

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER– VI (Old) EXAMINATION – WINTER 2019****Subject Code: 161002****Date: 12/12/2019****Subject Name: Audio - Video Systems****Time: 02:30 PM TO 05:00 PM****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) List different types of Microphones used in Audio Video Engineering and explain any two in detail. **07**
- (b) Describe interlaced scanning and justify that “For interlaced scanning the total number of lines in any TV system must be odd. **07**
- Q.2** (a) Compare single ended versus push-pull amplifiers. Draw and explain the circuit diagram for class-B push-pull amplifier. **07**
- (b) Draw Composite Video Signal for three consecutive lines and explain each part in detail. **07**
- OR**
- (b) Draw the cross section of cochlea and explain each part. **07**
- Q.3** (a) Define following terms with respect to audio and video systems. **07**  
1) Pitch 2) Timber 3) Loudness 4) Hue 5) Saturation 6) Luminance Signal 7) Phon.
- (b) Discuss merits and demerits of Positive and Negative Modulation. **07**
- OR**
- Q.3** (a) Explain the basics of audio compression technique. **07**
- (b) Draw the block diagram of monochrome TV receiver and explain each block in brief. **07**
- Q.4** (a) Write short note on colour TV pattern generator. **07**
- (b) Explain the block diagram of PAL – D decoder. **07**
- OR**
- Q.4** (a) Why video compression is required? Explain any two video compression Techniques. **07**
- (b) Discuss in detail the working principal of LED TV and LCD TV. **07**
- Q.5** (a) Write short note on: Cable Television Network. **07**
- (b) With reference to colour TV receiver explain the function of following circuits. **07**  
(1) Colour killer circuit (2) Comb Filter (3) Y channel delay line.
- OR**
- Q.5** (a) Compare the characteristics of Cone Type and Horn type Speakers. Also mention their applications. **07**
- (b) List the types of television systems and standard used worldwide and explain it. **07**

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