

GUJARAT TECHNOLOGICAL UNIVERSITY**BE – SEMESTER- V EXAMINATION-SUMMER 2023****Subject Code: 2151101****Date: 03/07/2023****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.
4. Simple and non-programmable scientific calculators are allowed.

- Q.1 (a)** Give reasons: **03**
 (1) The Aspect ratio kept 4:3.
 (2) No. of scanning lines in PAL television standard is chosen to be 625.
- (b)** Define the followings: **04**
 (1) Overtone (2) Timbre (3) Pitch (4) Phase
- (c)** Explain the Working of PA system with the help of a neat block diagram. **07**
- Q.2 (a)** Explain vertical resolution and horizontal resolution. **03**
(b) Explain digital audio compression? Why is it used? **04**
(c) Write short note on moving coil microphone. **07**
- OR**
- (c)** Write short note on indirect radiating type loudspeaker. **07**
- Q.3 (a)** What is scanning? Explain need of scanning in television? **03**
(b) Draw the cross section of cochlea and explain each part of it. **04**
(c) Draw and explain Composite video signal in detail. **07**
- OR**
- Q.3 (a)** What do you understand by the terms Positive modulation and Negative modulation? **03**
(b) Write short note on MPEG-x Format for video. **04**
(c) Write short note on HDTV. **07**
- Q.4 (a)** Define Edge-LEDs and give merits and demerits of it. **03**
(b) Give comparison between front projection and rear projection system. **04**
(c) Write a short note on 3-D Television. **07**
- OR**
- Q.4 (a)** Explain Additive colour mixing. State Grassman's law. **03**
(b) Write short note on CATV. **04**
(c) Write short note on DTH television. **07**
- Q.5 (a)** Write a brief introduction about OLED with advantages. **03**
(b) Define the followings: **04**
 (1) Front porch (2) Back porch (3) Horizontal sync pulse
(c) Explain LCD Matrix types with advantages and disadvantages. **07**
- OR**
- Q.5 (a)** What is the need for video compression? **03**
(b) Explain in brief about troubleshooting of PA system. **04**
(c) Write a short note on Plasma television. **07**
