2/25/12 Code: A-20

Code: D-18 Subject: TELEVISION ENGINEERING
Time: 3 Hours June 2006 Max. Marks:

100

**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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<b>Q.1</b>	Choose the	correct or	best ane	rnauve in	une .	ющом	ing:

(2x10)

- a. Aspect ratio of a picture is
  - (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
  - (A) Sharpness.

- (B) Amount of light.
- **(C)** Difference between intensities.
- **(D)** Average light intensity.
- c. Dark current in a camera is
  - **(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
  - (A) filter specific wavelength.
- **(B)** reflect light into lens.
- (C) reflect specific wavelength.
- **(D)** act as relay lens.

- e. Degaussing helps in
  - (A) alignment of electrons.
- **(B)** removing magnetic flux.
- (C) producing electrostatic focus.
- **(D)** remove ghost image.
- f. Serrated pulses give information of
  - (A) equalizing lines.

- **(B)** vertical synchronisation.
- (C) horizontal synchronization.
- **(D)** end of vertical period.
- g. Chrominance signal is generated from

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		(A) R, G, B (C) R-Y, G-Y		( <b>B</b> ) B-Y, G-Y ( <b>D</b> ) R-Y, B-Y		
	h.	Differential Phase	error is because of			
		<ul><li>(B) Change in ph</li><li>(C) Change in ph</li></ul>	ase of chrominance sase of Luminance signs ase of Sub-carrier.  Applitude of chrominar	mal.		
	i.	A single horizonta	I line on the picture t	ube screen is becaus	e of	
			cusing circuit. rizontal scan circuit.(I			
	j.	In PAL the video	bandwidth is			
		<ul><li>(A) 4.5 MHz.</li><li>(C) 5.0 MHz.</li></ul>		( <b>B</b> ) 5.5 MHz. ( <b>D</b> ) 6.0 MHz.		
		Ansv	wer any FIVE Ques	tions out of EIGH on carries 16 mark	_	
Q.2	a.	(i) B	n the effect of following			
		* *	Contrast. Resolution.			(9)
	b	retrace, if vertical (i) H	frequency is 50Hz, of the fortzontal line period	calculate	ing lines. if 15% of line	es are lost during
			Element period. Bandwidth for aspect	ratio 4:3.		(7)
Q.3		-	ow silicon diode arr (8)	ray is used to con	vert optical image to	electrical video
	b	-	struction of deflection etron beam in a pictur	<u> </u>	w these assist in vertice	cal and horizontal
Q.4	a.		taining grey scale of	seven starting from	al? Draw such a signal white. Indicate the 62 (10)	

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	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)
<b>Q.7</b>		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)
Q.9	a.	receiver? (6)  Explain the principle of tuning in a digital R.F. tuner. (8)