Seat No.:	Enrolment No
-----------	--------------

Subject Code: 161002

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI • EXAMINATION - SUMMER • 2014

Date: 21-05-2014

	Tin	oject Name: Audio Video Systems ne: 10:30 am - 01:00 pm Total Marks: 70	
	Insti	 Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks. 	
Q.1	(a)	Mention atleast four types of microphones. Explain constructional details, working, characteristics and applications of condenser type microphone.	07
	(b)	**	07
Q.2	(a) (b)	Explain the principle ofstereophonic system. With reference to audio amplifier explain the difference between voltage amplifier and power amplifier. Draw the circuit diagram of typicalpush-pull amplifier and explain its working. What are the advantages of a push-pull amplifier over a single transistor amplifier?	07 07
		OR	
	(b)	With reference to audio system explain the following terms. (Any Three) (1) PMPO (2) Reverberation (3) Directivity of a microphone (4) PA system.	07
Q.3	(a)	Explain the principle of magnetic recording and reproduction. What is biasing? Why AC biasing is preferredover DC biasing.	07
	(b)	What do you understand by the termsPositive modulation and Negative modulon? What are the merits and demerits of negative modulatio?	07
		OR	٥.
Q.3	(a) (b)	Write a detailed note on Crossover Network. Explain the need of frequency interleaving. How it is done? Why the frequency of colour sub carrier is chosen as the odd multiple of half-the-line frequency?	07 07
Q.4	(a)	What is interlaced scanning? How it is done? What are its merits over simple (progressive) scanning?	07
	(b)	Give Reason. (1) Vertical sync pulse is serrated. (2) Pre and Post eqalizing pulses are added in the composite video signal.	07
Q.4	(a)	OR Sketch the picture signal details of three scanning lines with different avarge brightness level and application to following to prove (1) Park white level (2) Plank level	07
		level and explain the following terms: (1) Peak white level (2) Black level (3) Blanking level (4) DC level (5) Pedestal height (6) sync pulse	
	(b)	Draw and explain the constructional details of PIL type colour picture tube. What are	07
	(0)	its merits over the Delta gun type colour picture tube?	U7
Q.5	(a)	Sketch the 7 Mhz. bandwidth allotted to each channel. Why VSB type of transmission is chosen over DSB or SSB type?	07
	(b)	Explain the basics of Video Compression techniques. OR	07
Q.5	(a)	What are the features of SECAM colour system? Draw and explain the block diagram	07
		of SECAM III coder. What are the merits and demerits of SECAM system?	_
	(b)	Write a note on High Defination TV ***********************************	07

1