

18E29

B. Tech. EXAMINATION, 2020

(Fifth Semester)

(C Scheme) (Main Only)

(ECE)

ECE327C

CONSUMER ELECTRONICS

Time : 2½ Hours]

[Maximum Marks : 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Four* questions in all. All questions carry equal marks.

1. (a) What is a raster and how is it produced on the picture tube screen ?
(b) What do you understand by interlaced scanning ? Show that it reduces flicker and conserves bandwidth.
(c) Explain Vestigial Sideband (VSB) transmission. Explain its *four* advantages.
2. (a) Sketch the sectional view of a picture tube that employs electrostatic focusing and electromagnetic deflection and label all the electrodes. Explain briefly, how the electron beam is focused on the tube screen ? What is meant by crossover point in the electron gun ?
(b) What do you understand by image storage capability of a modern television pick-up tube ? Explain, why storage type tubes have much higher sensitivity as compared to non-storage type ?

3. (a) Describe with a diagram the construction of a colour TV camera and its optical system. Why are the outputs of all the three camera tubes set equal when standard white light is made incident ?
(b) Explain, how by frequency interleaving the colour information is accommodated within the same channel bandwidth of 7 MHz ?
4. Explain the working principles of LCD TV and Plasma TV by using their block diagrams.
5. With the help of a neat diagram, explain the principle of working of DMD. Also discuss the emerging applications of DMD.
6. (a) Explain the working of a microwave oven with detailed block diagram.
(b) With the help of a suitable block diagram, explain the working of a Split air conditioner.
7. (a) Discuss the working of the following microphones giving neat diagrams :
(i) Moving Coil (ii) Carbon
(b) Draw a neat diagram of tape transport mechanism of a tape recorder and explain its working.
8. (a) How can baffles be classified ? Give a brief description of each type.
(b) What are woofers and tweeters ? What is the difference between them ? Why are they needed ?