Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE – SEMESTER – VI EXAMINATION – WINTER 2015

Subject Code:161002 **Date:17/12/ 2015**

Subject Name: Audio Video Systems

Time:2:30pm to 5:00pm **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1 **(a)** Briefly explain following terms related to Audio Video Systems **07**

(i) Aspect Ratio
(ii) Brightness
(iii) Saturation
(iv) Luminance
(v) Line out
(vi) Aux. in
(vii) Phon

(b) Draw block diagram of PA system and explain working of mixer circuit for PA system **07**

Q.2 **(a)** Explain how the luminance and colour difference signals are developed from Camera outputs. Why is it necessary to set Y = 0.3R + 0.59G + 0.11B ? **07**

(b) Sketch composite video signal waveform for at least three successive lines and indicate extreme white level , blanking level , pedestal height and sync pulse level on it with brief explanation **07**

OR

(b) Write short note on : Cable Television Network **07**

Q.3 **(a)** Give list of Television Receiver Servicing equipments and explain any one in detail with the help of block diagram **07**

(b) What is meant by degaussing and why is it needed? Draw and explain automatic degaussing circuit for TV receiver. **07**

OR

Q.3 **(a)** Write functions of video IF amplifier and draw overall IF response curve of a TV receiver tuned to channel-3 (band-I). Show all frequencies on the curve. **07**

	(b)	What are the functions of a typical TV tuner? Draw and explain block diagram of VHF tuner.	**07**
Q.4	**(a)**	Give comparison of (i) Video CD and DVD (ii) MP3 and Blue ray disc (iii) JPEG and MPEG	**07**
	(b)	(i) Compare LED TV with LCD TV (ii) Compare NTSC color system with PAL color system	**07**

OR

Q.4	**(a)**	What is the working principle of microphone? List different types of microphones and write applications of each.	**07**
	(b)	Explain working principle of loud speaker with necessary diagram. Discuss about different types of headphone.	**07**
Q.5	**(a)**	Discuss about standard channel bandwidth for TV and explain the Pre-emphasis, De-emphasis circuits with necessary curves. State their usefulness in transmission and reception of TV signal.	**07**
	(b)	Draw the block diagram of PAL-D colour receiver	**07**

OR

Q.5	**(a)**	What is acoustics? Discuss architectural acoustics for auditorium design.	**07**
	(b)	(i) Explain the basics of magnetic recording with necessary diagram. (ii) Write short note on : stereophony and multichannel sound	**07**

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