TED (15) – 6046 Reg. No.....

(REVISION — 2015) Signature .....

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/COMMERCIAL PRACTICE — APRIL, 2018

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 sensitivity of a microphone.
2. State the reason for not using SSB in TV signal transmission.
3. State the function of synch pulses in composite video signal.
4. Give the meaning of Cliff effect in DTV.
5. List the different HDTV standards. (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 principle of operation of condenser microphone.
2. Define Hi-Fi system. List the requirements to be met by the Hi-Fi sound system.
3. Explain the method of obtaining colour difference signal from CTV camera.
4. Draw the composite video signal of negative polarity for a horizontal line and label various components with width and amplitude.
5. Explain the inter frame comparison process of M PEG-1.
6. Explain the principle of OLED displays.
7. With the help of a block diagram explain the operation of a DTH receiver.

(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) With the help of a neat diagram explain the process of optical CD recording. 8

(b) Draw and explain the construction and operation of a moving coil loud speaker. 7

OR

IV (a) Define DOLBY system and explain DOLBY-A and DOLBY-B systems. 8

(b) Draw the block diagram of a PA system and explain the operation. 7

UNIT — II

V (a) Draw the block diagram of PAL coder and label different stages and signals. 8

(b) With a neat sketch explain the VSB transmission of TV signal also state its merits and demerits. 7

OR

VI (a) Explain different colour TV systems and compare the features. 8

(b) Explain the principle and operation of CCD camera tube. 7

UNIT — III

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

(b) Explain the concept of MAC encoding. 7

OR

VIII (a) Explain the sampling and quantization process in digital TV. 8

(b) With a neat sketch explain the construction and operation of Trinitron picture tube. 7

UNIT — IV

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

(b) With the help of a neat sketch explain the operation of Liquid crystal TV display. 7

OR

X (a) Draw and explain the block diagram of digital satellite receiver. 8

(b) With the help of a block diagram explain the operation of CATV. 7