TED (15) – 6046

(REVISION — 2015)

Reg. No. .....

Signature .....

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/COMMERCIAL PRACTICE — APRIL, 2019

TELEVISION ENGINEERING

[*Time* : 3 hours

(Maximum marks : 100)

PART — A

(Maximum marks : 10)

Marks

I Answer *all* questions in one or two sentences. Each question carries 2 marks.

1. Define equalization in audio recording.
2. State the reasons for not choosing (G-Y) difference signal for TV transmission.
3. Give the reasons for transmitting colour burst signals.
4. Define multicasting in DTV.
5. State the use of set-top box. (5 × 2 = 10)

PART — B

(Maximum marks : 30)

II Answer any *five* of the following questions. Each question carries 6 marks.

1. With a neat sketch explain the operation of a dynamic loud speaker.
2. Draw the block diagram of a CD play back system and explain.
3. Sketch the frequency spectrum of a complete TV channel employing VSB.
4. Explain the operation principle of CCD camera.
5. State the merits and demerits of digital TV system.
6. Draw the block diagram of Digital satellite transmitter and explain each block.
7. Explain CCTV system with block diagram. (5 × 6 = 30)

Marks

PART — C

(Maximum marks : 60)

(Answer *one* full question from each unit. Each full question carries 15 marks.)

UNIT — I

III (a) Draw the block diagram of a high fidelity stereo system and explain the operation. 8

(b) With a neat sketch explain the construction and operation of a ribbon microphone. 7

OR

IV (a) Explain the following characteristics with respect to a microphone.

(i) Sensitivity (ii) SNR (iii) Output impedence (iv) Directivity 8

(b) Explain the requirements of a public address system. 7

UNIT — II

V (a) Draw the waveform of a composite video signal for a single line and explain the functions of each pulse. 8

(b) Describe the principle of additive and subtractive mixing of colours with examples. 7

OR

VI (a) Draw the block diagram of PAL de coder and explain each block. 8

(b) With neat sketch explain the concept of positive and negative modulation. 7

UNIT — III

VII (a) Draw the block diagram of a Digital TV receiver and explain each block. 8

(b) Explain video compression layers in MPEG-l. 7

OR

VIII (a) Explain the construction and operation of a delta gun picture tube. 8

(b) Explain the merits of digital TV system. 7

UNIT — IV

IX (a) Draw the block diagram of a HDTV Transmitter and explain each block. 8

(b) With a neat sketch explain the working principle of Liquid crystal display. 7

OR

X Write short notes on :

(i) Video on demand (VOD) (ii) Direct to home (DTH)

(iii) Set-Top Box (STB). 15