



# KARNATAKA STATE OPEN UNIVERSITY

Mukthagangothri, Mysore – 570 006, India

Skill Development Programme

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## Syllabus – Undergraduate Programmes

### MULTIMEDIA

#### Objectives

- Multimedia play an important role in the field of education, agriculture, product launch, science and technology, corporate development and enhanced business opportunities.
- With the increasing variety and range of hardware and software used for Multimedia, the demand for the manpower in these fields has escalated.
- Students will learn about multimedia, which is a field concerned with the computer controlled integration of text, graphics, drawings, still and moving images(video),animation, audio and any other media where every type of information can be represented, stored, transmitted and processed digitally.

#### Level I – First Year

Introduction to Multimedia: Concept of Multimedia, Multimedia applications, Advantage of Digital Multimedia, Multimedia system Architecture, Objects of Multimedia. Compression and Decompression Techniques and its types, MPEG Coding methodology, Audio Compression, Data and File format standards- RTF, TIFF,RIFF, MIDI, JPEG, AVI, JPEG, TWAIN Architecture.

Multimedia input and output technologies: Key Technology Issues, Pen Input, Video and Image Display Systems, Print Output Technologies, Image Scanners, Digital Voice and Audio, Video Images and Animation, Full Motion Video.

Secured Multimedia and Authentication: Secured Multimedia, Digital Rights Management Systems, and Technical Trends - Multimedia encryption - Digital Watermarking - Security Attacks. Multimedia Authentication - Pattern, Speaker and Behavior Recognition - Speaker Recognition - Face Recognition

#### Level II – Second Year

Multimedia Databases : Audio Databases - A General Model of Audio Data - Capturing Audio Content through Discrete Transformation - Indexing Audio Data. Video Databases - Organizing Content of a Single Video - Querying Content of Video Libraries - Video Segmentation. Multimedia database design - Design and Architecture of a Multimedia Database - Organizing Multimedia, Data Based on The Principle of Uniformity - Media Abstractions - Query Languages for Retrieving Multimedia Data.

Multimedia Forensics - Digital Forensics taxonomy, goals/requirements - Forensic Data Acquisition -Digital Forensics Tools -Forensics Analysis and Validation - File and Network Forensics – Techniques - Application forensics- Email, Graphics and Multimedia Forensics.

## Level III – Third Year

**Multimedia and E-Commerce :** Introduction to E-commerce: Current Web technologies for Ecommerce-Social E-commerce and Mobile E-commerce- E-commerce current and future scope- E-commerce market. Software and Hardware for E-commerce systems -E-commerce web system development life cycle - Ecommerce for Mobile systems - Cloud services and computing in Ecommerce

**Electronic payment systems:** Credit cards –Debit cards -online transactions. Security Threats in E-commerce: vulnerability in client side, server side and in communication medium- Technology and solutions: Encryption, SSL VPN, firewalls-server and client side protection.

**SET:** Key Technologies in Secure Electronic Transactions.

### List of Experiments:

- Creating slides, designing slides, back ground, layout styles, special effects. Editing text, adding/deleting aligning, making bold, italic and fonts, colour text. Changing back ground colours and designs. Creating auto shapes, drawing clip art, word art, smart art, charts, tables, text boxes, images, shading and 3-d effect Rotating text and pictures, text wrapping, saving, quitting and printing slides
- Inserting new slides, making animation effects, Inserting hyperlinks between files, Viewing the slides, slide transition, making sound effects, inserting movie/sound from external files, Grouping and ungrouping the objects.
- Acquire skills on working with various operating system environments(Windows/Linux)
- Acquire skills on using office automation tools
- Update oneself with Intellectual Property and prevailing copyright issues
- Demonstrate an understanding of the features of various handheld devices and acquire skills on mobile applications development principles
- Acquire skills on basic networking and internet technologies
- Acquire skills on usage of social networks and appreciate the role of IT in society

### References

1. Wenjun Zeng, Heather Yu and Ching – Yung Lin, “Multimedia Security technologies for Digital rights Management”, Elsevier Inc 2006.
2. Chun-Shien Lu, “Multimedia Security : Steganography and Digital Watermarking techniques for Protection of Intellectual Property”, Springer Inc 2007.
3. Andleigh PK and Thakrar K, “Multimedia Systems”, Addison Wesley Longman, 1999.
4. Fred Halsall, “Multimedia Communications”, Addison Wesley, 2000.