

DiplETE – ET (Current Scheme)

Time: 3 Hours

DECEMBER 2015

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)

- The channel bandwidth in a 525 line system is
(A) 4 MHz (B) 5 MHz
(C) 6 MHz (D) 7 MHz
- In a 525 line TV system, the frame frequency is
(A) 24 frames / second (B) 25 frames / second
(C) 30 frames / second (D) 33 frames / second
- The camera signal with blanking and sync is called
(A) Composite Video Signal (B) Complex Video Signal
(C) Mixed Video Signal (D) Combined Video Signal
- The crack or puncture in the picture tube results in a violent inrush of air is called
(A) Explosion (B) Implosion
(C) Breakdown (D) Crackdown
- The synchronizing pulses occur during
(A) Active line period (B) Trace period
(C) Blanking period (D) None of these
- The mixture of red and green gives
(A) Yellow (B) Magenta
(C) Cyan (D) Pink
- The Colour sub-carrier frequency used in the NTSC TV system is
(A) 3.48 MHz (B) 4.43 MHz
(C) 3.58 MHz (D) 4.58 MHz
- The frequency distortion in the form of too much relative gain for some high video frequencies results in
(A) Streaking (B) Smear
(C) Undershoot (D) Ringing
- Which of the following controls is located in the video amplifier
(A) V.Hold control (B) Volume control
(C) Contrast control (D) Brightness control

- j. The value of intercarrier sound IF signal is
(A) 4.5 MHz (B) 5 MHz
(C) 4.43 MHz (D) 3.58 MHz

Answer any FIVE Questions out of EIGHT Questions.

Each question carries 16 marks.

- Q.2** a. Explain the working of Television broadcasting system with a neat block diagram. (8)
b. Explain horizontal and vertical blanking. (8)
- Q.3** a. Explain, with neat diagrams, magnetic deflection used in television picture tubes. (10)
b. Write the precautions to be taken while handling the picture tubes. (6)
- Q.4** a. Explain interlaced scanning pattern used TV systems. (10)
b. Explain “Flicker” in Television systems. (6)
- Q.5** a. Explain “colour addition” used in colour TV system. (8)
b. Explain (i) Hue (ii) Saturation (iii) Chrominance (iv) Luminance (8)
- Q.6** a. Explain the types of colour video signals. (10)
b. Explain the “Colour Sync Burst”. (6)
- Q.7** a. Explain the tests for streaking. (6)
b. Explain (i) aspect Ratio (ii) Contrast Range with respect to EIA Test Pattern. (4)
c. Explain the tests for Ringing. (6)
- Q.8** Draw a neat block diagram of Black and White TV receiver and explain the function of each block briefly. (16)
- Q.9** Write short notes on any TWO of the following: (16)
(i) Safety aspects in TV receivers
(ii) Raster Distortions
(iii) Projection TV systems