

DiplETE – ET (NEW SCHEME)

Time: 3 Hours

June 2018

Max. Marks: 100

PLEASE WRITE YOUR ROLL NO. AT THE SPACE PROVIDED ON EACH PAGE IMMEDIATELY AFTER RECEIVING THE QUESTION PAPER.

NOTE: There are 9 Questions in all.

- Question 1 is compulsory and carries 20 marks. Answer to Q.1 must be written in the space provided for it in the answer book supplied and nowhere else.
- The answer sheet for the Q.1 will be collected by the invigilator after 45 minutes of the commencement of the examination.
- Out of the remaining EIGHT Questions answer any FIVE Questions. Each question carries 16 marks.
- Any required data not explicitly given, may be suitably assumed and stated.

Q.1 Choose the correct or the best alternative in the following: (2×10)

- a. In the American TV system, a field frequency is _____.
- (A) 50 Hz (B) 60 Hz
(C) 50 KHz (D) None of these.
- b. A practical figure for the channel bandwidth would be _____.
- (A) 11 MHz (B) 5.5 MHz
(C) 11.25 MHz (D) None of these
- c. In Monochrome Picture tube, G3 is _____.
- (A) Accelerating Grid (B) Screen Grid
(C) Focusing Grid (D) None of these
- d. The standard intermediate frequencies for the 625-B system are-Picture IF = _____, Sound IF = _____.
- (A) 38.9 MHz and 33.4 MHz (B) 33.4 MHz and 38.9 MHz
(C) 33.4 Hz and 38.9 Hz (D) None of these
- e. In NTSC system, the color subcarrier frequency should be chosen equal to _____.
- (A) 3.583125 MHz. (B) 5.5 MHz
(C) 5.5 KHz (D) None of these
- f. $0.7R - 0.59G - 0.11B =$ _____.
- (A) (R-Y) (B) (B-Y)
(C) (G-Y) (D) None of these
- g. The IC-BEL CA 3065 is specially designed for the _____ section of monochrome television receivers.
- (A) Sound (B) RF
(C) IF (D) None of these

Code: DE117 Subject: TELEVISION ENGINEERING & BROADCASTING

- h. The 'BEL' CA 920 is _____ combination IC.
(A) Vertical Oscillator
(B) Horizontal Oscillator
(C) Vertical and Horizontal Oscillator
(D) None of these.
- i. The colour burst signal is located in _____ of the horizontal blanking pedestal.
(A) Front porch
(B) Back porch
(C) Live sync period
(D) None of these
- j. MATV systems are designed to have _____ Ω impedance.
(A) 300
(B) 100
(C) 75
(D) None of these.

**Answer any FIVE Questions out of EIGHT Questions.
Each question carries 16 marks.**

- Q.2** a. Define Flicker. Explain the method to eliminate it, in detail. (8)
b. Draw Composite Video Signal. Explain Horizontal Sync in detail. (8)
- Q.3** a. Explain VSB transmission & list its disadvantages. (8)
b. List Television Standards. (8)
- Q.4** a. Explain Monochrome Picture Tube. Draw Picture tube circuit with its controls. (8)
b. Explain Solid State Image Sensors. (8)
- Q.5** a. Draw and explain plan of a typical television studio. (8)
b. Draw and explain simplified block diagram of a TV transmitter. (8)
- Q.6** a. Explain IF filter. Draw its practical and modified circuits of video detector. (8)
b. Explain Contrast Control Methods in detail. (8)
- Q.7** a. Explain Sound Take-off circuits for monochrome and color TV. (8)
b. Draw and explain functional block diagram of BEL 1044IC. (8)
- Q.8** a. Explain Grassman's Law. Define Luminance, Hue and Saturation. (8)
b. List Color TV Display Tubes. Explain **Any One** of them. (8)
- Q.9** a. Write short note on CC TV. (8)
b. Draw and explain functional blocks of TV Game system. Draw block diagram of a TV game dedicated IC. (8)