Vocational Curriculum – 2012

(With effect from the academic year 2012-2013)

Curriculum of Intermediate Vocational Course

In

COMPUTER GRAPHICS & ANIMATION

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education,
Andhra Pradesh, Hyderabad

&

Board of Intermediate Education,
Andhra Pradesh, Hyderabad
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Introduction
The objectives of Vocational Educational System in the context of fulfillment of national goal are to train the students for employment in the growing sectors of economy both organized and unorganized, to provide an alternative channel for higher education and to prepare students for self-reliance and gainful employment. There has been a great improvement in the demand for computer professionals during the past few years. To cater to certain graphical oriented requirements of the business sector, the Computer graphics and Animation course syllabus has been drafted.

Objectives of the Course
To train the students to acquire skills in generating marketable computer graphics and animated pictures, especially in the area of advertisements.
To train the students to acquire skills and mastery in the use of different software producing graphics and animation.
To impart real-life advertisement exposure in an organization/PTC (Production cum Training centre) under OJT.

Job Opportunities
Media Production as Animators
Computer Aided course-ware development as Animation Assistants Drawing/Film making DTP Works
Photo editing assistants in studios
Local Cable TV houses (as AD makers)
Gaming studios
Freelancing works (self employment)

Skills
Skills in Understanding the entire multimedia production process
Skills in Design (Manual Sketching/Drawing basic level)
Skills in Graphic Designing (Computer Assisted)
Skills in Animation (computer assisted 3D animation)
Skills in Internet Technologies with a special focus to Web Designing
# SCHEME OF INSTRUCTION AND EXAMINATION

## I. ANNUAL SCHEME OF INSTRUCTION AND EXAMINATION FOR 1ST YEAR COMPUTER GRAPHICS & ANIMATION COURSE

<table>
<thead>
<tr>
<th>Part-A</th>
<th>Theory</th>
<th>Practicals</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Periods</td>
<td>Marks</td>
<td>Periods</td>
</tr>
<tr>
<td>1. English</td>
<td>150</td>
<td>50</td>
<td>-</td>
</tr>
<tr>
<td>2. General Foundation</td>
<td>150</td>
<td>50</td>
<td>-</td>
</tr>
</tbody>
</table>

### Part-B

| 3. Paper-I Computer Fundamental & MS Office | 135 | 50 | Paper-I Windows & MS Office | 135 | 50 | 270 | 100 |
| 4. Paper-II Programming in “C” | 135 | 50 | Paper-II C-Programming | 135 | 50 | 270 | 100 |

6. OJT | - | - | 365 | 100 | 365 | 100 |

Total | 705 | 250 | 795 | 250 | 1475 | 500 |

On the Job Training: November & December

## II. YEAR COMPUTER GRAPHICS & ANIMATION COURSE

<table>
<thead>
<tr>
<th>Part-A</th>
<th>Theory</th>
<th>Practicals</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Periods</td>
<td>Marks</td>
<td>Periods</td>
</tr>
<tr>
<td>1. English</td>
<td>150</td>
<td>50</td>
<td>-</td>
</tr>
<tr>
<td>2. General Foundation</td>
<td>150</td>
<td>50</td>
<td>-</td>
</tr>
</tbody>
</table>

### Part-B

| 3. Paper-I Graphic Designing | 110 | 50 | Paper-I Graphic Designing | 115 | 50 | 225 | 100 |
| 4. Paper-II 3D Animation | 110 | 50 | Paper-II 3D Animation | 115 | 50 | 225 | 100 |
| 5. Paper-III Internet Technologies. | 110 | 50 | Paper-III Internet Technologies. | 115 | 50 | 225 | 100 |

6. OJT | - | - | 450 | 100 | 450 | 100 |

Total | 630 | 250 | 795 | 250 | 1425 | 500 |

I+II+III | 1000 |

On the Job Training: August, September & October
EVALUATION OF ON THE JOB TRAINING:

The “On the Job Training” shall carry 100 marks for each year and pass marks is 50. During on the job training the candidate shall put in a minimum of 90% of attendance.

The evaluation shall be done in the last week of January.

Marks allotted for evaluation:

<table>
<thead>
<tr>
<th>S.No</th>
<th>Name of the activity</th>
<th>Max. Marks allotted for each activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Attendance and punctuality</td>
<td>30</td>
</tr>
<tr>
<td>2</td>
<td>Familiarity with technical terms</td>
<td>05</td>
</tr>
<tr>
<td>3</td>
<td>Familiarity with tools and material</td>
<td>05</td>
</tr>
<tr>
<td>4</td>
<td>Manual skills</td>
<td>05</td>
</tr>
<tr>
<td>5</td>
<td>Application of knowledge</td>
<td>10</td>
</tr>
<tr>
<td>6</td>
<td>Problem solving skills</td>
<td>10</td>
</tr>
<tr>
<td>7</td>
<td>Comprehension and observation</td>
<td>10</td>
</tr>
<tr>
<td>8</td>
<td>Human relations</td>
<td>05</td>
</tr>
<tr>
<td>9</td>
<td>Ability to communicate</td>
<td>10</td>
</tr>
<tr>
<td>10</td>
<td>Maintenance of dairy</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

NOTE: The On the Job Training mentioned is tentative. The spirit of On the Job training is to be maintained. The colleges are at liberty to conduct on the job training according to their local feasibility of institutions & industries. They may conduct the entire on the job training periods of (363) I year and (450) II year either by conducting classes in morning session and send the students for OJT in afternoon session or two days in week or weekly or monthly or by any mode which is feasible for both the college and the institution. However, the total assigned periods for on the job training should be completed. The institutions are at liberty to conduct On the Job training during summer also, however there will not be any financial commitment to the department.
# Scheme of Instructions Per Week Electrical Technician Course

<table>
<thead>
<tr>
<th></th>
<th>Theory</th>
<th>Practicals</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Part-A</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. English</td>
<td>4</td>
<td>--</td>
<td>4</td>
</tr>
<tr>
<td>2. G.F.C.</td>
<td>4</td>
<td>--</td>
<td>4</td>
</tr>
<tr>
<td><strong>Part-B</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vocational Subjects</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paper-I</td>
<td>4</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Paper-II</td>
<td>4</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Paper-III</td>
<td>4</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>20</td>
<td>12</td>
<td>32</td>
</tr>
</tbody>
</table>
## LIST OF SUBJECTS IN PRINTING TECHNOLOGY SYLLABUS

### FIRST YEAR

<table>
<thead>
<tr>
<th>Theory</th>
<th>Periods</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Programming in C (Theory Paper II)</td>
<td>135</td>
<td>50</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Practical</th>
<th>Periods</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Window &amp; MS Office (Practical Paper-I)</td>
<td>135</td>
<td>50</td>
</tr>
<tr>
<td>2. C- Programming (Practical Paper II)</td>
<td>135</td>
<td>50</td>
</tr>
<tr>
<td>3. Engineering Drawing (Practical Paper III)</td>
<td>135</td>
<td>50</td>
</tr>
<tr>
<td>4. On the Job Training</td>
<td>363</td>
<td>100</td>
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</table>

### SECOND YEAR

<table>
<thead>
<tr>
<th>Theory</th>
<th>Periods</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Graphic Design (Theory Paper I)</td>
<td>110</td>
<td>50</td>
</tr>
<tr>
<td>2. 3 D Animation (Theory Paper II)</td>
<td>110</td>
<td>50</td>
</tr>
<tr>
<td>3. Internet Technologies (Theory Paper III)</td>
<td>110</td>
<td>50</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Practical</th>
<th>Periods</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Graphic Design (Practical Paper I)</td>
<td>115</td>
<td>50</td>
</tr>
<tr>
<td>2. 3 D Animation (Practical Paper II)</td>
<td>115</td>
<td>50</td>
</tr>
<tr>
<td>3. Internet Technologies (Practical Paper III)</td>
<td>115</td>
<td>50</td>
</tr>
<tr>
<td>4. On the Job Training</td>
<td>450</td>
<td>100</td>
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</tbody>
</table>

Note : Scheme of Valuation for Practicals :

1. Experiment : 20 Marks
2. Presentation : 10 Marks
3. Viva : 10 Marks
4. Record : 10 Marks

50 Marks
6. Syllabus

COMPUTER GRAPHICS & ANIMATION

I YEAR

PART-B - VOCATIONAL SUBJECTS

PAPER-I COMPUTER FUNDAMENTAL & MS-OFFICE [THEORY]

PERIODS/WEEK: 04

<table>
<thead>
<tr>
<th>S.NO.</th>
<th>UNITS</th>
<th>NO.OF PERIODS</th>
<th>WEIGHTAGE OF MARKS</th>
<th>NO. OF SHORT QUESTIONS</th>
<th>NO.OF ESSAY QUESTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Introduction to Computer systems and Hardware</td>
<td>10</td>
<td>8</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>II</td>
<td>Overview of Operating Systems</td>
<td>10</td>
<td>8</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>III</td>
<td>MS Word</td>
<td>40</td>
<td>18</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>IV</td>
<td>MS Excel</td>
<td>30</td>
<td>16</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>V</td>
<td>MS Power Point</td>
<td>20</td>
<td>8</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>VI</td>
<td>Ms Access</td>
<td>25</td>
<td>10</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>135</strong></td>
<td><strong>68</strong></td>
<td><strong>10</strong></td>
<td><strong>8</strong></td>
</tr>
</tbody>
</table>

Note:
The question paper contains TWO Sections.
SECTION – A contains 10 short questions carries 2 marks each,
SECTION – B contains 8 Long questions carries 6 marks each.
The student has to answer ALL questions in SECTION – A and any FIVE Questions in SECTION-B.
I YEAR (THEORY)

PAPER 1 : COMPUTER FUNDAMENTALS & MS OFFICE.

1. Introduction to Computer systems and Hardware
   • Introduction to Computers, generations of computer
   • Classification of Computers based on Purpose, Operation & Size
   • Anatomy of Computers
   • Number Systems
   • Basic I/O Devices
   • Block Diagram of CPU
   • Memory units- Primary and Auxiliary memory
   • Programming Languages, general software features trends and utilities.

2. Overview of Operating Systems
   • Introduction to Operating system, function and its types
   • Features of DOS
   • Working with DOS Commands
   • Features of Windows
   • Meaning of Multitasking, File system, desktop components, control panel, Windows Explorer, Device manager, File Manager and Program Manager, Display properties, taskbar properties etc.

3. MS-Word
   • Introduction to Word Processing
   • Editing a Document
   • Move and Copy Text and Help System
   • Formatting Text and Paragraph
   • Finding and Replacing Text and Spell Checking
   • Using Tabs
   • Enhancing Document
   • Columns, Tables and Other Features
   • Using Graphics, Templates and Wizards
   • Using Mail Merge
   • Miscellaneous features of Word

4. MS-Excel
   • Introduction to Spreadsheet
   • Creating Worksheets & feeding data
   • Using functions
   • Editing Cells and Using commands and functions
   • Moving and Copying, Inserting and Deleting Rows and Columns
   • Formatting a Worksheet
   • Opening, Saving and Printing a Worksheet
   • Working with Charts
   • Working with Macros
   • Pivot tables
5. MS-PowerPoint
   • Creating Presentations using AutoContent Wizard, Template & Blank Presentation
   • Working with Master’s Slide, Title handout and Notes
   • Viewing a Presentation
   • Drawing Objects & Inserting OLE
   • Drawing freeform shapes
   • Rotating Objects
   • Animation in slides/objects

6. MS-Access
   • Concept of data and information.
   • Introduction to Database management systems.
   • Creating a database.
   • Concepts of related tables and integrity constraints.
   • Designing tables.
   • Use of queries, types of queries and creating queries.
   • Creating Forms and Reports

Reference Books:
1. PC Software for Windows made simple by R K Taxali — Tata McGraw Hill
2. Fundamentals of MS-Office — BPB Publication
# COMPUTER GRAPHICS & ANIMATION (PRACTICALS)

## I YEAR

### PART-B - VOCATIONAL SUBJECTS

### PAPER-I WINDOWS & MS-OFFICE [PRACTICALS]

**PERIODS/WEEK: 04**

**TOTAL PERIODS: 135**

<table>
<thead>
<tr>
<th>S.NO.</th>
<th>UNITS</th>
<th>NO.OF PERIODS</th>
</tr>
</thead>
<tbody>
<tr>
<td>II</td>
<td>Working With Windows</td>
<td>30</td>
</tr>
<tr>
<td>III</td>
<td>MS Word</td>
<td>30</td>
</tr>
<tr>
<td>IV</td>
<td>MS Excel</td>
<td>40</td>
</tr>
<tr>
<td>V</td>
<td>MS Power Point</td>
<td>15</td>
</tr>
<tr>
<td>VI</td>
<td>MS Access</td>
<td>20</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>135</strong></td>
</tr>
</tbody>
</table>
UNIT - I

1. FAMILIARIZATION WITH TO WINDOWS - Working with the following:
   - Features of windows
   - Graphical user interface (GUI)
   - File System
   - Multitasking
   - Plug and Play Support
   - Multimedia Support
   - Comparison with CUI (Dos or Unix)

2. WORKING WITH WINDOWS - Working with the following:
   - Elements of Windows Interface
   - My Computer
   - My Documents
   - Internet Explorer
   - Network Neighborhood
   - Recycle Bin
   - Taskbar
   - My Briefcase
   - Shortcut Menus
   - Property window
   - Mouse Operations
   - Shortcuts

3. STARTING A PROGRAM (APPLICATION) - Working with the following:
   - Start Menu
   - Programs Menu
• Documents Menu
• Settings Menu
• Find and Help Menu
• Run Menu
• Shutdown Menu
• Log-Off Menu

4. WINDOWS MANIPULATION
• Customizing Windows
• Resizing Windows
• Moving a Window
• Closing a Window

5. SHUTTING DOWN THE PC
• Stand By
• Shut Down
• Restart in MS.DOS Mode
• Restart
• Log Off Windows
• Log On as a Different User.

UNIT - II
6. MANAGING FILES AND FOLDERS WORKING IN WINDOWS - Working with the following:
• Folders
• Desktop
• My Computer Folder
• My Document Folder
• Notepad
• Creating Text Files
• Editing Text Files
• All the Menu Features of Notepad
• Renaming the Folders
• Selecting the Objects in Folders
• Selecting One Folder
• Boundary Box Method to Select Multiple Files
• Selecting Single Group of Consecutive Folders
• Selecting Non-Consecutive Folders
• Selecting Group Of Consecutive Folders
• Deleting Files and Folders
• Using Recycle – Bin
• Restoring Deleted File or Folder
• Emptying the Recycle Bin

1. OPENING MULTIPLE OBJECTS:
• Open Multiple Objects
• Open Multiple Applications Using the Mouse
• Creating our Own Folder
• Copying Objects
• Drag and Drop Feature
• Using Keyboard
• Using Standard Toolbar
• Right Dragging Method
• Moving Objects
• Drag and Drop Feature
• Using Keyboard
• Using Standard Toolbar
• Right Dragging Method

2. CONFIGURING WINDOWS FOR UNIQUE USER AND DESKTOP:
• Managing Passwords
• Setting Programs
• Starting Programs on Start-Up Menu
• Changing the Icon for a File Tag or Other Object
• Control Panel
• Setting Mouse Properties
• Setting Display Properties
• Setting Printer Properties
• Setting Date and Time Options
• Controlling the Folders Appearance
• Setting the Font Appearance
• Using the Task Bar
• Features of Taskbar
• Setting the Properties of Taskbar
• Desk Top
• Features Of Desk Top
• Customizing the Desktop
• Windows Explorer
• Viewing Files and Folders
• Creating Files and Folders
• Dragging and Dropping Files
• Cut – Copy – Paste
• Searching Files
• Deleting Files and Folders
• Previewing a Document with Quick View.

UNIT –III

1. USING ACCESSORIES, DISK TOOLS AND PRINTERS ACCESSORIES AVAILABLE IN WINDOWS:
   • Using Standard Calculator
   • Using Scientific Calculator
   • Statistics Box
   • Word Pad
     o Starting Word-Pad
     o Creating New WordPad Document
     o Opening WordPad Document
     o Saving a Document
     o Selecting Text
     o Moving and Copying Text

   • WINDOWS PAINT
     o Starting Windows Paint
o Drawing Pictures with Paint
o Drawing with Pencil Tool
o Drawing the Picture with Tools
o Embedding a Paint Object
o Previewing Painting

LOCATING YOUR FILES AND ORGANISING DISK.

- Finding Files using File Tool
- Using Wild-Cards
- Finding a Program–File
- Searching by Modification Date

- Making a Search Case – Sensitive
- Formatting and Labeling Disks
- Back-Up Files
  - Creating Back-Up File
  - Saving File Set
  - Opening File-Set for using in Back-Up
  - Restoring Files
  - Verifying Back-Up Files

USING PRINTERS

- Windows – 98 Printing Features
- Spooled Printing
- Printing from Windows – Applications
- Printing a Document
- Printing Multiple Copies
- Printing from Desktop
- Printing from Context Menu
- Printing with Drag and Drop
- Printing with Send To
- Printing from a Folder
MS -OFFICE

MS-WORD:

Familiarization with MS Word

1. Features of Word Processor
2. Opening MS Word
3. Contents of MS Word Window
4. Saving with password.
5. Opening an existing Document

Text Formatting

1. Selecting Continuous and Discontinuous text
2. Using Cut, Copy and Paste
3. Using Paste Special
4. Changing the Font type, style, size and color.
5. Changing the text case
6. Highlighting the text
7. Using superscripted and subscripted text
8. Clearing the formatting

Paragraph Formatting

1. Text alignment
2. Line spacing adjustment
3. Indenting the text
4. Bullets and Numbering
5. Inserting and changing tabs
6. Applying Borders and shading

Searching for text

1. Finding and Replacing Text
2. Jumping to the required section using “Go To”

Inserting Objects

1. Inserting and formatting pictures.
2. Inserting Symbols and equations.
3. Inserting and editing shapes and charts
4. Inserting page and section breaks
5. Inserting Text Box
6. Inserting Word Art
7. Inserting Auto text
8. Working with Headers and Footers
9. Inserting and formatting Page Numbers
10. Inserting comments, footnotes and endnotes
11. Inserting Hyperlinks

Working with tables
1. Using different techniques to insert tables.
2. Inserting and deleting cells, columns and rows.
3. Merging and splitting cells
4. Aligning text in tables
5. Changing text direction in tables
6. Working with borders and shading
7. Wrapping text around a table
8. Inserting and modifying formulae in tables
9. Repeating header rows in different pages

Working with Page Layout
1. Setting the page size and margins
2. Setting the page orientation
3. Changing page colour and borders
4. Inserting watermarks
5. Insert line numbers

Additional Tools
1. Using the spell and grammar check tool
2. Using Thesaurus
3. Counting words in documents
4. Using Autocorrect options
5. Showing/hiding the formatting marks
6. Creating and using Macros
7. Arranging and Viewing multiple windows

Mail Merge
1. Creating and storing data for mail merge.
2. Creating the mail merge documents.
3. Merging the documents, editing mail merged documents.

**Printing the Documents**
1. Previewing the documents to be printed
2. Setting the Printer
3. Setting the print range and number of copies
4. Setting the print properties

**Emphasis to be laid on using Shortcut Keys for each task.**

**MS-EXCEL**

- Features of MS-Excel
- Contents of the MS-Excel Window
  - Title Bar
  - Menu Bar
  - Toolbars
  - Row and Column Headings
  - Cell
  - Formula Bar
  - Reference Area
  - Status Bar
  - Scroll Bar
  - Worksheet Tabs
  - Office Assistant

**Managing Worksheets**

- Selecting Worksheets
- Renaming Worksheet
- Inserting and Deleting Worksheets
- Changing the order of Worksheets
- Copying Worksheets
- Selecting cells, columns, rows and sheets
- Inserting Rows and Columns
- Hiding rows and Columns
- Freezing rows and Columns
• Merging Cells
• Formatting Cells
• Cell Referencing
• Saving a Workbook
• Protecting Worksheets, locking and hiding cells.

**Working with Data**
• Entering Data
• The Data Types
• Formatting Data
• Entering Series
• Copying Data
• Using Paste and Paste Special
• Relative and Absolute Referencing
• Assigning Range Names

**Performing Calculations in Excel**
• Entering simple formulae for addition subtraction etc.
• Familiarization with the categories of functions
• Working with the functions in Math and statistical category like sum, product, sqrt average, max, min, round etc.
• Working with the functions in Logical category
• Working with the functions in Date and Time category
• Working with the functions in Text category
• Applying functions to create students marks sheets and reports, Employee pay details and Income Tax computations etc.
• Linking Sheets and Pasting functions

**Charts in Excel**
• Familiarization with the types of charts
• Creating and formatting charts

**Working with Data**
• Applying Conditional Formatting to cells
• Sorting and Filtering Data
• Creating Subtotals
• Applying Validation
• Creating and using Lists
• Creating Data Forms

**Additional Tools in Excel**
• Formula Auditing
• Using Goal seek and creating scenarios.
• Creating one and two variable data tables
• Creating and modifying a pivot table

**Printing Excel Sheets**
• Setting the Page Size, orientation and margins.
• Previewing Excel sheets
• Inserting header and footer
• Repeating rows / columns to repeat in all pages.

**MS – POWER PONT**

**Starting power point**

**Power Point Window Description**
• Title Bar
• Menu Bar
• Toolbars
• Ruler bar
• Slide
• Scroll Bar
• Movement Buttons
• View Buttons
• Status Bar

**The MS-PowerPoint Views**
• Slide Sorter View
• Outline View
• Notes Pages View
• Slide Show View
Creating a new presentation
- Using templates
- Using Slide Layouts
- Inserting, deleting and rearranging slides
- Creating Speaker’s notes

Working with Slides
- Inserting and formatting text.
- Inserting and formatting shapes and pictures
- Inserting tables and charts
- Inserting and editing organization charts
- Inserting hyperlinks
- Inserting music and video
- Inserting various animation effects to the inserted objects

Running the Slide Show
- Modifying the slide transition
- Setting and Controlling the slide show - timer or mouse controlled

MS-ACCESS
- Familiarization with the access window and objects.
- Table design Using design wizard
- Assigning primary key, adding validations, changing the data format in table design
- Creating fields with lookup data.
- Creating relationships between tables
- Creating simple select queries in design mode.
- Modifying the queries to add criteria, filtering etc.
- Creating calculated queries
- Creating Forms and modifying Form Design
- Creating Reports and modifying Report Design

Reference Book:
Fundamentals of MS-Office — BPB Publications
### COMPUTER GRAPHICS & ANIMATION (THEORY)

**I YEAR**

**PART-B - VOCATIONAL SUBJECTS**

**PAPER-II: PROGRAMMING ‘C’**

**PERIODS/WEEK: 04**

**TOTAL PERIODS: 135**

<table>
<thead>
<tr>
<th>S.NO.</th>
<th>UNITS</th>
<th>NO.OF PERIODS</th>
<th>WEIGHTAGE OF MARKS</th>
<th>NO. OF SHORT QUESTIONS</th>
<th>NO.OF ESSAY QUESTIONS</th>
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<td>I</td>
<td>Introduction to Problem Solving Techniques</td>
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<tr>
<td>II</td>
<td>Features of ‘C’</td>
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<td>III</td>
<td>Functions</td>
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<td>Structures in C</td>
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</table>

Note: After completion of every Unit one/two assignments will be given to the students.
PAPER 2: PROGRAMMING IN ‘C’

1. Introduction to Problem Solving Techniques
   - Procedure and Algorithms
   - Flowcharts
   - Pseudo code

2. Features of ‘C’
   - Introduction to ‘C’
   - Structure of a ‘C’ Program
   - Data types in ‘C’ – Constants & Variables- operators and Expressions
   - Statements – data definition- assignment-
   - I/O control structure (if, if-else, for, while, do-while)
   - Structure for looping and nested looping
   - Branching (switch, break, continue)
   - Unconditional branching (go to statement) simple programs covering above Units

3. Functions
   - What is a function?
   - Difference between a function and a procedure
   - Advantages of functions
   - User defined and library functions, main function
   - Return types.
   - Concepts associated with functions – Recursion, scope of a function, extent of a variable.
   - Use of various categories of built in functions like math( ), string( ) etc processing.

4. Arrays in ‘C’
   - Array as Data structure- defining single and multidimensional arrays, simple operations on arrays, simple programs on arrays.
   - File operations like fopen( ), fclose( ), fprintf( ), fscanf( ) etc.

5. Structures in C
   - Structures:- definition - declaration – operation on structures, array of structures, array with structures, structure as data types, operations on structures
   - Unions – definition – difference between union and structure. Creating and using a structure
# COMPUTER GRAPHICS & ANIMATION (PRACTICALS)

## I YEAR

### PART-B - VOCATIONAL SUBJECTS

**PAPER-II: C PROGRAMMING**

**PERIODS/WEEK: 04**

**TOTAL PERIODS: 135**

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<tr>
<td>II</td>
<td>Programs involving control structures</td>
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<tr>
<td>III</td>
<td>Programs to create and use Functions</td>
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<tr>
<td>IV</td>
<td>Programs involving Arrays</td>
<td>15</td>
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<tr>
<td>V</td>
<td>Structures in C</td>
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<tr>
<td>VI</td>
<td>File operations</td>
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Note: After completion of every Unit one/two assignments will be given to the students
COMPUTER GRAPHICS & ANIMATION (PRACTICAL)

I YEAR

PRACTICAL – 2: C PROGRAMMING

The List of Programs is given below:

1. Area of a Circle
2. Lowercase to Uppercase Character Conversion
3. Lowercase to Uppercase Text
4. Reading a Writing a line of Text
5. Averaging Student exam codes
6. Compound Interest Calculation
7. Real Roots of Quadratic Equations.
8. Evaluating a Polynomial
9. Generating multiplication Table of given number ‘n’
10. Averaging list of numbers.
11. Calculation of Students Results and division
12. Converting several line of text to Uppercase
13. Encoding a String of Characters
14. Calculation of compound interest with error trapping
15. Solution for algebraic equations
16. Searching Palindrome
17. Check whether given number is Armstrong Number or not
18. Largest of three given numbers
19. Calculation of Factorial to given number
20. Generating Pascal Triangle
21. Printing Backwards
22. Finding sum of series
23. finding length of given text of lines.
24. Search for maximum
25. Generating Fibonacci numbers
26. Matrix Addition/Subtraction
27. Reordering list of numbers
28. A Piglet Generator
29. Adding two tables of numbers
30. Reordering list of Strings
31. Matrix Multiplication
32. Displaying the Day of the Year
33. Concatenation of two strings
34. Updating Customer records
35. Locating Customer records
37. Raising a number to Power
38. Creating a Data File (lowercase to uppercase)
39. Reading a Data File
40. Creating a File containing Customer Records
41. Updating a File containing Customer Records
44. Displaying in Bit pattern

**Reference Books:**
1. Let us C by Yashwant Kanetkar
2. Computers and Common sense by Roger Hunt & P.B. Shelley
3. Introduction to Computers by Rajaraman
COMPUTER GRAPHICS & ANIMATION (THEORY)

I YEAR

PART-B - VOCATIONAL SUBJECTS

PAPER-III: FUNDAMENTALS OF COMPUTER GRAPHICS & ANIMATION

PERIODS/WEEK:  04                                                TOTAL PERIODS: 135

TIME SCHEDULE, WEIGHT AGE & BLUE PRINT

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<td>What is Multimedia</td>
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<td>II</td>
<td>Text or Typography</td>
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<td>III</td>
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<td>Sound</td>
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<td>V</td>
<td>Animation</td>
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<td>Video</td>
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<tr>
<td>VII</td>
<td>Creating Multimedia content</td>
<td>20</td>
<td>10</td>
<td>2</td>
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<tr>
<td>VIII</td>
<td>Multimedia Jobs / Skills</td>
<td>15</td>
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<td>IX</td>
<td>Planning and costing</td>
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<td>68</td>
<td>10</td>
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</table>

Fundamentals of Computer Graphics and Animation:

1. **What is Multimedia (10 hours)**
   - Definition –
   - Multimedia elements
     - Text
     - Graphics
     - Audio
     - Video
     - Animation
     - Interactivity
   - Where to use – (4)
     - Business
     - Schools
     - Home
     - Public places
     - Virtual reality
   - Delivering multimedia –(3)
     - CDROM, DVD, Flash Drives
2. **Text or Typography - 10 Hours**
   - About Fonts & Faces
   - Using Text in Multimedia
   - Computers and text
   - The power of text with examples (Ads)

3. **Images (10 Hours)**
   - Making still images
     - Bitmaps
     - Vector drawing
     - Vector vs. bitmap
     - 2d-3d drawing
   - Color
     - Understanding natural light and color
     - Computerized color
     - Color palettes
   - Image file formats

4. **Sound (10 Hours)**
   - Sound Theory
   - Digital audio
   - Midi audio
   - Midi vs. digital audio
   - Sound in multimedia
   - Audio file formats
   - The power of sound(examples)

5. **Animation (10 Hours)**
   - About motion graphics
   - Principles of animation
   - Animation by computer
     - Animation techniques
     - Animation file formats
   - Display of animated content

6. **Video (15 Hours)**
   - Using video
   - Analog video
   - Digital video
   - Characteristics of video
   - Digital video containers
     - Codec
     - Video format converters
     - Video formats
   - How to get video clips
COMPUTER GRAPHICS & ANIMATION COURSE

- Shooting and editing video
  - Shooting platform
  - Storyboarding
  - Lighting
  - Chroma keys
  - Composition
  - Titles and text
  - Nonlinear editing (NLE)

7. Creating Multimedia content (20 Hours)

- Stages of multimedia project
- Creativity & Observation skills
- Organization of MM Assets
- Communication process
  - SMR in detail
- Hardware
  - Windows vs. Macintosh
  - Memory and storage devices
  - Input devices
  - Output devices
  - Connectors (ports)
- Software
  - Word processors
  - OCR software
  - Painting / drawing tools
  - 2D / 3D modeling and animation software
  - Image editing tools
  - Sound editing tools
  - Animation, video and digital movie tools
  - Other helpful tools (current trends)
- What is authoring?

8. Multimedia Jobs / Skills (15 Hours)

- Project Manager
- Multimedia Designer
- Interface Designer
- Writer
- Video Specialist
- Audio Specialist
- Multimedia Programmer
- Multimedia Producer for web
- Animator (specialization)
9. **Planning and costing (10 Hours)**
   - Idea
   - Prototype development
   - Alpha testing
   - Beta testing
   - Delivery
   - Scheduling
   - Estimating

10. **Multimedia & Internet (25 Hours)**
    - Designing and Producing
      - From Layout to Production
    - Content and talent
      - Research skills
      - What exactly industry requires (skill-set)
    - The internet and Multimedia
      - Rich Media Content examples
    - Designing for WWW using
      - Text
      - Graphics
      - Audio
      - Video
      - Animation
      - Interactivity / authoring
    - Delivering Multimedia content
      - Online
      - Offline

**Note:**
Only Studio Visits if course scope permits
Display of Multimedia CD’s & Animation content for knowledge
Provides strong foundation for 2nd year syllabus.

**REFERENCE BOOKS**

Primary:

Secondary:
Digital Multimedia by Nigel Chapman and Jenny Chapman (Apr 14, 2009)
Exploring Multimedia for Designers (Design Exploration) by Ray Villalobos (Sep 21, 2007)
Multimedia Learning by Richard E. Mayer (Jan 12, 2009)
An Introduction to Digital Multimedia by T.M. Savage and K.E. Vogel (Oct 14, 2008)
SUPPORTING REASONS:

- As we found that the Hardware subject is diverting the attention away from the main objective of Computer Graphics and Animation course. We suggested to replace Hardware with relevant subject matter which is Fundamentals of computer graphics and Animation.

- The new module (Fundamentals of computer graphics and Animation) works as a preparatory module for the students to gain knowledge in the second year.

- This module gives vast information to the student resulting in wider scope in the field of graphics and animation.
COMPUTER GRAPHICS & ANIMATION (PRACTICAL)

I YEAR

PAPER-III ENGINEERING DRAWING PRACTICAL

PERIODS/WEEK: 04 TOTAL PERIODS: 135

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<td>1.</td>
<td>Introduction</td>
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<tr>
<td>2.</td>
<td>Lettering and Dimensioning</td>
<td>10</td>
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<tr>
<td>3.</td>
<td>Geometrical construction</td>
<td>24</td>
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<td>4.</td>
<td>Orthographic Projection</td>
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<tr>
<td>5.</td>
<td>Isometric Projection</td>
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<td>6.</td>
<td>Using AUTO CAD</td>
<td>30</td>
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<td><strong>Total</strong></td>
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</table>

Detailed Syllabus

1.0. Introduction

1.1. Scope and objective of the subject
1.2. Importance of engineering drawing as a communication medium
1.3. Drawing instruments and their uses
1.4. Scales: Recommended scales, reduced & enlarged
1.5. Sheet sizes: A0, A1, A2, A3, A4, A5. Layout of drawing sheet sizes of title block and its contents
1.6. Simple exercises on the use of drawing instruments.

2.0. Lettering and Dimensioning

2.1. Types of Lettering
2.2. Guide Lines for lettering
2.3 Recommended sizes of letters and numbers
2.4. Single stroke letters.
2.5. Dimensioning - rules and systems of dimensioning – dimensioning a given drawing

3.0 Geometric Construction

3.1. Bisecting a line - perpendiculars - parallel lines - division of a line
3.2. Angles - bisection, trisection
3.3. Tangent lines touching circles internally and externally
3.4. Polygons - Regular polygons - circumscribed and inscribed in circles.
3.5. Conic sections - Definitions of focus, directrix, eccentricity
   (i) Construction of Ellipse by Concentric circles method.
   (ii) Construction of parabola by rectangular method.
   (iii) Construction of Hyperbola when given the position of point from X-axis and Y-axis.
4.0 Orthographic Projection
4.1. Definition - Planes of Projection - Four quadrants – Reference line.
4.2. First angle projection - Third angle projection
4.3. Projections of points
4.4. Projections of straight lines
4.5. Projections of planes
4.6. Projections of solids
4.7. Conversion of pictorial views into orthographic views

5.0. Isometric Projection
5.1. Definition - Isometric axes, lines and planes
5.2. Isometric Scale - Isometric view
5.3. Drawing of isometric views of plane figures
5.4. Drawing of isometric views of prisms and pyramids
5.5. Drawing of isometric view of cylinders and cones

6.0. Using AutoCAD
1. Introduction to AutoCAD: the Interface
2. The Basics of Using AutoCAD Drawing Tools
3. Using AutoCAD Navigation Tools
4. Using AutoCAD Drafting Tools
5. Modifying AutoCAD Drawing Objects using Copy / Move, Scale, Rotate etc.
   Working with text in AutoCAD

Reference Book:

Engineering Drawing — N.D.Bhatt
## TIME SCHEDULE, WEIGHTAGE & BLUEPRINT

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<tr>
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<td>a. What is Design?</td>
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<td></td>
<td>b. Role of Design in Society</td>
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<td></td>
<td>c. Role and responsibility of Designers</td>
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<td>II</td>
<td>Introduction to Digital Photography</td>
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<td>III</td>
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<td>Elements and Principles of Design</td>
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<td>VI</td>
<td>Introduction to Typography</td>
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<tr>
<td>VII</td>
<td>Introduction to Illustrator</td>
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<td>Introduction to Photoshop</td>
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GRAPHIC DESIGN:

THEORY

2. All about design?(20)
   a. What is Design?(5)
      i. Introduction to design
      ii. Introduction to Graphic Design
   b. Role of Design in Society(10)
      i. Impact/function of Design
      ii. Indigenous Design Practices
      iii. C. Finer Communication Techniques (Gutenberg to Digital; movable types to
digitally transferable posters/works etc.)
      iv. Printing/publishing technology
      v. Role of design in the changing social scenario.
   c. Role and responsibility of Designers.(5)

4. Introduction to Digital Photography (5)
   o How digital camera works
   o Technical specifications & terminology

5. Color theory (6)
   o How color works
   o Colors of light & pigments
   o Primary, Secondary, & tertiary
   o Color mixing techniques
   o Psychology of color

6. Elements and Principles of Design (6)
   o Elements of design
   o Principles of design

7. Drawing for Designers (5)
   • Define drawing & sketching
   • Basic drawing & sketching practices
8. Introduction to Typography (3)
   - What is Typography
   - The Anatomy of Fonts

9. Introduction to Illustrator (25)
   - Getting started
   - Setting Up the Document
   - Toolbox
   - Toolbox Description
   - Making selections
   - Working with layers
   - Creating basic shapes
   - Inserting and formatting text
   - Placing images
   - Working with objects
   - Arranging
   - Grouping
   - Locking
   - Applying Transparencies
   - Applying Styles, Effects and Appearances
   - Working with symbols
   - Saving

10. Introduction to Photoshop (25)
    - getting started
    - interface layout
    - palettes
    - toolbox
    - selection tools
    - alteration tools
    - drawing and selection tools
    - assisting tools
    - color boxes and modes
    - basic image editing
    - cropping
    - resizing
    - correcting
    - sharpening/softening
    - saving
11. Introduction to InDesign (25)

- Getting Started
- Toolbox
- Organizing the Document
- Column Specifications
- Rulers
- Guides
- Inserting/Formatting Text
- Type Menu
- Using Colors
- Working With Objects (Images, Graphics, and Elements)
- Placing Images
- Enabling Text Wraps
- Layers and Arranging
- Grouping
- Locking
- Saving
- Exporting to PDF

REASONS FOR CHANGE:

As it is found that the content provided is not sufficient to make the student employable, we enhanced the content with the latest trends available in the market.
COMPUTER GRAPHICS & ANIMATION
II YEAR
PART-B - VOCATIONAL SUBJECTS
PAPER-I: GRAPHIC DESIGN (PRACTICALS)

PERIODS/WEEK: 04  TOTAL PERIODS: 115

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<tr>
<td>II</td>
<td>Create posters on any festival theme(paper)</td>
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<tr>
<td>III</td>
<td>Create rough layouts for any given Advertisement</td>
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<tr>
<td>IV</td>
<td>Draw or sketch any human made or natural object/element</td>
<td>10</td>
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<tr>
<td>V</td>
<td>Create a typographic poster on paper</td>
<td>10</td>
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<tr>
<td>VI</td>
<td>Illustrator</td>
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Graphic Design – Practical:

- Handling the digital Camera (5)
- Create posters on any festival theme (paper) (10)
- Create rough layouts for any given Advertisement (10)
- Draw or sketch any human made or natural object/element (10)
- Create a typographic poster on paper (10)
- Illustrator (25)
  - Create symbols
  - Create Logos
  - Create Corporate Identities
    - Visiting card
    - Envelope cover
    - Letterhead
  - Create a digital illustration (nature scene)
  - Create a vector poster on any theme
- Photoshop (25)
  - Create a photo composition using selection tools
  - Retouch & repair a damaged photograph
  - Create a poster with a social message
  - Colorize
  - Create a landing page for a website
- In design (20)
  - Create a cover page for a magazine
  - Create a Brochure
  - Create a Newsletter

REASONS FOR CHANGE:
To make the student employable, based on the industry requirement, more weight age is given to practical’s.

Reference Books:

MAIN
Design for Communication: Conceptual Graphic Design Basics by Elizabeth Resnick (Jun 10, 2003)

FURTHER
Non-Designer's Design Book, the (3rd Edition) by Robin Williams (Feb 22, 2008)


Graphic Design Theory: Readings from the Field (Design Briefs) by Helen Armstrong (Mar 11, 2009)
**COMPUTER GRAPHICS & ANIMATION (THEORY)**

**II YEAR**

**PART-B - VOCATIONAL SUBJECTS**

**PAPER-II: 3D ANIMATION**

**PERIODS/WEEK: 04**  
**TOTAL PERIODS: 110**

**TIME SCHEDULE, WEIGHT AGE & BLUE PRINT**

<table>
<thead>
<tr>
<th>S.NO.</th>
<th>UNITS</th>
<th>NO.OF PERIODS</th>
<th>WEIGHT AGE OF MARKS</th>
<th>NO. OF SHORT QUESTIONS</th>
<th>NO.OF ESSAY QUESTIONS</th>
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<tr>
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<td>Fundamental Module</td>
<td>5</td>
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<tr>
<td>II</td>
<td>Introduction to Maya</td>
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<td>4</td>
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<tr>
<td>III</td>
<td>Modeling</td>
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<td>IV</td>
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<td>10</td>
<td>8</td>
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<tr>
<td>VI</td>
<td>Rigging</td>
<td>15</td>
<td>8</td>
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<tr>
<td>VII</td>
<td>Animation</td>
<td>40</td>
<td>20</td>
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<tr>
<td>VIII</td>
<td>Dynamic Effects &amp; Visual Effects</td>
<td>6</td>
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<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>110</strong></td>
<td><strong>68</strong></td>
<td><strong>10</strong></td>
<td><strong>8</strong></td>
</tr>
</tbody>
</table>
1. Fundamental Module (5)
   a. Animation principles and history
   b. Animation process
   c. Importance of drawing in animation context
   d. Types of animation
   e. Animation software tools

2. Introduction to Maya (5)
   a. Learn the basics of 3D computer graphics using Autodesk Maya. Lectures will cover the application of Maya in the film, television and game industries.

3. Modeling (14)
   a. Surface Modeling
      i. This course offers in-depth training of advanced modeling tools, as well as specific techniques for modeling architecture, vehicles, and environments.
   b. Polygon Modeling
      i. This course is a comprehensive look at the complete suite of Maya's polygonal and subdivision surface modeling tools.

4. Texture Mapping / Shading (15)
   a. Learn to use texturing techniques as tools for achieving a level of complexity that would be difficult or too computationally expensive by modeling alone.

5. Lighting and Rendering (10)
   a. This course covers how to achieve successful lighting effects with the Maya renderer through a mix of technical and aesthetic lessons.

6. Rigging (15)
   a. Set up a character for a wide range of complex body movement, with controls that are intuitive and flexible. Learn advanced Units related to body and head deformations in Maya, including rigid/soft binding, stitching and advanced facial deformation.

7. Animation (40)
## COMPUTER GRAPHICS & ANIMATION

### II YEAR

### PART-B - VOCATIONAL SUBJECTS

### PAPER-I: 3D ANIMATION (PRACTICALS)

**PERIODS/WEEK: 04**  
**TOTAL PERIODS: 115**

<table>
<thead>
<tr>
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<tr>
<td>I</td>
<td>3D ANIMATION Modeling</td>
<td>25</td>
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<td>II</td>
<td>Texturing/Shading</td>
<td>15</td>
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<tr>
<td>III</td>
<td>Lighting</td>
<td>10</td>
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<tr>
<td>IV</td>
<td>Rigging</td>
<td>15</td>
</tr>
<tr>
<td>V</td>
<td>Animation</td>
<td>40</td>
</tr>
<tr>
<td>VI</td>
<td>Lighting and Rendering</td>
<td>10</td>
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<tr>
<td><strong>TOTAL</strong></td>
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<td><strong>115</strong></td>
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</table>
COMPUTER GRAPHICS & ANIMATION (Practical)
II YEAR
PART-B - VOCATIONAL SUBJECTS
PAPER-II: 3D ANIMATION

3D ANIMATION Modeling (25)
Model a cartoon Living Room set with NURBS surface.
Model a Cartoon Character using Polygon Surface.

Texturing/Shading (15)
Assign Shaders to the Cartoon Living Room set.
Texture the Cartoon Character by unwrapping it and Painting the textures in Photoshop.

Lighting (10)
Setup 3 point lighting for the cartoon Character
Setup interior lighting for the living room set

Rigging (15)
Rig the Cartoon Character with Joints and Rig the Face with Blend Shapes tool.

Animation (40)
Animate the Cartoon Character (Character entering into room and sitting on the sofa).
Use the set you have modeled.

Lighting and Rendering (10)
Set up daylight for the above shot and render the file

Reasons for Change:
3D Max is replaced with Maya, as it is widely used by top notch animation studios (Keeping in view of employment)

Reference Books:

MAIN
Introducing Autodesk Maya 2012 (Autodesk Official Training Guides) by Dariush Derakhshani (May 3, 2011)

FURTHER
Introducing Maya 2011 by Dariush Derakhshani (May 3, 2010)
Understanding 3D Animation Using Maya by John Edgar Park (Dec 2, 2004)
## TIME SCHEDULE, WEIGHT AGE & BLUE PRINT

<table>
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<tr>
<th>S.NO.</th>
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<td>Basics of Internet</td>
<td>10</td>
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<td>II</td>
<td>Basics of Web Designing</td>
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<tr>
<td>III</td>
<td>Introduction to HTML</td>
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<td>2</td>
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<td>IV</td>
<td>HTML Document</td>
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<td>2</td>
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<td>V</td>
<td>Hyper Links</td>
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<td>VII</td>
<td>Tables</td>
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<td>10</td>
<td>12</td>
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<tr>
<td>IX</td>
<td>Sections</td>
<td>5</td>
<td>2</td>
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<tr>
<td>X</td>
<td>Style and Script</td>
<td>3</td>
<td>2</td>
<td>1</td>
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</tr>
<tr>
<td>XI</td>
<td>Introduction to CSS</td>
<td>10</td>
<td>6</td>
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<td>XV</td>
<td>Advanced CSS</td>
<td>10</td>
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<td><strong>Total</strong></td>
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<td><strong>68</strong></td>
<td><strong>20</strong></td>
<td><strong>48</strong></td>
</tr>
</tbody>
</table>
1. Basics of Internet: (10 Hours)
   a. What is Networking
   b. Types of Networks
   c. About Internet
      i. History & its evolution
   d. Browsing
   e. Search Engines
      i. Normal
      ii. Meta search
   f. Email
   g. Social Media sites and online forums.
      i. Knowledge of facebook, orkut etc.

2. Basics of Web Designing: (10 Hours)
   a. Where to get started for Web designing.
   b. The creative process from design to execution.
   c. What software you should use.
   d. What is HTML and do you need to know it?
   e. How to layout out a webpage.
   f. How to style text with DHTML.
   g. How to create buttons and other images with Adobe Photoshop.
   h. Why and how you save images as GIF or JPEG.
   i. Proper ways to name your files.
   j. Maintaining good file structure within your website.

3. Introduction to HTML (3 Hours)
   a. What is HTML?
   b. Tag syntax
   c. Create HTML

4. HTML Document (3)
   a. HTML Document
   b. Metadata
   c. Basic content (basic tags)

5. Hyper Links (3)
   a. Hyper Links
   b. Link options

6. Embedded contents (3)
   a. Image
   b. Video

7. Tables (10)
   a. Table

8. Forms (10)
   a. Form
   b. Form controls
9. Sections(5)
   a. Sections
10. Style and Script(3)
    a. Style Sheet
    b. Script
11. Introduction to CSS (10)
    a. What is CSS?
    b. Syntax
    c. Selectors
    d. Create CSS
12. Styling(10)
    a. Texts
    b. Fonts
    c. Lists
    d. Links
13. Box model(10)
    a. Box model
    b. Paddings and Margins
    c. Background
    d. Borders
14. Layout(10)
    a. Floating
15. Advanced CSS(10)
    a. Inheritance
    b. Priority level of selector
# COMPUTER GRAPHICS & ANIMATION

## II YEAR

### PART-B - VOCATIONAL SUBJECTS

#### PAPER-I: 3D ANIMATION (PRACTICALS)

PERIODS/WEEK: **04**  
TOTAL PERIODS: **115**

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<tbody>
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<td>I</td>
<td>HTML</td>
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</tr>
<tr>
<td>II</td>
<td>Cascading Style Sheets</td>
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<tr>
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<td><strong>TOTAL</strong></td>
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</tbody>
</table>
Internet Technologies –Practical:

- **HTML [55 hours]**
  - HTML
    - Create a simple webpage using basic HTML
  - HTML Formatting
    - Create a simple webpage using basic HTML tags like Bold, Italic, Underline along with Meta tags.
  - Hyper Links
    - Create a multiple web page structure using hyperlinks
  - Embedded contents
    - Create a rich media content page using video & images
  - Tables
    - Create a html table structure for students lists with their marks
  - Form
    - Create a feedback form structure using Form tags.
  - Sections
    - Create a simple ecommerce section page for a business house
  - Style & Script
    - Create a simple page and embed a style along with basic script

- **Cascading Style Sheets [60 hours]**
  - CSS
    - Create a basic CSS page
  - Styles
    - Create and control a HTML page styles through CSS
  - Box Model
    - Create a CSS based table less HTML structure on any Unit
  - Layout
    - Create a CSS based simple floating structure
  - Advanced CSS
    - Create a full-fledged personal website structure using all HTML and CSS tags.
Reasons for Change:
Secondary stress is given to this subject as an alternative employable option to the student
Syllabus has be enhanced keeping in view of the current web marker trends

Reference Books:
Main
HTML, XHTML, and CSS Bible (Bible) 3rd Edition by Bryan Pfaffenerger, Bill Karow, Chuck White and Steven M. Schafer (Jul 23, 2004)

Further
HTML5 & CSS3 Visual Quick Start Guide (7th Edition) by Elizabeth Castro and Bruce Hyslop (Jan 6, 2012)
Head First HTML with CSS & XHTML by Eric T Freeman, Elisabeth Freeman and Elisabeth Robson (Dec 15, 2005)
Murach's HTML5 and CSS3 by Zak Ruvalcaba and Anne Boehm (Dec 23, 2011)
The Internet For Dummies by John R. Levine and Margaret Levine Young (Nov 29, 2011)
Computer Networking for Dummies by Karthik Kiren Sundar (Jan 30, 2011) - Kindle eBook
7. SUPPORTING HARDWARE AND SOFTWARE

LAB requirement:

With a bare minimum of 15 systems to cater 30 students with the following configuration.

Hardware:

- Inter Core i3/i5/i7 processor
- Intel based motherboard
- 2 GB RAM
- 10 GB free hard drive space
- Qualified hardware-accelerated OpenGL® graphics card
- Three-button mouse with mouse driver software
- DVD-ROM drive
- HDD: IDE, SATA, SATA 2, SAS, SCSI
- Monitor LCD display with 19” or 21”
- Microphone
- Stereo speakers
- Webcam
- Microsoft Internet Explorer 7.0 or higher, Apple Safari, or Mozilla Firefox web browsers
- Microsoft® Windows® 7 Professional, Microsoft® Windows Vista® Business (SP2)(or higher)

Multimedia equipment:

- Multimedia Projector
- Stereo Sound system
- Digital camera
- Laser Pointers

Software:

- Related DVD collection (Multimedia content CDS/animated movies)
- MSOffice Suite 2007/2010
- Turbo C
- Creative suite design premium cs5 (Illustrator, Photoshop, Indesign, Dreamweaver, Flash, Flash catalyst, Fireworks, ACrobatX, Bridge, Device Central)
- Autodesk Maya unlimited 2012
8. A. Collaborating institutions for curriculum transactions
   DTP centres locally available
   Data Conversion centres
   TV production centres
   Advertisement agencies

B. On Job Training Centres
   AVRC, Osmania University
   Color Chips
   All TV channels including DD
   InfoTech enterprises
   Newspapers/Magazines publications Centres
   Ramoji Film City.
   Cybell Technosys, SMS Plaza,
   Bapuji nagar, Habsiguda, Hyderabad.
   www.webguru.asia
   Parrot Communications, Begumpet, Hyd
   Pragati Offset Printers, Lakdikapool, Hyd
   Mudra Communications, BanjaraHills, Hyd.

9. Qualification for Lecturers
   M.Sc. (CS/IT/IS)
   M.C.A.
   B.E./B. Tech (CS/IT)
   Any post graduate with higher diploma in Multimedia

Equivalency:

   In the new curriculum 2012 there is no equivalency paper to any paper. Hence the old syllabi
   students will be given two chances to clear their backlogs (i.e. March & ASE 2013) for I year and
   (March & ASE 2014) for II year.

10. Vertical Mobility
   Eligibility to attend A Level course recognized by DOEACC
   To certain science degree courses on completion of Bridge course (Maths, Physics & Chemistry)
   -can enter into B.Sc (CS/IT), BE/B.Tech, Polytechnic with bridge course
   -BFA Animation in JNFAU through separate entrance – without bridge course
   -B.Sc Multimedia in Arena Animation, Hyd. (http://www.bestmultimedia.com)
11. MODEL QUESTION PAPERS

COMPUTER GRAPHICS & ANIMATION- 1ST YEAR

SUBJECT: COMPUTER FUNDAMENTALS & MS-OFFICE (THEORY)

PAPER-1

Time:-3 Hrs                                                                                                                         Max. Marks:-50

SECTION-A 10 x 2=20

Note:-
1. Answer ALL Questions:
2. Each Question carries 2Marks.

01. What is Computer?
02. What is an Operating system? What are the types in it?
03. What is spell check?
04. What are the different views in MS Word?
05. Write any 2 Format commands.
06. Write number of Rows and Columns in Spreadsheet.
07. What is Cell address?
08. What is slideshow?
09. Define term Query
10. What are data types in Access?

SECTION-B

Note:-
1. Answer any FIVE Questions from the following 5 x 6= 30.
2. Each Question carries 6Marks.

11. Draw the block diagram of computer and explain each block in it.
12. Write any 6 DOS Commands with proper syntax and examples.
13. Explain Edit menu commands in Ms Word.
14. Explain Mail merge procedure with an example.
15. Explain different types of Charts in Excel.
16. Explain any five statistical functions in Excel.
17. What is presentation? Write the procedure for perfect presentation.
18. Write a procedure for creation relationship between tables.
COMPUTER GRAPHICS & ANIMATION- 1ST YEAR  
SUBJECT: PROGRAMMING IN C (THEORY)  
PAPER-II

Time:-3 Hrs  
Max. Marks:-50

SECTION-A  
10 x 2=20

Note:-  
1. Answer ALL Questions:
2. Each Question carries 2Marks.

01. Define Algorithm?
02. Write the symbols of Flowchart with purpose.
03. What are the basic data types in C?
04. What is loop in C?
05. Write the syntax of SWITCH statement
06. What is Recursion?
07. What is Library function? Write any two functions?
08. What is an Array??
09. What are applications of two dimensional Arrays?
10. Define Union.

SECTION-B

Note:-  
1. Answer any FIVE Questions from the following  
2. Each Question carries 6Marks.

11. Write an algorithm for biggest of given three numbers.
12. Explain various types of operators in C.
13. Explain various looping statements in C.
14. Explain branching statements in C.
15. Define function. Explain various types of functions in C.
16. Write C Program to generate Fibonacci series using recursion.
17. Write a C program for matrix addition of two matrices.
18. What is structure in C? Explain in detail?
MODEL QUESTION PAPER
COMPUTER GRAPHICS & ANIMATION- 1ST YEAR
SUBJECT: FUNDAMENTALS OF COMPUTER GRAPHICS & ANIMATION (THEORY)
PAPER-III

Time:-3 Hrs                                                                                                                         Max. Marks:-50

SECTION-A                                                  10 x 2=20

Note:-   1. Answer ALL Questions:
        2. Each Question carries 2Marks.
1. Define multimedia.
2. What is pixel?
3. What is sampling rate?
4. What is Animation?
5. What is a codec?
6. What is digitization?
7. Define the terms analog and digital.
8. Write the steps involved in budget preparation.
9. Write about multimedia file formats.
10. How multimedia technology influenced internet?

SECTION-B

Note:-   1. Answer any FIVE Questions from the following 5 x 6= 30.
        2. Each Question carries 6Marks.
11. Discuss in detail about multimedia and its elements.
12. Describe what characteristics a typeface might have.
13. Write in detail about the bitmap and vector graphics and its difference.
14. What are the factors that influence digital Sound?
15. Write about principles of animation.
16. What are the steps involved in capturing & compressing video.
17. Write the procedure to create a multimedia CD or DVD.
18. List and define the job roles present in multimedia.
MODEL QUESTION PAPER
COMPUTER GRAPHICS & ANIMATION – 2ND YEAR
SUBJECT: GRAPHIC DESIGN (THEORY)

PAPER-I

Time:-3 Hrs                                                                                                                         Max. Marks:-50

SECTION-A                                                  10 x 2=20

Note:-   1. Answer ALL Questions:
        2. Each Question carries 2Marks.
1. What is design?
2. How design influences the society?
3. What is the role of a designer in the society?
4. Write about different types of drawing.
5. What is typography?
6. Write about RGB, CMYK and HSB color modes.
7. Benefits of exporting a file to AI format.
8. How to resize an image in Photoshop?
9. List important transformation commands.
10. What is feathering?

SECTION-B

Note:-   1. Answer any FIVE Questions from the following
        2. Each Question carries 6Marks.
11. How and where would you hope to see the graphic design profession in the next ten years?
12. Digital technology; is it a blessing or a curse?
13. How does a digital camera work and what are the factors influence the image quality?
14. Write about additive and subtractive color.
15. Write about line, shape, space and texture in detail with examples.
16. Write about various selection tools in detail.
17. Define masking. Write about types of masking.
18. Write about the concept of Master Pages and Normal pages.
MODEL QUESTION PAPER
COMPUTER GRAPHICS & ANIMATION - 2ND YEAR
SUBJECT: 3D ANIMATION (THEORY)
PAPER-II

Time:-3 Hrs                                                                                                                         Max. Marks:-50

SEC TION-A                                                  10 x 2=20
Note:-   1. Answer ALL Questions:
   2. Each Question carries 2 Marks.
1. Define animation
2. What is persistence of Vision?
3. Write about the history of maya.
4. What are the other applications available in the market similar to maya?
5. Define modeling.
6. Define parametric texture.
7. Define ambient light.
8. What is pivot?
9. What is persistence of vision?
10. Define soft body dynamics.

SECTION-B
Note:-  1. Answer any FIVE Questions from the following 5 x 6= 30.
   2. Each Question carries 6Marks.
11. Write about the history of animation in detail.
12. Write about various modeling techniques available in Autodesk maya in detail.
13. Define UV mapping, and list various texturing software available in the market.
14. Write about various types of lights available in maya.
15. What are null nodes in maya?
16. Write about principles of animation in detail with examples.
17. Write about the importance of frame rate in animation.
18. Write about various types of animation techniques in maya.
MODEL QUESTION PAPER
COMPUTER GRAPHICS & ANIMATION – 2ND YEAR
SUBJECT: INTERNET TECHNOLOGIES (THEORY)
PAPER-III

Time:-3 Hrs                                                                 Max. Marks:-50

SECTION-A 10 x 2=20
Note:- 1. Answer ALL Questions:
2. Each Question carries 2Marks.
1. What is a tag?
2. What is the simplest html page?
3. What is hyperlink?
4. Write a html tag to insert an image or embed audio or video.
5. What are sections in HTML?
6. What is the importance of style in HTML?
7. Why we need style sheets?
8. What is box model in CSS?
9. Write the importance of floating style in CSS.
10. What is attribute selector?

SECTION-B
Note:- 1. Answer any FIVE Questions from the following 5 x 6= 30.
2. Each Question carries 6Marks.
11. How to connect to internet?
12. What is the internet?
13. Write about Static and Dynamic WebPages.
14. What is the difference between website and webpage?
15. What are nested tables?
16. How to use forms, give examples?
17. How to create a submit form give example?
18. Write about CSS.
Equivalency of papers

**FIRST YEAR**

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<thead>
<tr>
<th>Existing Papers</th>
<th>New Papers</th>
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<tr>
<td><strong>THEORY</strong></td>
<td><strong>THEORY</strong></td>
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<tr>
<td>2. PC Software tools.</td>
<td>Programming in ‘C’</td>
</tr>
<tr>
<td><strong>Practical’s</strong></td>
<td><strong>Practical’s</strong></td>
</tr>
<tr>
<td>1. Programming in ‘C’</td>
<td>Windows and MS Office</td>
</tr>
<tr>
<td>2. MS Office</td>
<td>C Programming</td>
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<tr>
<td>3. Engineering Drawing.</td>
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**SECOND YEAR**

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<td><strong>THEORY</strong></td>
<td><strong>THEORY</strong></td>
</tr>
<tr>
<td>1. Graphics &amp; Animation</td>
<td>Graphic Designing</td>
</tr>
<tr>
<td>2. Multimedia Technologies</td>
<td>3D Animation</td>
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<tr>
<td>3. Internet Technologies.</td>
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<tr>
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</tr>
<tr>
<td>1. Graphics &amp; Animation</td>
<td>Graphic Designing            [Adobe illustrator, Photoshop, In design]</td>
</tr>
<tr>
<td>2. Multimedia Technologies</td>
<td>3D Animation [Autodesk Maya]</td>
</tr>
<tr>
<td>3. Internet Technologies.</td>
<td>Internet Technologies [HTML, CSS]</td>
</tr>
</tbody>
</table>
12. LIST OF PARTICIPANTS

1. SATYANARAYANA LAKKARAJU,
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