

**University of Mumbai**  
**Examination May 2022**

Program: Electronics and Telecommunication Engineering

Curriculum Scheme: Rev2019

Examination: TE Semester V

Course Code: ECCDLO5011 and Course Name: Digital and IPTV Engineering

Time: 2 hour 30 minutes

Max. Marks: 80

<b>Q1.</b>	<b>Choose the correct option for following questions. All the Questions are compulsory and carry equal marks. (02 marks each)</b>
1.	NTSC system has-----numbers of scanning line.
Option A:	312
Option B:	525
Option C:	625
Option D:	325
2.	In PAL system phase altered by how many degree
Option A:	90
Option B:	180
Option C:	360
Option D:	50
3.	Interlace Scanning always takes place in direction of _____
Option A:	Left to right, top to bottom
Option B:	Left to right, bottom to top
Option C:	Right to left, top to bottom
Option D:	Right to left, bottom to top
4.	Scanning line in HDTV & frequency
Option A:	1125,50Hz
Option B:	625,50Hz
Option C:	819.60Hz
Option D:	1125,60Hz
5.	.....is used for backlight
Option A:	LED
Option B:	LCD
Option C:	Plasma
Option D:	Flat Screen
6.	..... TV provides depth perception to the viewer
Option A:	HDTV
Option B:	SDTV
Option C:	OTT
Option D:	3D TV

7.	Chromecast does not requires-----
Option A:	HDMI Port
Option B:	Wi-Fi Network
Option C:	Compatible mobile device
Option D:	Blue tooth
8.	-----is a convenient space coordinate representation of all the spectral colours and their mixtures
Option A:	Additive mixing diagram
Option B:	Subtractive mixing diagram
Option C:	Productive mixing diagram
Option D:	Chromaticity diagram
9.	The aspect ratio HDTV is
Option A:	4:3
Option B:	4:8
Option C:	16:9
Option D:	16:8
10.	Which one is not a IPTV viewing device
Option A:	Mobile
Option B:	Television
Option C:	Multimedia Computer
Option D:	STB

<b>Q2</b>	<b>Solve any Two Questions out of Three</b>	<b>10 marks each</b>
A	Explain Digital TV transmitter and Receiver its merits and demerits.	
B	What is compatibility in TV transmission? What are the requirements to be met to make the colour system fully compatible?	
C	Compare LED, OLED, Plasma and QD displays	

<b>Q3</b>	<b>Solve any Two Questions out of Three</b>	<b>10 marks each</b>
A	List out Digital TV standards and explain Ultra HDTV in detail.	
B	Explain Smart TV and its functions.	
C	Draw and explain architecture of IPTV and explain its features and its bandwidth requirement.	

<b>Q4</b>	<b>Solve any Two Questions out of Three</b>	<b>10 marks each</b>
A	Explain Internet Group Management Protocol (IGMP) & Hypertext Transfer Protocol (HTTP).	
B	What are the different Security Issues of IPTV Delivery Networks	
C	Explain IPTV Delivery methods	