

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VI(OLD) – EXAMINATION – SUMMER 2019****Subject Code:161002****Date:21/05/2019****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.

- Q.1 (a) Draw the circuit diagram of the class B push pull amplifier and explain it. Derive the equation of efficiency for it. Also explain all distortion regarding class B push pull amplifier. 07
- (b) What do you mean by Resolution? Explain Horizontal & Vertical resolution. Prove that maximum Video frequency that need to be handled in 625 line TV system is 5 MHz. 07
- Q.2 (a) Draw the cross section of cochlea and explain each parts of it. Also explain mental process. 07
- (b) Enlist the characteristics of Digital Audio Broadcasting. Also write its advantages and disadvantages. 07
- OR**
- (b) What is sampling? How quantizing is useful? Also draw and explain PCM system in detail. 07
- Q.3 (a) Explain Crossover Networks in detail. 07
- (b) Explain preamplifier and its requirement. 07
- OR**
- Q.3 (a) Draw the Composite Video signal for at least three Horizontal lines and explain it in detail 07
- (b) Explain Interlaced scanning in detail with scanning sequence diagram. 07
- Q.4 (a) Draw block diagram for separation of U and V colour phasor signals and explain it. 07
- (b) Sketch the details of horizontal blanking and sync. pulses. Label on it : 07
- i. Front porch    ii. Horizontal sync pulse    iii. Back porch
- Explain significance of each portion.
- OR**
- Q.4 (a) Why vestigial sideband transmission is used in TV? Explain Vestigial sideband transmission in detail. What are the merits & demerits of VSB transmission? 07
- (b) Which modulation system is used for Picture and Sound in TV? Why? Also explain Positive and Negative modulation. Enlist the advantages of Negative modulation. 07
- Q.5 (a) Explain Interference suffered by TV signal in detail. 07
- (b) List the types of Television systems and standard used worldwide and explain it in detail. 07
- OR**
- Q.5 (a) Draw the block diagram of VHF Tuner and explain it in detail. 07
- (b) Explain HDTV in detail. 07

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