

G 1215

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Reg. No.....

Name.....

**B.TECH. DEGREE EXAMINATION, MAY 2016**

**Eighth Semester**

Branch : Electronics and Communication Engineering

**TELEVISION ENGINEERING (L)**

(Old Scheme—Prior to 2010 Admissions)

[Supplementary/Mercy Chance]

Time : Three Hours

Maximum : 100 Marks

**Part A**

*Answer all questions.*

*Each question carries 4 marks.*

1. What is meant by aspect ratio ? Why aspect ratio is standardised as 4/3 in TV system ?
2. What is VSB ? What are the demerits of using VSB for picture transmission ?
3. What is negative modulation ? List the merits of the same in TV system.
4. Explain the disadvantages of delta gun tube.
5. What is keyed AGC ? How is it used in 625 line system ?
6. Describe the elements in the Yagi antenna.
7. Explain the operation of a colour killer circuit.
8. Explain the cancellation of phase error in PAL system.
9. Explain the functioning of cable decoders.
10. What are the methods of scrambling of cable pay TV and the conditional access to specific programs ?

(10 × 4 = 40 marks)

**Part B**

*Answer all questions.*

*Each full question carries 12 marks.*

11. Sketch neatly and explain the functions of the different types of pulses with their standard line members, present during the two blanking intervals of the two fields in the Indian 625 line system.

Or

Turn over



12. (a) Neatly sketch and explain how the line retrace interval of  $12 \mu\text{s}$  is divided in the 625 line system ?

(6 marks)

(b) With neat sketches, explain the VSB correction done at the receiver side.

(6 marks)

13. Describe the working of a CCD camera tube. What are its merits and demerits compared to the image orithicon ?

*Or*

14. Explain clearly the working of a PIL colour TV picture tube, showing its complete structure. What is purity ? How it is achieved ?

15. Draw and explain the keyed AGC in the receiver, with the help of the circuit diagrams and waveforms.

*Or*

16. Give the elements of the magnetic deflection circuits for the horizontal and vertical, indicating the waveforms of the voltages needed to drive the circuit. Why is this deflection circuit preferred in TV receiver ?

17. (a) What is the significance of the colour difference signal ? How are they suitable as an aid to compatability of the colour TV signal ?

(6 marks)

(b) Explain the expression for the three colour difference TV signals in terms of R, G, B and how they are included in the transmission in PAL system.

(6 marks)

*Or*

18. With a neat block diagram, explain NTSC coder and transmitter. Why different bandwidths are assigned to I and Q signals ?

19. Describe the different types of cable distribution networks, the various frequency bands and relative merits and demerits. Explain wave traps.

*Or*

20. Explain the different improvement factors used in HDTV to make it of more quality. Explain its various standard parameters.

(5 × 12 = 60 marks)

