Time : 3 hours



Set No. 1

# IV B.Tech II Semester Regular Examinations, April/May - 2014 TV ENGINEERING

### (Electronics and Communication Engineering)

Max. Marks: 75

# Answer any Five Questions

#### All Questions carry equal marks

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1	a) b)	With detailed block diagram explain the working of monochrome television receiver Explain the differences between Horizontal Scanning and Vertical Scanning	[8] [7]
2	a) b)	Define Total channel bandwidth using vestigial sideband and Draw the vestigial side band characteristics of TV transmitter and receiver. Explain the picture signal transmission.	[8] [7]
3	a) b)	Draw the constructional detail and explain the operation of Silicon Diode Array Vidicon Explain in detail the CCD Image Sensors	[8] [7]
4	a) b)	Explain the charecteristics and specifications of picture tube Explain the dely line method of separating the U and V signals in a PAL receiver	[8] [7]
5	a) b)	Describe briefly the alignment procedure and precautions for aligning the RF tuner of the receiver. With circuit diagram describe the IF section of a TV receiver. Explain how the use of a SAW filters simplifies the design of IF amplifiers.	[8] [7]
6	a) b)	Explain about receiver sound system How the Noise cancellation is achieved ?Explain	[8] [7]
7	a) b)	What is the function of a colour killer circuit in the path of chrominance signal in the receiver Explain U & V demodulators	[8] [7]
8	a) b)	Explain the differences between AGC,AFC. With neat block diagram explain the essential elements of a satellite communication system	[8] [7]



Set No. 2

# IV B.Tech II Semester Regular Examinations, April/May - 2014 TV ENGINEERING

### (Electronics and Communication Engineering)

Time : 3 hours

Max. Marks: 75

### Answer any Five Questions All Questions carry equal marks

#### \*\*\*\*\*

1	a)	With suitable diagrams explain in detail the interlaced scanning procedure	[8]
	b)	What is the procedure involved in generation and Encoding of Colour signals	[7]
2	a)	Explain the differences between positive and negative modulation	[8]
	b)	Explain the sound signal transmission.	[7]
3	a) b)	Draw the block diagram of a monochrome television receiver and explain each block in detail Draw the block diagram of a colour camera receiver and explain each block in detail	[8] [7]
4	a)	Draw the block diagram of NTSC transmitter and explain the function of each block.	[8]
	b)	Explain the sequence of modulation in the PAL colour system and illustrate the colour burst swing in a PAL system	[7]
5	a) b)	Describe briefly the alignment procedure and precautions for aligning the FM discriminator circuit of the receiver Discuss the importance of Synchronization in a TV broadcast	[8] [7]
6	a)	Explain the operation of TV Receiver Tuner	[8]
	b)	How the Noise cancellation is achieved ?Explain	[7]
7	a)	Burst phase discriminator	[8]
	b)	Explain the principle of operation of Reference oscillator	[7]
8	a) b)	What are the differences between AFC and single ended AFC circuits ,Expalin? Explain the major differences in DIGITAL TV, Digital Satellite TV, Direct to Home Satellite TV.	[8] [7]

Set No. 3

Max. Marks: 75

# IV B.Tech II Semester Regular Examinations, April/May - 2014 TV ENGINEERING

### (Electronics and Communication Engineering)

### Time : 3 hours

Answer any Five Questions

### All Questions carry equal marks

#### \*\*\*\*

1	a) b)	With suitable diagram explain in detrail about composite video signal Explain The mixing of colours	[8] [7]
2	a) b)	Explain in detail about TV broadcast channels Explain the differences between CCI and ACI in detail.	[8] [7]
3	a) b)	Explain the differences between the camera tubes ,Vidicon and Silicon Diode Array Vidicon Draw the constructional detail and explain the operation of Plumbicon camera tube	[8] [7]
4	a) b)	With neat sketch explain the Monochromatic Picture tube Explain about TV standards	[8] [7]
5	a) b)	Describe the horizontal deflection stage of a TV receiver. How EHT voltage is generated from this section? illustrate the formation of the chroma signal for a colour bar pattern after the color difference signals have been scaled down	[8] [7]
6	a) b)	Explain various digital tuning techniques Explain about VHF and UHF tuners	[8] [7]
7	a) b)	What is the need of AFC ?explain its operation with neat sketch Explain the mixing of colour signals	[8] [7]
8	a) b)	What are the various types of Receiver Antennas ? Mention four special features of Digital TV which cannot be easily	[8]
		incorporated in analog 1 V	[/]

1 of 1

Set No. 4

# IV B.Tech II Semester Regular Examinations, April/May - 2014 TV ENGINEERING

### (Electronics and Communication Engineering)

Time : 3 hours

#### Max. Marks: 75

## **Answer any Five Questions**

#### All Questions carry equal marks

#### \*\*\*\*

1	a) b)	Derive an expression for the bandwidth of a video signal in terms of number of lines and field frequency Explain the encoding procedure of colour difference signals	[8] [7]
2	a) b)	Explain the differences between sound signal transmission and picture signal transmission Explain the procedure involved in TV signal propagation	[8] [7]
3	a) b)	Draw the constructional detail and explain the operation of vidicon camera tube With neat sketch explain the principle of operation of colour camera	[8] [7]
4	a) b)	With neat sketch Explain about Electrostatic focusing and , Beam deflection Explain the 625-line monochrome system	[8] [7]
5	a) b)	With neat sketch Explain about Video amplifier Explain about raster circuits	[8] [7]
6	a) b)	What is the need of AGC ,explain the operation with neat sketch Explain about ,FM Sound detectors	[8] [7]
7	a) b)	What is the function of the color kiler circuit? Explain with neat diagram With neat sketch explain the decoding process using PAL – D decoder	[8] [7]
8	a) b)	With neat block diagram explain the essential elements of a satellite communication system With neat block diagram explain the single ended AFC circuit	[8] [7]