

BCA-356: Multimedia Tools

Maximum Marks: 100

Minimum Pass Marks: 35

Time: 3 hours

External: 80

Internal: 20

Note: Examiner will be required to set Nine Questions in all. First Question will be compulsory, consisting of objective type/short-answer type questions covering the entire syllabus. In addition to that eight more questions will be set, two questions from each Unit. Student will be required to attempt FIVE questions in all. Question Number 1 will be compulsory. In addition to compulsory question, student will have to attempt four more questions selecting one question from each Unit. All questions will carry equal marks.

UNIT – I

Multimedia: Basic Concept, Definition, Components & Applications of Multimedia; Hypermedia and Multimedia; Multimedia Hardware and Software; Multimedia Software Tools; Presentation Tools; Multimedia Authoring: Introduction, Features, Types of Authoring Tools: Card or Page-Based, Icon-Based, Time-Based, Object-Oriented; VRML: History, Features

UNIT – II

Images: Graphics/Image Data Types, File Formats; Color Models in Images and Video;
Video: Introduction, Types of Video Signals; Analog and Digital Video; Analog Video Standards: NTSC, PAL, SECA; Digital Video Standards: Chroma Subsampling, CCIR Standards, HDTV

UNIT – III

Digital Audio: Basic Concepts, Analog vs. Digital Audio, Digitization of Sound; Digital Audio File Formats, MIDI
Quantization and Transmission of Audio: Coding of Audio; Pulse Code Modulation; Differential Coding of Audio; Lossless Predictive Coding; DPCM; DM; ADPCM

UNIT – IV

Compression Techniques: Introduction, Types of Data Compression, Run-Length Coding, Variable-Length Coding, Dictionary-Based Coding, Transform Coding
Image and Video Compression Techniques: JPEG Standard for Image Compression; JPEG Mode, Video Compression Techniques: H.261, H.263, MPEG

TEXT BOOKS:

- Ze-Nian Li, Mark S. Drew, “Fundamentals of Multimedia”, Pearson Education.
- Tay Vaughan, “Multimedia Making It Work”, Tata McGraw- Hill.

REFERENCE BOOKS:

- Ramesh Bangia, “Multimedia and Web Technology”, Firewall Media.
- John F. Koegel Buford, “Multimedia Systems”, Addison Wesley, Pearson Education.
- Ana Weston Solomon, “Introduction to Multimedia”, Tata McGraw-Hill.