Syllabus

PANJAB UNIVERSITY, CHANDIGARH

COMPUTER GRAPHICS AND MULTIMEDIA APPLICATIONS
BCA, 6TH SEMESTER
BCA – 16-603

L	T	P	Cr
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Time Duration: 3 Hrs.

External Marks: 65
Internal Marks: 10
Number of Lectures : 60

Note :

(i) The Question Paper will consist of Four Sections.

(ii) Examiner will set total of **NINE** questions comprising **TWO** questions from each Section and **ONE** compulsory question of short answer type covering whole syllabi.

(iii) The students are required to attempt **ONE** question from each Section and the Compulsory question.

(iv) All questions carry equal marks unless specified.

UNIT – I

Computer Graphics : A Survey of Computer Graphics : Computer Aided Design, Presentation Graphics, Computer art, Entertainment, Education and Training, Visualization, Image Pressing, Graphical User Interfaces.

Overview of Graphics Systems : Video Display Devices, Cathode Ray Tube, CRT monitors, Flat panel displays: Plasma Panel display, Thin-film electroluminescent displays, LED, Liquid Crystal Displays (LCD), Raster Scan, Systems, Random Scan Systems. Graphics Monitors and Workstations, Input Devices, Hard-copy devices, Graphics Software.

UNIT – II

Studying the Features and Developing Computer Graphics Using Standard Graphics package AutoCAD: Features and applications of AutoCAD, Interface, System Requirements, The X, Y coordinate system, Dimensioning, Drawing commands, Cleaning Up the drawing, Positioning Commands, Editing Commands, Construction Commands, Display Commands.

Developing Computer Graphics Using 'C': Input-output primitives, setting character and text attributes, changing line styles, Using fill styles to fill images. Use these primitives to develop programs like drawing concentric circles, Ellipses, Sine curves, Histograms, Pie charts and human face.

UNIT – III

Multimedia Application: What is multimedia, Components of Multimedia, Need of Multimedia, Features of a Multimedia System, Benefits and problems of using Multimedia? System Components: Multimedia system and a conventional system, Basic System components, Subsystems and functions of a Multimedia computer, Multimedia Add-on Cards. Applications: Multimedia in the Real World, Training and Education, Image Processing, Multimedia in home and office.

Multimedia Platforms: Personal computer as a Multimedia System, Limitations of the early Personal Computer as a Multimedia System, The evolution of MPC, Hardware Platforms, Software Platforms.

Development Tools: Types of development tools, Commercial tools, Stages of Multimedia Application Development.

UNIT – IV

Image : Sources of image, Types of images, Basic editing operations, Introduction to Image Compression: Lossy and Lossless compression, Image file formats.

Audio: Hardware for Audio, Digital Audio editing operations, MIDI, Audito file formats

Video: Hardware Components of a Video System, introduction to Video compression, MPEG, Video file formats.

Storage for multimedia: magnetic media, Optical media, Compact disk specifications. Studying features and use of Multimedia authoring tools like Photoshop and Macromedia Director.

Photoshop - Features, Interface, Toolbox, Color models, Layers, Filters

Macromedia Director - Features, Stage, Cast, Score, Control Panel, Sprite, Channels, Text Inspector, Tools for creating cast members