

Code: D-18
Time: 3 Hours
100

Subject: TELEVISION ENGINEERING
June 2006

Max. Marks:

NOTE: There are 9 Questions in all.

- **Question 1 is compulsory and carries 20 marks. Answer to Q. 1. must be written in the space provided for it in the answer book supplied and nowhere else.**
 - **Out of the remaining EIGHT Questions answer any FIVE Questions. Each question carries 16 marks.**
 - **Any required data not explicitly given, may be suitably assumed and stated.**
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Q.1 Choose the correct or best alternative in the following: (2x10)

a. Aspect ratio of a picture is

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|----------------------------|----------------------------|
| (A) Height to width ratio. | (B) Width to height ratio. |
| (C) Diagonal length ratio. | (D) Depth to height ratio. |

b. Contrast of a picture is

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|-------------------------------------|------------------------------|
| (A) Sharpness. | (B) Amount of light. |
| (C) Difference between intensities. | (D) Average light intensity. |

c. Dark current in a camera is

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|-------------------------------|-----------------------------|
| (A) When there is no picture. | (B) When there is no light. |
| (C) When contrast is zero. | (D) When current is zero. |

d. The purpose of Dichroic mirror is to

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|----------------------------------|------------------------------|
| (A) filter specific wavelength. | (B) reflect light into lens. |
| (C) reflect specific wavelength. | (D) act as relay lens. |

e. Degaussing helps in

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|------------------------------------|-----------------------------|
| (A) alignment of electrons. | (B) removing magnetic flux. |
| (C) producing electrostatic focus. | (D) remove ghost image. |

f. Serrated pulses give information of

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|---------------------------------|-------------------------------|
| (A) equalizing lines. | (B) vertical synchronisation. |
| (C) horizontal synchronization. | (D) end of vertical period. |

g. Chrominance signal is generated from

- b. What is the need of incorporating pre-equalising and post-equalising pulses? (6)
- Q.5** a. What is compatibility? Why and how luminance and chrominance signals are generated in colour transmission? (8)
- b. Explain the advantages of using VSB instead of SSB transmission. Draw the transmitted spectrum in UK standard for Channel-2 VHF. (8)
- Q.6** a. What is the basic difference between CCIR-PAL and SECAM chrominance processing, explain. (8)
- b. If there is phase error of 15 degrees in a chrominance signal that was transmitted at 55 degrees, what would be its effect in an NTSC system and PAL system. Show drawing phasor diagrams. (8)
- Q.7** a. What is meant by vestigial side band correction & how is it achieved in the receiver? (8)
- b. Why AGC is required in a TV receiver, explain a typical scheme of keyed AGC? (8)
- Q.8** a. Spell out the drawbacks of PAL-S (simple). How is it overcome in PAL-D (delay line), explain using schematic. (10)
- b. What is the role of colour killer in a colour receiver? Why it is not required in a monochrome receiver? (6)
- Q.9** a. Explain the principle of tuning in a digital R.F. tuner. (8)
- b. Why AFT is required in a receiver, draw a typical AFT circuit and explain. (8)