

# GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V (NEW) EXAMINATION – WINTER 2018

**Subject Code:2151101**

**Date:04/12/2018**

**Subject Name:Audio Video Systems**

**Time: 10:30 AM TO 01:00 PM**

**Total Marks: 70**

**Instructions:**

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

		MARKS
<b>Q.1</b>	(a) What is the meaning of the following terms pertaining to sound? (i) Pitch (ii) Timbre (iii) Overtone.	<b>03</b>
	(b) Write merits of digital television receiver.	<b>04</b>
	(c) Explain Public Addressing System with the help of neat block diagram.	<b>07</b>
<b>Q.2</b>	(a) Prove that the approximate increase in velocity is 0.6m/s per degree Celsius at room temperature.	<b>03</b>
	(b) Compare positive and negative modulated video signal.	<b>04</b>
	(c) Distinguish between cardioid, supercardioid and hypercardioid patterns and specify their applications.	<b>07</b>
	<b>OR</b>	
	(c) Explain in detail along with neat sketch working and characteristics of Carbon Microphone?	<b>07</b>
<b>Q.3</b>	(a) Define the following terms pertaining to picture: (1) Saturation (2) Luminance (3) Hue	<b>03</b>
	(b) Explain with reason (1) Why number of Lines in PAL Television is chosen to be 625 lines? (2) Why Aspect ratio in TV is chosen to be 4/3?	<b>04</b>
	(c) Draw and explain The Composite Video Signal in detail.	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	(a) With Reference to Loudspeaker define (1) Frequency Response (2) Directivity (3) Efficiency	<b>03</b>
	(b) Explain time compression and expansion technique of digital audio	<b>04</b>
	(c) Explain interlaced scanning in detail? What are its merits over simple (progressive) scanning?	<b>07</b>
<b>Q.4</b>	(a) Draw the block diagram of B & W TV Transmitter.	<b>03</b>
	(b) What is acoustic reverberation and explain factors on which reverberation time depends	<b>04</b>
	(c) Enumerate Distinguishing features of LCD colour receives when compared with Plasma receives. What is 'Slow Response Time' and how its effect is minimized in LCD screens.	<b>07</b>
	<b>OR</b>	
<b>Q.4</b>	(a) Write the difference between JPEG and MPEG types of compression technique	<b>03</b>
	(b) Compare front projection system and rear projection system.	<b>04</b>
	(c) Describe with the help of a neat diagram the working of variable density method of optical recording of sound on films.	<b>07</b>
<b>Q.5</b>	(a) Compare MP3 and Blue ray disc	<b>03</b>
	(b) Draw and explain the working of monochrome picture tube (Vidicon).	<b>04</b>
	(c) With the help of neat and clean block diagram explain DTH TV Receiver	<b>07</b>

**OR**

- Q.5 (a) Compare EDTV & HDTV.  
(b) Explain in brief about troubleshooting of PA system.  
(c) Write a short note on LED TV.

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03  
04  
07

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