

TED (10)–4049/5051 (EA)

(REVISION—2010)

Reg. No. ....

Signature .....

FIFTH/SIXTH SEMESTER DIPLOMA EXAMINATION IN ENGINEERING/  
TECHNOLOGY—MARCH, 2013

**AUDIO AND VIDEO SYSTEMS**

(For V<sup>th</sup> semester EL, AE, EC, EP and EA and VI<sup>th</sup> semester for TC)

[Time : 3 hours

(Maximum marks : 100)

Marks

**PART—A**

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

1. List important characteristics of a microphone.
2. Write the need of blanking pulses in television system.
3. What is the function of the video amplifier stage in TV receiver ?
4. Define 'hue' and 'saturation' related to colour.
5. List different colour T.V systems.

(5x2=10)

**PART—B**

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

1. Draw the block diagram of sound synthesis system and explain the function.
2. With the help of a neat sketch describe the working of a electro dynamic loudspeaker.
3. Sketch the cross sectional view of a vidicon camera tube and identify different parts.
4. Calculate the approximate bandwidth of video signal in 625 line system.
5. Explain the peak AGC operation with the help of diagram.
6. Draw the construction details of a precision in-line colour picture tube.
7. Explain how colour difference signal are derived.

(5x6=30)

**PART—C**

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

**UNIT – I**

- III (a) With a neat sketch explain the construction and working of a crystal microphone. 8
- (b) Write the advantages of compact disc recording. 7

OR

- IV (a) Explain monophonic sound system and stereophonic sound with the help of sketches. 8
- (b) With the help of waveform diagrams, explain the need of biasing in magnetic recording. 7

## UNIT – II

- V Draw the CCIR-B standard composite video signals for three horizontal lines showing all details and explain. 15

OR

- VI (a) Explain the horizontal sync pulse detail with a neat sketch. 8
- (b) Write the merits of SMPS over conventional regulator. 7

## UNIT – III

- VII (a) Draw the block diagram of video IF amplifier stage in a TV receiver and explain. 8
- (b) Illustrate the video amplifier requirements. 7

OR

- VIII (a) Draw the pushpull AFC circuit in TV and explain. 8
- (b) Explain with block diagram, the operation of sound section in TV receiver. 7

## UNIT – IV

- IX Draw the block diagram of a PAL-D receiver with PAL-D decoder and explain the working. 15

OR

- X Write short notes on : (a) HDTV (b) Digital TV (c) CCTV. (3x5=15)