

**DiplETE – ET (NEW SCHEME) – Code: DE68****Subject: TELEVISION ENGINEERING****Time: 3 Hours****Max. Marks: 100****DECEMBER 2011****NOTE: There are 9 Questions in all.**

- Please write your Roll No. at the space provided on each page immediately after receiving the Question Paper.
- 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. The colour subcarrier frequency as per NTSC Colour TV standards is

- (A) 4.43 MHz (B) 3.58 MHz  
(C) 4.34 MHz (D) 3.85 MHz

b. The value of EHT voltage required in colour TV picture tube is

- (A) 15 KV (B) 18 KV  
(C) 20 KV (D) 25 KV

c. The type of pulses used in composite video signal for making retraces invisible are

- (A) Sync pulses (B) Video pulses  
(C) Blanking pulses (D) Composite pulses

d. The combination of hue and saturation put together is known as

- (A) Chrominance (B) Luminance  
(C) Brightness (D) Multiplex

e. Which of the following is transmitted during the back porch of the colour composite signal?

- (A) Composite pulses (B) Blanking pulses  
(C) Sync pulses (D) Colour burst

f. Linearity Test Chart provides test for

- (A) Camera linearity (B) Monitor linearity  
(C) Vertical linearity (D) Horizontal linearity

- g. The sound inter-carrier IF is generated in the
- (A) Video IF amplifier (B) Video Detector  
(C) Sync Separator (D) Mixer Stage
- h. A snowy picture is caused by the fault in
- (A) antenna Circuit (B) Tuning Circuit  
(C) AGC Circuit (D) video Amplifier Circuit
- i. The pincushion raster is produced due to
- (A) Flatness of the screen (B) Barrel shaped field  
(C) Pincushion shaped field (D) Earth's magnetic field
- j. No raster, no picture and sound OK is caused due to fault in
- (A) EHT Circuit (B) Tuner Circuit  
(C) Vertical Circuit (D) Video IF Circuit

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

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- Q.2** a. Explain horizontal and vertical scanning processes. (8)  
b. Draw and explain the block diagram of television broadcasting system. (8)
- Q.3** a. Explain the functional block for the sound system in a T.V. Receiver. (8)  
b. Explain, with the help of block diagram the function of RF Tuner. (8)
- Q.4** a. Explain the magnetic deflection used in television picture tubes. (8)  
b. Explain the precaution to be taken with the television picture tubes. (8)
- Q.5** a. Explain various types of raster distortions. (8)  
b. Explain the use of synchronizing pulses in a television system. (8)
- Q.6** a. Explain I signal, Q signal, B-Y signal, R-Y signal and G-Y signal used in colour TV System. (8)  
b. Explain colourplexed composite video signal. (8)
- Q.7** a. Explain the terms white, hue, saturation, chrominance and luminance. (8)  
b. Explain how the Y signal is produced for transmission to the receiver. (8)

- Q.8** a. Explain the tests for ringing in the picture. (8)
- b. Explain the Ball Chart for checking the camera linearity. (8)
- Q.9** a. Explain the troubleshooting procedure in a TV receiver. (8)
- b. Explain the safety precautions to be taken in TV receiver servicing. (8)