by Chris Botello; Cengage Learning. Copyright.

Forth Semester

Paper-401: Data Communication & Networking

Total Marks: 100

Theory Marks: 80

Internal Assessment: 20

Time: 3 hours (for theory paper)

Question paper for each theory paper will have two questions from each of the four units. Student will be required to answer any one question from each unit. Unit V of the question paper will have six questions out of which the student will be required to answer any four questions. Each unit will carry equal marks.

Unit – I

Data Communication terminologies: Signal and Data, Concept of Channel, Baud, Bandwidth (Hz, KHz, and MHz); Data transfer rate (bps, kbps, mbps, gbps, tbps), Bit rate, Baud Rate Simplex, Half Duplex and Full Duplex Communication

Modes of Transmission Modulation: Amplitude Modulation, Frequency Modulation and Phase Modulation.

Transmission Media: guided and unguided, twisted Pair cable, coaxial cable, FOC (Fiber Optics Cable), Microwave Transmission: Terrestrial, Satellite

Unit – II

Overview of Computer Network, Network Topologies, Connection oriented vs. Connectionless service

The OSI reference model, TCP reference model, General Comparison between OSI and TCP/IP Interconnecting Devices: Repeaters, hubs, bridges, switch, routers, gateways and Modems

Telecom technologies: GSM, CDMA, WLL, 3G, SMS

Unit-III

Client Server Model: Concept of Concurrency and Iterative Server, FTP- Control Connection, Data Connection, Communication, File Transfer

Concept of DNS, Telnet, WWW, HTTP, Architecture of WWW

Electronic mail, mail transfer Agent & Mail user agent, URL

Network Security Concepts: Firewall, Cookies, Hackers and Crackers

Unit – IV

Channel allocation Static and Dynamic, Pure and slotted ALOHA,

Persistent and Non-Persistent CSMA, CSMA/CD,

Cable type and length and other characteristics,

IEEE 802.3 Ethernet frame format

Error correction codes, error detecting codes, Hamming code and CRC

References:

1. Computer Networks, Andrew S. Tanenbaum
2. Data Communications and Networking by Behrouz A. Forouzan, Sophia Chung Fegan; Published by Huga Media. Copyright.

Forth Semester

Paper-402: Audio Production

Total Marks: 100

Theory Marks: 50

Practical Marks: 30

Internal Assessment: 20

Time: 3 hours (for theory paper)

Question paper for each theory paper will have two questions from each of the four units. Student will be required to answer any one question from each unit. Unit V of the question paper will have six questions out of which the student will be required to answer any four questions. Each unit will carry equal marks.

Unit - I

Principles of Sound - quality, intensity, frequency, noise, amplitude, timbre, velocity
Audio Equipments - Microphones, Mixers/Consoles, Analogue Recording, digital Recording, Synchronization, Signal Processing, Loud speakers and Monitors, Audio Meters

Unit - II

Acoustics and Reverberant Sounds, Matching Acoustics, Sound Isolation
Room dimensions, Room Acoustics, Control room Design
Analogue and Digital Audio - Process, formats
Audio Channels and Output: Mono, Stereo, Dolby, Woofer, Tutor, Surround (2.1, 5.1, 7.1)

Unit - III

Audio effects and its functions, synchronizing sound with picture, Strategies in designing sound.
Sound aesthetics, Sound design - elements of sound structure
Audio Process - Recording, mixing, backing track
Using appropriate software: Sound Forge, Nuendo, Wavepad

Unit - IV

Audio Production - Studio and Live, Speech, Music, Live Shows, Interviews
Audio Editing, Scripting Sound, dubbing, creative usage of sound
Analyzing sound samples
Broadcasting Sound

References:

Borwick, John (eds): Sound Recording Practice: A Handbook. Oxford University Press, 1995
Salkin, Glyn. Sound Recording and Reproduction. Oxford: Focul Press, 1996.

Forth Semester

Paper-403: Video Production

Total Marks: 100

Theory marks: 50

Practical marks: 30

Internal Assessment: 20

Time: 3 Hours. (for theory paper)

Question paper for each theory paper will have two questions from each of the four units. Student will be required to answer any one question from each unit. Unit V of the question paper will have six questions out of which the student will be required to answer any four questions. Each unit will carry equal marks.

Unit I

Origin of digital camera, Difference between roll and digital camera, HD, SD, formats of HD and SD, Scanning, Interlacing
Working of video camera, Basic technique of video camera,
Various components of video camera, Formats of video tapes

Unit II

Types of video camera, Camera mountings
Basic shots, Shot composition, Camera angles, Camera movements,
Camera control unit; White balance, Resolution, Aspect ratio

Unit III

Concept and idea generation, writing proposal or synopsis for production;
Production stages: pre production, production, post production;
Television program formats – fictional and non fictional programs;
Production team members and their responsibilities

Unit IV

Lighting equipment and control, lighting techniques and problems,
Make up techniques, editing grammar and aesthetics, editing equipment,
Structure of non-linear editing workstation

References:

1. Videography: Video Media as Art and Culture, Sean Cubitt, Palgrave Macmillan, 15-Dec-1993
2. Visual Storytelling: Videography and Post Production in the Digital Age, Ronald J. Osgood, M. Joseph Hinshaw, WADSWORTH Incorporated FULFILLMENT, 29-Jan-2013
3. Video Production: Disciplines and Techniques, James C. Foust, Edward John Fink, Lynne S. Gross, Holcomb Hathaway, Incorporated,

Forth Semester

Paper-404: 2D Animation (Flash)

Total Marks: 100

Theory Marks: 50

Practical marks: 30

Internal Assessment: 20

Time: 3 hours (for theory paper)

Question paper for each theory paper will have two questions from each of the four units. Student will be required to answer any one question from each unit. Unit V of the question paper will have six questions out of which the student will be required to answer any four questions. Each unit will carry equal marks.

Students have the option to answer some questions in Hindi and others in English but within an answer to a question the language should be pure (not bilingual) and correct.

Unit I

Flash Editor, Panels, Timeline, Tools, Saving & Uploading Files
More Tools, Utilities, Grouping, Arranging
Graphic Symbols, Alignment, Libraries, Layers

Unit II

Keyframes, Frame by Frame Animation, Onion Skins, Frame Rate
Motion Tweening, Stop Action, Rotate & Spin, Info Panel,
Movie Explorer, Shape Tweening, Button Symbols,

Unit III

Action Scripts,
Adding Sound to Buttons,
Publishing and Exporting Making Compositions
Masking and Transparency

Unit IV

Animating Layers
Video and Audio Effects
Managing Layer
Rendering and getting output

References:

Adobe Flash Professional CS6 Classroom in a Book by Kordes Adobe Creative Team,
Adobe Press. Copyright.

Adobe Flash Professional CS6 Essentials by William Heldman, Wiley Publishers
Animating with Flash 8: Creative Animation Techniques by Alex Michael, Taylor &
Francis. Copyright.

Adobe Flash CS5 Revealed by James Shuman, Cengage Learning. Copyright.

Fourth Semester

Paper-405: Web Programming using PHP

Total Marks: 100

Theory Marks: 50

Practical Marks: 30

Internal Assessment: 20

Time: 3 Hours. (for theory paper)

The question paper will be divided into five Units containing nine questions. Students are required to attempt five questions in all. There will be two questions in each unit I to IV and students are required to attempt one question from each unit. Unit-V will have only one compulsory question containing short notes and covering the entire syllabus. All questions carry equal marks.

UNIT-I

Introduction to PHP

Language basics: Identifier, Keywords, Data Types

Operators, Flow Control Statements

Function, Creating Function in PHP

UNIT-II

Strings and Arrays

Reading Data in Web Pages: Text Fields, Text Area, Checkbox, Radio Button, List Boxes, Password Controls, Hidden Controls, Image Map, File Uploads.

UNIT-III

Object Oriented Programming: Creating Class, Creating Objects, Setting access to properties and methods, Public Access, Private Access.

Constructor, Destructor

Inheritance

Overriding Methods & Overloading Methods

UNIT-V

Working with Database

SQL Database, Creating a MYSQL Database

Connecting to the Database Server

Connecting to the Database

Updating Database: Inserting New Items into a Database, Deleting Records

References:

PHP Reference: Beginner to Intermediate PHP5 by Mario Lurig, Creative Commons Attribution-Noncommercial-Share Alike 3.0.

Learning PHP, MySQL, and JavaScript: A Step-By-Step Guide to Creating by Robin Nixon, "O'Reilly Media, Inc.". Copyright.

Beginning PHP and MySQL: From Novice to Professional by W. Jason Gilmore, Apress. Copyright

Pro PHP Programming by Mladen Gogala, Peter MacIntyre, Brian Danchilla, Apress. Copyright.

Fifth Semester

Paper-501: Applications of Multimedia

Total Marks: 100

Theory Marks: 80,

Internal Assessment: 20

Time: 3 Hours (for theory paper)

Question paper for each theory paper will have two questions from each of the four units. Student will be required to answer any one question from each unit. Unit V of the question paper will have six questions out of which the student will be required to answer any four questions. Each unit will carry equal marks.

Students have the option to answer some questions in Hindi and others in English but within an answer to a question the language should be pure (not bilingual) and correct.

UNIT I

Multimedia based presentations
Concept of interactive learning material
Multimedia networks: retail and banking business
Application in interactive television
Multimedia kiosks

UNIT II

Multimedia use in training and education
Multimedia in distance learning
Multimedia for marketing and advertising
Multimedia use in museum and galleries

UNIT III

Concept generation of multimedia project
Process and stages of multimedia production
Multimedia production team member
Implementation and distribution of multimedia products

UNIT IV

Multimedia messaging service
Gaming consoles and LAN gaming
Multimedia in medical science education
Multimedia in cinema production

References:

1. Interactive Multimedia in Education and Training edited by Sanjaya Mishra, Ramesh C. Sharma; Idea Group Inc (IGI). Copyright.
2. Multimedia technology and applications by Vincent W. S. Chow; Springer, 1997- 592 pages
3. Handbook of Research on Mobile Multimedia edited by Ismail Khalil Ibrahim; Idea Group Inc (IGI). Copyright.
4. Computer Graphics and Multimedia: Applications, Problems and Solutions edited by John DiMarco; Idea Group Inc (IGI). Copyright.
5. Interactive Multimedia Systems edited by Syed Mahbubur Rahman; Idea Group Inc (IGI). Copyright.

Fifth Semester

Paper-502: Communication Technologies

Total Marks: 100

Theory marks: 80

Internal Assessment: 20

Time: 3 Hours (for theory paper)

Question paper for each theory paper will have two questions from each of the four units. Student will be required to answer any one question from each unit. Unit V of the question paper will have six questions out of which the student will be required to answer any four questions. Each unit will carry equal marks. Students have the option to answer some questions in Hindi and others in English but within an answer to a question the language should be pure (not bilingual) and correct.

Unit-I

Brief introduction to mass communication technologies:

Printing, Photography, Audiography, Videography, Cinematography

Communication satellites: types, structure and functioning

The process of radio, television and web broadcasting

Unit-II

Wireless Networks: Wireless Network Architecture, wireless switching techniques,

Wireless Communication problem, wireless network reference model

Wireless networking issues & standards

Bluetooth: User Scenarios, Architecture

Unit III

Radio bands and frequencies

Satellite radio and web radio

Infra red Vs radio transmission

Infrastructure and Ad-hoc Network,

Unit IV

Television standards: NTSC, PAL and SECAM

Interactive television, HDTV, IPTV

Display technology: CRT, plasma, LCD & LED

Direct to Home (DTH), Fiber optics

Conditional Access System, Pay per view system

References:

1. Communication Technology by Everett M. Rogers; Simon and Schuster, 1986
2. Interactive Digital Television: Technologies and Applications edited by George Lekakos, Konstantinos Chorianopoulos, Georgios I. Doukidis; Idea Group Inc (IGI). Copyright.
3. Newnes Guide to Television and Video Technology by K. F. Ibrahim
4. Network Communications Technology by Ata Elahi; Cengage Learning. Copyright.
5. Information and Communication Technology in Organizations by Bart van den Hooff, Lidwien van de Wijngaert; SAGE Publications

Fifth Semester

Paper-503: Web Technologies

Total Marks: 100

Theory marks: 50

Practical Marks: 30

Internal Assessment: 20

Time: 3 Hours (for theory paper)

Question paper for each theory paper will have two questions from each of the four units. Student will be required to answer any one question from each unit. Unit V of the question paper will have six questions out of which the student will be required to answer any four questions. Each unit will carry equal marks. Students have the option to answer some questions in Hindi and others in English but within an answer to a question the language should be pure (not bilingual) and correct.

Unit I

Planning and designing a website, maintaining view state, connecting and hosting database, choosing a web server for hosting, domain name registration, configuration and optimization settings, promotion and maintenance of website
Uniform Resource Locators (URLs) & Web Browsers

Unit II

Semantic Web applications and services, Semantic Search, e-learning, Semantic Bioinformatics, Knowledge Base, XML Based Web Services, Creating an OWL-S Ontology for Web Services, Semantic Search Technology, Web Search Agents and Semantic Methods

Unit III

Web technologies: Terminology & Applications; Active X Components, XML, Chat applets, Ajax, Servlet, Java Beans, J2ME, SQL, Ftp
Android: Ice cream Sandwich, Jellybean
Peer to Peer and Cloud Network

Unit IV

Social Network Analysis, development of the social networks analysis,
Electronic Sources for Network Analysis – Electronic Discussion networks, Blogs and Online Communities, Web Based Networks. Building Semantic Web Applications with social network features.

References:

1. Semantic Web Technologies, Trends and Research in Ontology Based Systems, J.Davies, R.Studer, P.Warren, John Wiley & Sons.
2. Semantic Web and Semantic Web Services -Liyang Lu, Chapman and Hall/CRC Publishers,(Taylor & Francis Group)
3. Information Sharing on the semantic Web - Heiner Stuckenschmidt; Frank Van Harmelen, Springer Publications.
4. Programming the Semantic Web, T.Segaran, C.Evans, J.Taylor, O'Reilly, SPD

Fifth Semester

Paper-504: Special Effects

Total Marks: 100

Theory marks: 50

Practical Marks: 30

Internal Assessment: 20

Time: 3 Hours (for theory paper)

Question paper for each theory paper will have two questions from each of the four units. Student will be required to answer any one question from each unit. Unit V of the question paper will have six questions out of which the student will be required to answer any four questions. Each unit will carry equal marks

Unit I

Introduction to After Effects: Overview, application and scope
Creating a composition: Adding layers to a composition
Managing multiple compositions
Mixing audio with fades
Trimming audio layers

Unit II

Introduction to Keyframes and Motion paths
Copying, nudging and scaling motion paths
Scale values and opacity values
Layer management: Selecting, moving, duplicating, soloing, renaming and replacing layers
Trimming and motion blur

Unit III

Introduction to Modes, masks and mattes
Applying blending modes
Creating and transforming masks
Rotoscopy: Planning layers inside masks
Applying effects and common effect controls

Unit IV

Lighting in 3D: Creating and managing shadows
Formatting and randomizing text
Color management and luminance range issues
Nesting and Precomposition

References:

1. "Creating Motion Graphics with After Effects" Trish & Chris Meyer; 4th edition, Focal Press Publishers.

Fifth Semester

Paper-505: Non-Linear Editing (Final Cut Pro)

Total Marks: 100

Practical Marks: 80

Internal Assessment: 20

There will be only practical examination in this paper. External examiner will evaluate the proficiency of the students in the software. Examiner will give on-the-spot assignments/tasks to the students

Unit I

Non-linear Editing: meaning and process
Hardware requirements for NLE
Connecting editing equipment
Capturing raw video
Creating timeline

Unit II

Introduction to Final Cut Pro
Editing tools
Cut, fade, mix and wipe
Main tools of editing - Selection, Range Select, Rolling, Edit, Razor, Hand Tool, Cross fade, In point, Zoom tools

Unit III

Audio Mixing
Process of equalization
Applying effects to sound
Synchronizing audio with video sequence

Unit IV

Video transitions
Titling and graphics
Adding visual effects
Rendering and authoring
Output video formats

References:

1. Editing Techniques with Final Cut Pro by Michael Wohl; Peachpit Press. Copyright.
2. Final Cut Pro X: Visual QuickStart Guide by Lisa Brenneis, Michael Wohl; Peachpit Press. Copyright.
3. Digital nonlinear editing: editing film and video on the desktop by Thomas A. Ohanian; Focal Press, 1998
4. Nonlinear Editing Basics: Electronic Film and Video Editing by Steven E. Browne; Focal Press, 1998

Sixth Semester

Paper-601: Information Security

Total Marks: 100,
Theory Marks: 80,
Internal Assessment: 20
Time: 3 Hours (for theory paper)

Question paper for each theory paper will have two questions from each of the four units. Student will be required to answer any one question from each unit. Unit V of the question paper will have six questions out of which the student will be required to answer any four questions. Each unit will carry equal marks. Students have the option to answer some questions in Hindi and others in English but within an answer to a question the language should be pure (not bilingual) and correct.

Unit I

Introduction: Basic concepts: threats, vulnerabilities, controls; risk; confidentiality, integrity, availability; security policies, security mechanisms; assurance; prevention, detection, deterrence

Basic cryptography: Basic cryptographic terms, Historical background, Symmetric crypto primitives, Modes of operation, Cryptographic hash functions, Asymmetric crypto primitives

Unit II

Program security: Flaws: Malicious code: viruses, Trojan horses, worms; Program flaws: buffer overflows, time-of-check to time-of-use flaws, incomplete mediation; Defenses: Software development controls, testing techniques

Security in conventional operating systems: Memory, time, file, object protection requirements and techniques, Protection in contemporary operating systems;

Unit III

Identification and authentication: Identification goals, Authentication requirements, Human authentication, Machine authentication

Trusted operating systems: Assurance, trust, design principles, evaluation, criteria, Evaluation process

Database management systems security: Database integrity, Database secrecy, Inference control, multilevel databases

Unit IV

Network security: Network threats: eavesdropping, spoofing, modification, denial of service attacks; Introduction to network security techniques: firewalls, virtual private networks, intrusion detection,

Management of security: Security policies, Risk analysis, Physical threats and controls

Legal aspects of security, Privacy and ethics

References:

Information Security: The Complete Reference, Second Edition; Mark Rhodes-Ousley
McGraw Hill Professional, 03-Apr-2013

Sixth Semester

Paper-602: Interactive Courseware Designing

Total Marks: 100

Theory marks: 80

Internal Assessment: 20

Time: 3 hours (for theory paper)

Question paper for each theory paper will have two questions from each of the four units. Student will be required to answer any one question from each unit. Unit V of the question paper will have six questions out of which the student will be required to answer any four questions. Each unit will carry equal marks.

Unit I

Coursework – introduction need and structure
Components of multimedia instructional material
Dale's Cone of Learning
Principles, methods and types of learning
ADDIE Model & Process

Unit II

Courseware design knowledge and skills
Selecting subjects for the interactive courseware
Preparing synopsis for a courseware
Sequencing of learning points
Role and responsibilities of team members

Unit III

Courseware development life cycle
Hypermedia authoring and publishing
Adding audio-visual contents
Creating self check exercises
Evaluating the quality of Courseware

Unit IV

Features of smart classrooms
Computer aided learning – process, types, pros and cons
Future of computer aided learning: ICT, m-learning, flipped learning, virtual university
Learning Management System (LMS): Moodles, Clickers, Massive Open Online Course (MOOCs)

References:

1. Interactive Multimedia in Education and Training edited by Sanjaya Mishra, Ramesh C. Sharma; Idea Group Inc (IGI). Copyright.
2. e-Learning by Design by William Horton; John Wiley & Sons. Copyright.
3. How to Plan and Manage an E-learning Programme by Roger Lewis, Quentin A. Whitlock; Gower Publishing, Ltd.. Copyright.
4. Integrated E-Learning: Implications for Pedagogy, Technology and Organization edited by Wim Jochems, Rob Koper, Jeroen Van Merriënboer; Routledge. Copyright.
5. The Design and Production of Self-instructional Materials by Fred Lockwood; Psychology Press. Copyright.

Sixth Semester

Paper-603: Mobile Computing

Total Marks: 100

Theory marks: 80

Internal Assessment: 20

Time: 3 hours (for theory paper)

Question paper for each theory paper will have two questions from each of the four units. Student will be required to answer any one question from each unit. Unit V of the question paper will have six questions out of which the student will be required to answer any four questions. Each unit will carry equal marks.

Unit I

Mobile Computing: Mobile communication, Mobile computing, Mobile computing architecture, Mobile Devices, Mobile System Networks, Mobility Management

Unit II

Global Systems for Mobile Communications (GSM): Mobile Services, System architecture, Protocols, Localization & Calling, Handover, Security.

GPRS: GPRS System Architecture, **UMTS:** UMTS System Architecture. **LTE:** Long Term Evolution

Unit III

Mobile Network Layer: Mobile IP: Goals, Assumptions, Entities and Terminology, IP Packet Delivery, Agent Discovery, Registration, Tunneling and Encapsulation, Optimizations, Dynamic Host Configuration Protocol (DHCP)

Unit IV

Mobile Transport Layer: Traditional TCP, Indirect TCP, Snooping TCP, Mobile TCP, Fast retransmit/fast recovery, Transmission /time-out freezing, Selective retransmission, Transaction oriented TCP, TCP over 2.5G/3G Wireless Networks.

Textbooks:

1. Jochen Schiller, "Mobile Communications", Pearson Education, Second Edition, 2008.
2. Dr. Sunilkumar, et al "Wireless and Mobile Networks: Concepts and Protocols", Wiley India.
3. Raj Kamal, "Mobile Computing", Oxford University Press.

Reference Books:

1. Asoke K Talukder, et al, "Mobile Computing", Tata McGraw Hill, 2008.
2. Matthew S.Gast, "802.11 Wireless Networks", SPD O'Reilly.
3. Ivan Stojmenovic, "Handbook of Wireless Networks and Mobile Computing", Wiley, 2007.
4. Kumkum Garg, "Mobile Computing", Pearson.
5. Handbook of Security of Networks, Yang Xiao, Frank H Li, Hui Chen, World Scientific, 2011.

Sixth Semester

Paper-604: Organization Portfolio

Total Marks: 100

Theory marks: 80

Internal Assessment: 20

Time: 3 Hours (for theory paper)

Question paper for each theory paper will have two questions from each of the four units. Student will be required to answer any one question from each unit. Unit V of the question paper will have six questions out of which the student will be required to answer any four questions. Each unit will carry equal marks. Students have the option to answer some questions in Hindi and others in English but within an answer to a question the language should be pure (not bilingual) and correct.

Unit I

Introduction to Portfolio: Identification of definition and purposes

Making a conceptual framework

Portfolio process and utilization

Portfolio assessment process

Steps of development: plan, gather artifacts, update references, creating support material, assembling portfolio, use in interviews

Unit II

Electronic portfolio development

Benefits of an electronic portfolio

Designing an electronic portfolio

Portfolio designing softwares

Portfolio websites

Unit III

Creating a portfolio shell

Identifying types of learning

Gathering of supporting documentation

Portfolio building and submission

Portfolio evaluation

Unit IV

Use of a portfolio in the graphic arts industry

Preparation and presentation techniques

Industry standards for portfolios

Time management and multitasking

Diversity of media

References:

Herbert, E. (2001). *The power of portfolios: what children have taught us about learning and assessment*. San Francisco: Jossey-Bass.

Williams, A. G. & Hall, K. J. (2001). *Creating your career portfolio: at a glance guide for students*. New Jersey: Prentice-Hall, Inc.

Williams, A. G., Hall, K. J., Shadix, K., & Stokes, D.M. (2005). *Creating your career portfolio: at a glance guide for dietitians*. New Jersey: Pearson Education, Inc.

Paper-605: Specialization (Elective)

Total Marks: 100
Practical Marks: 30
Internal Assessment: 20 marks

Rationale

The main idea behind Specialization (Elective) is to document the experiences of students being a team member of a desktop publishing/graphic designing /animation/audio-video production/web designing projects in a real life environment so that s/he could learn to recognize all minor intricacies of production work. Moreover s/he can produce and refer back to the report as and when it is needed. Nonetheless it would be helpful to authenticate the projects, he has completed.

Introduction

Each student shall be supposed to prepare a project report with CD/DVD (soft copy) content during the last semester of the course. The project work will be purely practical work. This report will be prepared in accordance with the format provided by the institute. Report should be printed both side with hard bound. Report should contain minimum 40-50 pages of text, graphics, visuals etc. One of the following specialization topics will be selected for the project work:

- Elective I – Web Production (Multimedia Website)
- Elective II- Advertisement Production (Ad Campaign)
- Elective III-Animation Production (Animation Film)
- Elective IV-Video Production (Short Film)
- Elective V- Radio Production (Radio Talk/Drama)

Process

Each student will write his/her report according to the following format:

- Idea/concept of the project
- Treatment of the project
- Technical equipment used
- Workflow of the project
- Contribution of the student
- Main observations during the training
- Key points of learning

Evaluation and Viva-Voce

During the specialization project, students will work under a supervisor to be decided by the production house. In the end of the project, supervisor will sign the report. As soon the project ends student will submit two copies of the report in the institute. The evaluation of the report will be done by the external expert to be decided by the Director of the institute. Apart from evaluation of report, external examiner will conduct a viva-voce for judging the knowledge of student.

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