

Government polytechnic Vaishali

Branch -Electronics Engineering
Subject-Radio and Telecommunication
Lecture plane effective from 1/08/2020
Subject teacher- Pawan Kumar

Serial no.	Unit	Topic to be covered	Number of lecture required	books
1	1.Element of communication	Principle of heterodyning.mixer,converters,radio transmitters, Block diagram,operation and performance of AM and FM Transmitters	L1,L2,L3L4 ,L5,L6,L7,L8	B1,B2
2	2.Radio receiver	Block diagram of AM and FM radio receiver,Principle of operation,different stage i.e. R.F. section,I.F stage, Local oscillator,mixer,Tuning,band selection and switch,volume control.	L9.L10,L11 ,L12,L13,L14	B1,B2
3	3.Propagation of waves	Introduction to various modes of propagation. Ground wave propagation. Space wave propagation. Tropospheric wave propagation. Refraction by tropospheric waves. Tilt of surface wave. Sky wave propagation Ionospheric propagation-Introduction.Critical frequency.Maximum usable frequency. Characteristics of the ionosphere. Virtual height. SKIP distance. Tropospheric scattering system.	L15,L16,L17,L18,L19, L20,L21,L22,	B1,B2
4	4.ANTENNA	Introduction.Radiation intensity. Directivity ,Gain.Field Pattern. Phase Pattern. General equation for field of a point source.Introduction to working principle of- Helical, Biconical, Horn, lense, Long wire,	L23,L24,L25,L26,L27, L28	B1,B2

		Yagi type of Antennas.		
5	5.RADAR AND NAVIGATION AIDS:	Elements of RADAR System. Radar Equation. Radar transmitting system. Radar antenna and scanning. Duplexer. Radar Receiver. Moving Target Indicator. Radar range and beckons.	L29,L30,L31,L32,L33,L34,L35,L36,L37,L38	B2,B3
6	6.SATELLITE COMMUNICATION:	Introduction. Need. Low orbiting satellites. Geo stationary satellite. Choice of frequency bands. Satellite broadcasting. Remote sensing : basic principle.	L39,L40,L41,L42,L43,L44	B2,B3
7	7.ANALOG TRANSMISSION:	DC signalling, AC signalling and Band Width, Transmission media, attenuators and repeaters, Modems.	L45,L46,L47,L48,L49,L50	B1
8	8.DIGITAL TRANSMISSION	Digital Channels and PCM, Optical Fibre Transmission Systems, Integrated Services Digital Network (ISDN), ISDN Services & Applications, Broad Band Networks.	L51,L52,L53,L54	B1
9	9.SWITCHING	Telephone Switching-Straggler : Switching Systems, Crossbar Switching, Electronic space, Division switching, Speech digitization and transmission, Time Division Switching, Optical Fibre Systems, Traffic Engg., Telephone Networks, Data Networks.	L55,L56,L57,L58,L59,L60	B1

B1-Communication system(Analog and digital)-sanjay sharma

B2-Electronics communication system-Kennedy,Davis

B3-Microwave electronics-M. Kulkarni