Date: 13/05/2015

Subject Code:X 51103

GUJARAT TECHNOLOGICAL UNIVERSITY

PDDC - SEMESTER- V EXAMINATION - SUMMER 2015

Subject Name: Audio-Video Engineering Time:02:30 pm - 05:00 pm Total Marks: Instructions: 1. Attempt all questions. 2. Make suitable assumptions wherever necessary. 3. Figures to the right indicate full marks.			70	
Q.1	(a)	Define the following terms: 1. Number of active lines 2. Chroma 3. Aspect Ratio 4. Hue 5. Image Continuity 6. Brightness 7. Flicker	07	
	(b)	Explain how human brain detects the direction of sound arrival? Explain mental process in detail.	07	
Q.2	(a) (b)	Draw and explain composite video signal in detail. Which microphone is used for the calibration? Explain its principle, construction and functioning with diagram.	07 07	
	(b)	OR Explain principle, construction and functioning of crystal microphone.	07	
Q.3	(a) (b)	Explain Constant-Current Sources and Current Mirrors in detail. What is Picture Resolution? Show that the maximum video frequency that gets generated is 5 MHz.	07 07	
		OR		
Q.3	(a) (b)	Explain Audio Compression in detail. Explain interlaced scanning in detail.	07 07	
Q.4	(a) (b)	Draw and explain block diagram of monochrome TV Reciever. What is vestigial sideband? Discuss the interference suffered by TV channels.	07 07	
		OR		
Q.4	(a)	Explain sync separation and processing in TV receiver.	07	
	(b)	Explain encoding of color-difference signals.	07	
Q.5	(a) (b)	Compare various display technologies such as CRT, LCD, Plasma and LED. Define the following terms pertaining to sound. 1. Loudness 2. Pitch 3. Phon 4. Sone 5. Reverberation 6. Threshold of hearing 7. Timbre	07 07	
		OR		
Q.5	(a) (b)	Give comparison of NTSC color system with PAL color system. Explain MPEG-x, H.26x in detail.	07 07	
