

Bangladesh Polytechnic Institute

Technology: **Electronics**

Semester: 6th

Sub. Name: **Television Engineering-2 (6862)**

T P C: 2 6 4

Course Outline

Teacher Name: Md. Faruk Azam

Mob.No: 01740 91 87 33 / 01788 92 92 29

Class No.	Discussion and Explanation of Topics/ Titles	Remarks
Class-1	<ul style="list-style-type: none"> ❖ Understand the concept of optics of color television ➤ Define the nature of visible light ➤ Describe the perception of colors. ➤ Describe the mechanism of color vision.. 	
Class-2	<ul style="list-style-type: none"> ❖ Understand the concept of optics of color television ➤ Define the terms photothic, scotothic, hue, brightness, saturation, luminance, chrominance, color temperature, peakwhite and gray. ➤ Describe additive and subtractive color mixing ➤ Describe chromaticity diagram 	
Class-3	<ul style="list-style-type: none"> ❖ Understand the fundamentals of color television signal. ➤ Describe the production of color difference signals. ➤ Calculate the values amplitude of luminance and chrominance signals for different colors bar signal at different saturation. 	
Class-4	<ul style="list-style-type: none"> ❖ Understand the fundamentals of color television ➤ Calculate the phase angle of color bar signals and any color signal. ➤ Describe the polarity and band width of color difference signals. ➤ Describe channel band width for PAL system 	
Class-5	<ul style="list-style-type: none"> ❖ Understand the concept of complete transmitted signal. ➤ Describe the principles of quadrature amplitude modulation. ➤ Define weighted and un-weighted signal. ➤ Evaluate the magnitudes of weighting factors 	
Class-6	<ul style="list-style-type: none"> ❖ Understand the concept of complete transmitted ➤ Describe signal phasors with weighted values. ➤ Describe the exact value of subcarrier frequency for color television. ➤ Describe composite color signal with step by step conversion from camera signals. 	
Class-7	 Feedback	
Class-8	 Feedback	
Class-9	<ul style="list-style-type: none"> ❖ Understand the concept of color television system. ➤ Mention the major color TV standards for PAL system. ➤ Describe the operation of PAL transmitter (Encoder) with block diagram. 	
Class-10	Understand the concept of color television system	

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	<ul style="list-style-type: none"> ➤ Describe the operation of PAL receiver (Decoder) with block diagram. ➤ Describe the basic principles of NTSC and SECAM system. 	
Class-11	<ul style="list-style-type: none"> ➤ Compare PAL, SECAM and NTSC color TV systems. 	
Class-12	<p> Class Test</p>	
Class-13	<ul style="list-style-type: none"> ❖ Understand the features of color picture tube. ➤ Mention different types of color picture tube. ➤ Describe the construction of Trinitron color picture tubes 	
Class-14	<ul style="list-style-type: none"> ❖ Understand the features of color picture tube. ➤ Describe the operation of Trinitron picture tube. ➤ Describe the meaning of static, dynamic, differential convergence and purity. 	
Class-15	<ul style="list-style-type: none"> ❖ Understand the features of color picture tube. ➤ Describe the function of the external components required for different color picture tube. ➤ Describe the adjustment procedure of external components required for different color picture tube. 	
Class-16	<ul style="list-style-type: none"> ❖ Understand the features of color picture tube. ➤ Describe removal, installation precautions and color reproduction procedure of color picture tube. ➤ Mention the specification of color picture tube. 	
Class-17	<ul style="list-style-type: none"> ❖ Understand the operation of associate circuits of color TV receivers. ➤ Describe the chrominance signal processing sections of a PAL receiver with block diagram. ➤ Describe the operation of Chroma bandpas Amplifier, Automatic Colour Control, burst blanking, color killer, Sub carrier oscillator, AFPC, color matrix, DC clamps, color difference amplifier circuit. 	
Class-18	<ul style="list-style-type: none"> ○ Understand the operation of associate circuits of color TV receivers. ➤ Describe the procedure of color purity, static and dynamic convergence and grey scale tracking to color TV receiver. 	

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	<ul style="list-style-type: none"> ➤ Describe the operation of ADG circuit. ➤ Describe the operation of luminance section with delay line. 	
Class-19	<ul style="list-style-type: none"> ❖ Understand the operation of associate circuits of color TV receivers. ➤ Describe the sound section of color TV receiver. ➤ Describe the V-channel switching and need for ident signal. ➤ Describe the factory adjustment of color TV receiver. 	
Class-20	<ul style="list-style-type: none"> ➤ Describe the control panel of television receiver with diagram. ➤ Describe the modern TV receiver (Projection, Digital, 3D and HDTV) with block diagram. ➤ Describe the modern plasma TV, LCD, LED Television. 	
Class-21	<p style="text-align: center;"> Feedback</p>	
	<p>Class Test</p>	
Class-22	<ul style="list-style-type: none"> ❖ Understand the features of video equipment . ➤ Describe the basic principle of different types of video formats. ➤ Describe the basic principle of operation of VCD & DVD with block diagram. ➤ Describe the process of VCD & DVD to auxiliary equipment interconnection with diagram and recording system 	
Class-23	<ul style="list-style-type: none"> ❖ Understand the features of video equipment . ➤ Mention the adjustment procedure of VCD and DVD. ➤ Describe the operation of CCD multi system, Beta CAM and DV-CAM color video camera. ➤ Describe the basic principle of operation of TV tuner Card. 	
Class-24	<ul style="list-style-type: none"> ❖ Understand the features of video equipment . ➤ Describe the basic principle of operation digital color Camera, 3CCD Camera ➤ Describe the Dolby system. ➤ Mention Dolby Noise reduction digital & analog recording. 	

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Class-25	<ul style="list-style-type: none">❖ Understand the features of ENG & remote control.➤ Describe the Basic principle of ENG (Electronic news Gathering).➤ Describe the operation of ENG with block diagram.➤ Describe the basic principle of command encoding system for remote control	
Class-26	<ul style="list-style-type: none">❖ Understand the features of ENG & remote control.➤ Describe the basic principle of command decoding & system control (such as ON/OFF brightness, volume, contrast, color program etc.)➤ Describe interfacing system of remote control with TV and DVD.	
Class-27	🚦 Model Test	
Class-28	🚦 Feedback	

Reference Book:-

R. R. Gulti