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18BC308 MULTIMEDIA SYSTEMS

Course Description and Objectives:

The course enables the student to learn the concepts of multimedia like text, speech, image and video processing in today's international standards. Further, it also adds an essence of multimedia systems design, multimedia networks, multimedia search engines and emerging multimedia value-added services.

Course Outcomes:

The student will be able to:

- Understand about various latest interactive multimedia devices, the basic concepts about images and image formats.
- Analyze data compression techniques, image compression techniques like JPEG, video compression techniques like MPEG, and the basic concepts of multimedia animation.
- Develop an interactive multimedia presentation by using multimedia devices and multimedia applications surrounding the emergence of multimedia technology.

Skills:

- Hands-on multimedia technology and related tools.
- Acquire conceptual utilities of animation within the domain.
- Develop an application using action script programs.

Activities:

- Create effective audiovisual presentation.
- Contribute in a team to prepare a flash game.
- Develop effective web template using various website components.

Syllabus

UNIT – 1

12 Hours

MULTIMEDIA AND DATA: Media & Data streams- Medium, Traditional, Properties of multimedia systems, Data stream characteristics, Data stream characteristics for continuous media, Information units.

UNIT – 2

12 Hours

SOUND/AUDIO: Basic Sound concepts, Music, Speech.

UNIT – 3

12 Hours

IMAGES AND GRAPHICS: Basic concepts, Computer image processing.

UNIT – 4

12 Hours

VIDEO AND ANIMATION: Basic Concepts, Television, Computer- based Animation.

UNIT – 5

12 Hours

DATA COMPRESSION: Storage space, Coding requirements, Source-entropy and Hybrid-coding, Some basic compression techniques, JPEG, MPEG.

Text book:

Ralf Steinmentz & Klara Nahrstedt, “Multimedia computing, communications & Applications”, 6th Impression, Pearson Education, 2009.

Reference Books:

1. John E Koegal, Buford, “Multimedia Systems”, 1st Edition, Addison Wesley, 1994.
2. John Vince, “Virtual Reality Systems”, 1st Edition, Pearson Education, 2007.