AMSD08 DIGITAL AUDIO

UNIT-1 DIGITAL AUDIO FUNDAMENTALS

1.1 Audio as data- What is an audio signal?- Why binary?- Why digital?- Some digital audio processes outlined- Time compression and expansion-

1.2 Error correction and concealment- Channel coding- Audio compression- Disk-based recording- Rotary-head digital recorders- Digital audio broadcasting- Networks

UNIT-2 REPRESENTATION OF AUDIO SIGNALS

2.1 Introduction- Analogue and Digital- Elementary Logical Processes- The Significance of Bits and Bobs-Transmitting Digital Signals- The Analogue Audio Waveform

2.2 Arithmetic- Digital Filtering- Other Binary Operations- Sampling and Quantising- Transform and Masking Coders.

UNIT-3 DIGITAL AUDIO RECORDING BASICS

3.1 Types of Media- Recording Media Compared- Some Digital Audio Processes Outlined- Hard Disc Recorders- The PCM Adaptor- An Open Reel Digital Recorder-

3.2 Rotary Head Digital Recorders- Digital Compact Cassette- Editing Digital Audio Tape

UNIT-4 DIGITAL AUDIO INTERFACES

4.1 Digital audio interfaces- MADI (AES10–1991) serial multi-channel audio digital interface

UNIT-5 DATA COMPRESSION

5.1 Lossless compression- Intermediate compression systems- Psychoacoustic masking systems- MPEG layer 1 compression (PASC)-

5.2 MPEG layer 2 audio coding (MUSICAM)- MPEG layer 3- MPEG-4- Digital audio production

UNIT-6 DIGITAL AUDIO PRODUCTION

6.1 Digital audio workstations (DAWs)- Audio data files- Sound cards- PCI bus versus ISA bus- Disks and other peripheral hardware-

6.2 Hard drive interface standards- Digital noise generation – chain-code generators

UNIT-7 OTHER DIGITAL AUDIO DEVICES

7.1 Video Recorders- HDCD- CD Writers- MPEG Systems- MP3- Transcribing a Recording by Computer- WAV Onwards- DAM CD- DVD and Audio

Reference Books:

1. Title: Digital Audio Essentials Author(s): Release date: April 2005 Publisher(s): O'Reilly Media, Inc. ISBN: 9780596008567