**LECTURE SCHEDULE AND REFERENCES 2016-2017**

**Semester I**

### Class: PGDCA Paper: DCA23 – Multimedia

Monday & Wednesday: 1.00 – 2.00 pm; Thursday: 9.30 – 10.30 am

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| **Lecture No.** | **Topic** | **Contents** | **Reference** |
| 1 | **Introduction to Multimedia** | Overview of Multimedia  Introduction to GIMP | 1 |
| 2 |  | Multimedia Building Blocks | 1 |
| 3 |  | Digital Representation  Interaction techniques and devices | 1 |
| 4 |  | Stages of a Multimedia Project  Multimedia Team and their Roles | 1 |
| 5 | **Multimedia Architecture** | Introduction to Multimedia Architectures, User Interfaces, Media Streaming | 2 |
| 6 |  | Windows Multimedia support,  Windows API for Multimedia, Multimedia Authoring Tools | 2 |
| 7 |  | Multimedia Database Systems | 2 |
| 8 |  | Multimedia O.S | 2 |
| 9 | **Multimedia Building Blocks:**  **Text** | Visual Representation of Text, Digital Representation of Text | 2 |
| 10 |  | Text File formats, Conversion to and from of various text formats | 2 |
| 11 |  | Hypermedia and Hypertext | 1,2 |
| 12 |  | ISA1 Submission | - |
| 13 | **Image** | Basic Image Fundamentals, Importance of graphics in Multimedia |  |
| 14 |  | Vector and Raster Graphics, Image file formats and their features | 2 |
| 15 |  | Image Capturing Methods | 2 |
| 16 |  | Image file formats, their features and limitations, graphic file formats conversion | 2 |
| 17 | **Sound** | Sound and its attributes,  Mono V/s Stereo Sound | 2 |
| 18 |  | Sound Channels, Sound and its effect in Multimedia | 2 |
| 19 |  | Analog V/s Digital Sound  Basics of digital sound | 2 |
| 20 |  | Creation of digital audio files  Digital Audio V/s MIDI and MIDI File Format | 2 |
| 21 |  | Overview of various sound file formats on PC, CD and DVD Formats | 2 |
| 22 | **Animation** | Basics of Animation, Principal and use of Animation in Multimedia | 1,2 |
| 23 |  | Effect of Resolutions, pixel depth, Images size on quality and Storage | 1,2 |
| 24 |  | Overview of 2-D and 3-D animation techniques and software | 1,2 |
| 25 |  | Animation on the Web- features and limitations | 1,2 |
| 26 |  | Creating simple animations on the web, Animation File formats | 2 |
| 27 |  | ISA 2 | - |
| 28 | **Video** | Analog and Digital Video, Video on PC | 1 |
| 29 |  | Introduction to graphics accelerator cards, DirectX Introduction to AV/DV and IEEE1394 cards | 1 |
| 30 |  | Video Broadcast Standards  Introduction to Video Capturing | 2 |
| 31 |  | Media & Instument-Videodisk, DVCAM,Camcorder | 2 |
| 32 |  | Recording Formats like S-VHS Video, Component (YUV), Component Digital, Composite Digital, Video Hardware resolutions | 2 |
| 33 |  | Integrating Computers and television like video Overlay Systems | 2 |
| 34 |  | Digitized Video Playback, differences between Computer and Television Video | 1 |
| 35 |  | Video tips like shooting platforms, Lighting, Chroma Key or Blue Screen | 1 |
| 36 | **Data Compression** | Types of Compression | 4,5,6 |
| 37 |  | ISA 3 | -- |
| 38 |  | Study of different compression techniques for Text , Image | 4,5,6 |
| 39 |  | Study of different compression techniques for Audio, Video | 4,5,6 |
| 40 | **Multimedia on the Web** | Bandwidth relationship, broadband technologies, Text in the web | 1,2 |
| 41 |  | Audio on the web, Audio support in HTML | 1,2 |
| 42 |  | Graphics, Interlaced V/s Non interlaced model | 1,2 |
| 43 |  | Graphics support in HTML, Image map, Video on the web, Virtual reality on the web | 1,2 |
| 44 | **Assembling and Delivering a Project** | The four Primary navigational structures used in multimedia | 1,2 |
| 45 |  | ISA 4 | -- |

**Reference Books:**

**1. Vaughan Tay, “Multimedia making it work” , 8th edition, Tata McGraw-Hill**

**2. Jeffcoate Judith, “Multimedia in Practice, Technology and Applications” , PHI**

**Web References:**

1. <https://en.wikipedia.org/wiki/Data_compression_symmetry>
2. <https://en.wikibooks.org/wiki/Data_Compression/Asymmetric_Compression>
3. wolfcrow.com/blog/**intra-frame**-**vs**-**inter-frame**-**compression**/