

Scheme – G

Sample Test Paper-I

Course Name : Diploma in Electronics and Video engineering

Course Code : EV

Semester : Fifth

Subject Title : TV Receiver

Marks : 25

17547

Time: 1 hour

Instructions:

1. All questions are compulsory.
2. Illustrate your answers with neat sketches wherever necessary.
3. Figures to the right indicate full marks.
4. Assume suitable data if necessary.
5. Preferably, write the answers in sequential order.

Q1. Attempt any three

09 Marks

- a) Draw block diagram of PAL Decoder.
- b) State need of AGC and AFT in TV system.
- c) Draw basic structure of SAW filter.
- d) State requirement of chroma Delay line.

Q2. Attempt any two

08 Marks

- a) Identify the component giving colour killer effect and describe operation of colour killer circuit.
- b) With suitable circuit diagram describe how separation of U and V signals are achieved in colour TV.
- c) Draw block diagram of SIF stage using IC 1190 in colour TV receiver and state function of each block.

Q3. Attempt any two

08 Marks

- a) Illustrate luminance signal process with circuit diagram.
- b) Draw and describe Hyper Band tuner with vericap tuning.
- c) State need of Reference oscillator and draw its circuit diagram

Scheme – G

Sample Test Paper-II

Course Name : Diploma in Electronics and Video engineering

Course Code : EV

Semester : Fifth

Subject Title : TV Receiver

Marks : 25

17547

Time: 1 hour

Instructions:

1. All questions are compulsory.
2. Illustrate your answers with neat sketches wherever necessary.
3. Figures to the right indicate full marks.
4. Assume suitable data if necessary.
5. Preferably, write the answers in sequential order.

Q1. Attempt any three

09 Marks

- a) Enumerate distinguishing features of LCD colour receivers when compared with Plasma receiver.
- b) What is 3D TV technology? Why it is necessary to use special glasses for watching 3D programmes?
- c) Draw the schematic diagram of IC7609 and its function.
- d) Enumerate the merits and demerits of a SMPS and explain how dc to dc conversion is carried out efficiently.

Q2. Attempt any two

08 Marks

- a) Illustrate EHT Generation Diode split Technique with neat diagram.
- b) Draw the circuit diagram of push-pull type SMPS.
- c) Illustrate with neat diagram the working principle of Trinitron picture tube.

Q3. Attempt any two

08 Marks

- a) What is the purpose of remote controller system in TV? State its advantages and disadvantages.
- b) Draw the block diagram of microcontroller based TV
- c) Illustrate how a basic LCD can be created. Why application of electric charge across it either blocks or permits passage of light through its layers?

Scheme – G

Sample Question Paper

Course Name : Diploma in Electronics and Video engineering

Course Code : EV

Semester : Fifth

Subject Title : TV Receiver

Marks : 100

17547

Time: 3 hours

Instructions:

1. All questions are compulsory.
2. Illustrate your answers with neat sketches wherever necessary.
3. Figures to the right indicate full marks.
4. Assume suitable data if necessary.
5. Preferably, write the answers in sequential order.

Q1. (A) Attempt any Three

12 Marks

- a) State significance of chroma Delay line. Why is the chroma delay line period chosen to $63.943\mu\text{s}$?
- b) Draw the schematic diagram of IC7609 and state its function.
- c) Why microcontroller is used in TV receiver?
- d) Draw and describe Hyper Band tuner with vericap tuning.

Q1. (B) Attempt any One.

06 Marks

- a) Draw the block diagram of PAL-D decoder and write the function of each block.
- b) What is meant by auto stereo Scope method of 3D TV? write its one advantage? Name the different methods and describe any one.

Q.2 Attempt any Four.

16 Marks

- a) Enumerate four merits and two demerits of a SMPS and explain how dc to dc conversion is carried out efficiently.
- b) Draw luminance signal processing circuit diagram.
- c) Illustrate the operation of push-pull type SMPS with neat circuit diagram.
- d) State the purpose of remote control system in TV. Write its advantages and disadvantages.(any two of each)
- e) List any eight major controls available in plasma TV. State the function of any two controls.
- f) Draw the block diagram of remote control transmitter and receiver.

Q3. Attempt any Four.

16 Marks

- a) Describe EHT Generation Diode split Technique with neat diagram.
- b) Draw the block diagram of microcontroller based TV.
- c) Draw and describe basic structure of SAW filter.

- d) On which principle ACC amplifier works. Describe operation of ACC amplifier circuit with diagram.
- e) Enumerate four distinguishing features of LCD colour receiver when compared with Plasma receiver.

Q4. (A) Attempt any Three.

12 Marks

- a) How Plasma colour TV is different from conventional CRT TV receiver?
- b) State advantages and disadvantages of SAW filter.(any four)
- c) Describe with neat diagram the working principle of Trinitron picture tube.
- d) Draw the block diagram of Sweep section and elaborate the function of any two blocks.

Q4. (B) Attempt any One.

06 Marks

- a) Draw VIF stage using IC CA 7611/7607 in colour TV receiver and state function of any two blocks.
- b) Illustrate with the suitable circuit diagram how the IDENT and KILLER outputs are obtained from the burst phase discriminator output.

Q5. Attempt any Two.

16 Marks

- a) Draw the block diagram of colour TV receiver. How signal is processed in each block?
- b) Draw the circuit diagram of discrete vertical output amplifier stage that receives drive from combination IC like TA 7609 P. List sequence of operations that lead to produce vertical trace and retrace of the electron beam on the receiver screen.
- c) With suitable circuit diagram describe how separation of U and V signals are achieved in colour TV.

Q6. Attempt any Four.

16 Marks

- a) State need of AGC and AFT in TV system.
- b) Elaborate the working principle of LCD in TV
- c) Illustrate with diagram working of frequency synthesizer tuning.
- d) What is 3D TV technology? Why is it necessary to use special glasses for watching 3D programmes?
- e) State need of Reference oscillator and draw its circuit diagram.