

**Syllabus of M.Sc. (Multimedia) – First Year**  
**Sem I**  
**MSc(Multimedia).S1.1**  
**Fundamentals of Computer**

**(100 marks)**

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|---|-------------|
| <b>1. Basics of Computer</b><br>Basics Structure, ALU, Memory, CPU, I/O devices,<br>Development of Computers, Types of Computers<br>Data Representation:-BIT, BYTE, WORD, ASCII,<br>EBCDIC, BCD Code.<br>Number System & Conversion   | <b>8Hrs</b> |
| <b>2. Memory Units &amp; Operating System</b><br>RAM, ROM, PROM, EPROM, EEPROM<br>Base memory, extended memory, expanded memory,<br>Cache Memory<br>Why do we need an Operating System? Definition of OS<br><b>Types of OS:</b><br>Single User Single Tasking, Single User Multitasking,<br>Multi User Multitasking | <b>8Hrs</b> |
| <b>3. Microsoft Windows Vista</b><br>The Vista Interface (AERO)<br>New interface<br>Redesigned Explorer<br>Updated entertainment & media features<br>New & Improved accessories<br>Expanded network features  | <b>8Hrs</b> |
| <b>4. Getting started</b><br>Windows Vista desktop<br>Start menu<br>Getting Help<br>Working with folders<br>Working with files  | <b>8Hrs</b> |
| <b>5. Printer, Scanner or Digital Cameras</b><br>Working with Printers<br>Windows Photo Gallery<br>Setting up Scanner or Camera automatically<br>Transforming Images from Digital Camera<br>Fixing & printing photographs<br>Entertainment tools  | <b>8Hrs</b> |

**6. System Security & User Accounts** **8Hrs**  
Windows Security Center  
Checking security system using windows security center  
Windows defender  
User Accounts

**7. Performance & Maintenance** **8Hrs**  
Control Panel  
Installing new hardware manually  
Backing up files & restoring backup files  
Using windows accessories

**8. Introduction to Internet** **8Hrs**  
Web Browsers & Types  
Email  
Search Engines

**Reference Books:**

Fundamental Of Computers	By V.Rajaraman
Computers And Commonsense By	R.Hunt And Shell Y.
Computer Fundamental	By P.K. Sinha
Easy Microsoft Windows Vista	By Shelley D'Hara & Mark E Soper

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**Syllabus of M.Sc. (Multimedia Systems) - First Year**  
**Sem I**  
**MSc(Multimedia).S1.2**  
**Programming in 'C' Language**

**100 Marks**

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|-----------|---|---------------|
| <b>1.</b> | <b>Introduction</b><br>Introduction to 'C'<br>Basic structure of 'C' programs.<br>The 'c' character set.<br>Identifiers and keywords.<br>Constants and types of constants.<br>Variables and types of variables.<br>Data types in 'C'.<br>Operators Used in 'C'.<br>Input/Output statements used in 'C'  | <b>9Hrs.</b>  |
| <b>2.</b> | <b>Decision &amp; Looping Controls</b><br>Simple IF statement.<br>IF ELSE statement.<br>Nesting of IF ELSE statement.<br>ELSE IF ladder.<br>The SWITCH statement.<br>Introduction of loop.<br>a) Entry control loop.<br>i) WHILE loop.<br>ii) FOR loop.<br>b) Exit control loop.<br>i) DO WHILE loop.<br>Nested control structure.<br>Jumps in loop-Break, continue, go to statement. | <b>10Hrs.</b> |
| <b>3.</b> | <b>Arrays , structure and Union</b><br>Introduction.<br>Types of Array-one-dimensional arrays, two dimensional arrays.<br>Bounds checking.<br>Passing array to a function.<br>Structure<br>Union  | <b>9Hrs.</b>  |
| <b>4.</b> | <b>User defined Functions</b><br>Introduction.<br>Need for user defined functions.<br>Return Types of function.<br>Recursion.<br>Function and Array.  | <b>6Hrs.</b>  |

**5. Pointer** **10Hrs.**

Introduction.  
Declaration and Initialization.  
Accessing a variable through its pointers.  
Call By Value & Call By Reference  
Pointer to pointer  
Pointer to array  
Array of Pointer  
Pointer & function

**6. String and String functions** **7Hrs**

Introduction.  
Declaring and Initializing String variable.  
Reading and Writing of String.  
Standard Library String function.

**Reference: Books :**

- 1) Let us C  
By Yeshwant Kanetkar BPB Publication
- 2) Programming in Ansi 'C'  
By E. Balagurusami
- 3) Programming with ANSI & TURBO C  
By Ashok N. Kamthane Pearson Education
- 4) Pointers in C  
By Yeshwant Kanetkar

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**Syllabus of M.Sc. (Multimedia) – First Year**  
**Sem I**  
**Adobe Illustrator**

**MSc(Multimedia).S1.3**

**100 Marks**

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|-----------|--|--------------|
| <b>1.</b> | <b>Working with adobe illustrator</b><br>Illustrator workspace<br>1. About illustrator<br>Working with palettes<br>Toolbox<br>Zoom tool navigater palette<br>Viewing artwork<br>Saving document<br>File menu   | <b>8Hrs.</b> |
| <b>2.</b> | <b>Getting started with color</b><br>working with color<br>color models<br>selecting object<br>shapes tools<br>palette<br>gradient<br>group of object<br>arranging object<br>transformation tools<br>Edit menu | <b>8Hrs.</b> |
| <b>3.</b> | <b>Drawing</b><br>Paths<br>Drawing tools<br>Text tools<br>Liquify tools<br>Object menu   | <b>8Hrs.</b> |
| <b>4.</b> | <b>Working with Layers</b><br>Layer palette<br>Place Command<br>Graphics Style<br>Symbol palette<br>Hands on Project   | <b>6Hrs.</b> |

- 5. Type & select** **7Hrs.**  
All about font  
Type on various path  
Change cases  
All about select  
Deselect, Reselect, Inverse  
Save Selection  
Edit Selection
- 6. Filter & Effects** **7Hrs.**  
Illustrator filter  
Photoshop filter  
Photoshop blur  
Illustrator Effect  
Rasterizing  
Photoshop Effect
- 7. View & Effects** **7Hrs.**  
Hide:- Slice, Template, Earth board, Edges  
Show:- Bounding box, Transparency, Text Thread  
Guides:- Hide, Lock, Make, Clear, Smart,  
Show grid, Snap to grid, Snap to point, All about window, Action, Align,  
Brushes, Color, Document Info, Stroke tools, Symbols, Swatches, Types

### **Reference Books**

1. Adobe Illustrator by Adobe systems

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**Syllabus of M.Sc. (Multimedia) – First Year**  
**Sem I**  
**MSc(Multimedia).S1.4**  
**Animation – I (MS Powerpoint & Flash)**

**100 Marks**

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- 1. Introduction to Powerpoint** **8Hrs.**  
Starting Powerpoint  
Creating a Simple Presentation  
    -working with templates and wizards  
    -Adding text  
Formatting the text  
    -Applying new design,changing format with a new Layout,displaying  
    the ruler,changing indents,working with tabs  
Starting a New Slide  
    -changing views, starting, saving and printing presentation,
  
- 2. Slide Shows** **8Hrs.**  
Setting up a slide show, recording a slide show, Timing a slide show,Creating  
and formatting a table,Themes,colours,background,Creating and formatting  
chart
  
- 3. Clip Art, Pictures, Media and Animations** **8Hrs.**  
Adding clipart,Editing Clip art,Inserting an image on the slide,Recoloring and  
cropping, using the picture as the background, photo albums, movie clips,  
sound clips,linking media files,tranactions and animations
  
- 4. Understanding the flash interface** **8Hrs.**  
Reognising the stage and its content  
Becoming familiar flash's tools  
Understanding menu options  
Customising the Flash
  
- 5. Drawing and painting** **8Hrs.**  
Line tools  
Combining tools to enhance drawing  
Using painting Tools  
Working with symbols  
Recoging instances

**6. Time line, Animations and sound**

**8Hrs.**

Animating space capsule scene

Adding rocket ship scene

Exporting and publishing your movies

**Reference Books**

1. Multimedia : Making it work (5th Editions) By Tay Vaughan (Tataamc)
2. Multimedia : Computing Communications and Applications By Ralf Steinmetz, Klara Nahrstedt

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**Syllabus of M.Sc. (Multimedia) – First Year**  
**Sem II**  
**MSc(Multimedia).S2.1**  
**Introduction To Multimedia**

**100 Marks**

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|-----------|---|--------------|
| <b>1.</b> | <b>Introduction</b><br>CDROM and Multimedia Highway<br>Applications of Multimedia<br>Stages of Multimedia Project   | <b>8Hrs.</b> |
| <b>2.</b> | <b>Macintosh and Windows Productions Platforms</b><br>Macintosh Platform<br>Windows Platform<br>Connections- SCSI and IDE<br>Memory and Storage devices<br>Input and Output Devices | <b>8Hrs.</b> |
| <b>3.</b> | <b>Basic Software Tools</b><br>Text editing and word Processing tools<br>Painting and drawing tools<br>Image Editing Tools<br>Sound Editing Tools                                   | <b>8Hrs.</b> |
| <b>4.</b> | <b>Text</b><br>Fonts and faces : Cases , Serif versus sanserif<br>Using text in multimedia<br>Computers and text<br>Font Editing and designing tools<br>Hypermedia nad Hypertext    | <b>9Hrs.</b> |
| <b>5.</b> | <b>Sound and Images</b><br>MIDI Versus Digital Audio<br>Digital audio<br>Audio file formats<br>Making Still Images : BITMAPS , Vector Drawing<br>Colors<br>Image file formats       | <b>9Hrs.</b> |

**6. Animation and Video**

**10Hrs.**

Principal of Animation

Making animation that work : Rolling Ball ,Bouncing ball

Using Video

Broadcast Video Standards

Recording Formats

**Reference Books**

1. Multimedia : Making it work (5th Editions) By Tay Vaughan (Tataamc)
2. Multimedia : Computing Communications and Applications By Ralf Steinmtz, Klara Nahrstedt

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**Syllabus of M.Sc. (Multimedia) – First Year**  
**Sem II**  
**MSc(Multimedia).S2.2**  
**Computer Graphics**

**100 Marks**

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|-----------|---------------------------------------|---------------|
| <b>1.</b> | <b>Survey of Computer Graphics</b>    | <b>9Hrs.</b>  |
|           | Computer Aided Designing              |               |
|           | Presentation Graphics                 |               |
|           | Computer Art                          |               |
|           | Entertainment                         |               |
|           | Education & Training                  |               |
|           | Visualization                         |               |
|           | Image processing                      |               |
|           | Graphical User Interface              |               |
|           | Video Display Device                  |               |
|           | Raster Scan Systems                   |               |
|           | Random Scan Systems                   |               |
| <br>      |                                       |               |
| <b>2.</b> | <b>Output Primitives</b>              | <b>10Hrs.</b> |
|           | Points & Lines                        |               |
|           | Line Drawing Algorithms               |               |
|           | Loading the Frame Buffer              |               |
|           | Line Function                         |               |
|           | Circle generating Algorithm           |               |
|           | Ellipse Generating Algorithms         |               |
|           | Other Curves                          |               |
|           | Parallel Curve Algorithm              |               |
|           | Curve Function                        |               |
|           | Pixel Addressing                      |               |
|           | Filled Area function                  |               |
|           | Cell Array                            |               |
|           | Character Generation                  |               |
| <br>      |                                       |               |
| <b>3.</b> | <b>Attribute of Output Primitives</b> | <b>10Hrs.</b> |
|           | Line Attribute                        |               |
|           | Curve Attribute                       |               |
|           | Color & Gray Scale Level              |               |
|           | Area Fill Attribute                   |               |
|           | Character Attribute                   |               |
|           | Bundled Attribute                     |               |
|           | Ant aliasing                          |               |

- 4. Two –Dimensional Geometric Transformation** **8Hrs.**  
Basic Transformations  
Matrix Representation  
Composite transformation  
Other Transformation  
Transformation between Coordinates System  
Affine Transformation  
Transformation Function
- 5. Two Dimensional Viewing** **9Hrs.**  
The Viewing Pipeline  
Viewing coordinates Reference Frame  
Windows – to - Viewpoint Coordinate Transformation  
Clipping Operation  
Point Clipping  
Line Clipping  
Polygon Clipping  
Curve Clipping
- 6. Structures & Hierarchical Modeling** **9Hrs.**  
Structure Concepts  
Editing Structures  
Basic Modeling Concepts  
Hierarchical Modeling

### **Reference Books**

1. Computer Graphics by Donald Hearn & M Pauline Baker (PHI-second edition)

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**Syllabus of M.Sc. (Multimedia) – First Year**  
**Sem II**  
**MSc(Multimedia).S2.3**  
**Adobe Photoshop**

**100 Marks**

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|-----------|--|---------------|
| <b>1.</b> | <b>Introduction</b><br>An overview-Photoshop<br>Basic Operations<br>Reducing File Size<br>Changing Resolution & Pixels<br>Cropping Images<br>Brightness & Contrast<br>Color balancing                  | <b>9Hrs.</b>  |
| <b>2.</b> | <b>Selection tools &amp; Layer</b><br>Marquee & Lasso tool<br>Tweaking<br>Extract Filter<br>Fundamentals of layer<br>Adding & Deleting Layers<br>Grouping Layers                                       | <b>10Hrs.</b> |
| <b>3.</b> | <b>Vector, Text &amp; Shapes</b><br>How Vector Graphics Works<br>Shapes<br>The written Word<br>Mask & alpha Channels<br>Putting Text behind object<br>Cut out & vector mask<br>Cleaning Up photographs | <b>10Hrs.</b> |
| <b>4.</b> | <b>Image formats</b><br>JPEG<br>PNG<br>GIF<br>Uncompressed formats - .tiff   | <b>8Hrs.</b>  |

**5. Color management**

**9Hrs.**

Introduction to color Management

Getting consistent color

Proofing images

Using web colors

Slicing

**Reference Books**

1. Flash 5 by Patricia Hartman (bpb publication)

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**Syllabus of M.Sc. (Multimedia) – First Year**  
**Sem II**  
**MSc(Multimedia).S2.4**  
**Animation II [MAYA]**

**100 Marks**

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|-----------|--|---------------|
| <b>1.</b> | <b>Introduction</b><br>What MAYA can do?<br>MAYA development<br>Project Overview:- Beginnings, Plan B, The killer's B Plan   | <b>4Hrs.</b>  |
| <b>2.</b> | <b>Digital Studio Pipeline</b><br>Pre production<br>Production Setup, Production Flow<br>Technical consideration:- Getting Cozy, Commands,<br>User interface viewing, Managing files             | <b>5Hrs.</b>  |
| <b>3.</b> | <b>MEL</b><br>What is MEL?<br>MAYA as embedded language<br>Specific essential<br>MEL commands, Line & script editor  | <b>5Hrs.</b>  |
| <b>4.</b> | <b>Methods</b><br>Set your Sights<br>Plan your journey<br>Handle the details<br>Handle the Ups & Downs   | <b>6Hrs.</b>  |
| <b>5.</b> | <b>Sets</b><br>Roughing it in<br>Building blocks<br>Building buildings   | <b>4Hrs.</b>  |
| <b>6.</b> | <b>Props &amp; Characters</b><br>Basic prop guidelines<br>Simple prop model<br>The Car: A complex prop model<br>Functional & arithmetic criteria<br>Additional criteria<br>Creating spot & jerks | <b>10Hrs.</b> |

**7. Technical directions**

**8Hrs.**

Layouts: What is the layout & visual clarity?

Node based Architecture:- Transformation, Object, shapes & components,

MAYA node based basic

Making advanced connections

Particles & dynamics

**Reference Books**

- 1) **Maya 5 by Mark Adams, Eric Miller & Max Sims  
(New Rider Publication)**

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