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4th Sem.

Branch : Eltx. Power Eltx

Sub : Communication Systems/Comm. Engg.

Time : 3 Hrs. **M.M. : 100**

SECTION-A

Note: Multiple Choice Questions. All Questions are compulsory. (10x1=10)

Q.1 Which type of modulation is used in AM transmitters? (CO1)

a) Frequency modulation b) Amplitude modulation

c) Phase modulation d) Pulse modulation

Q.2 The frequency range used by FM radio stations is: (CO2)

a) 88-108 MHz b) 530-1600 kHz

c) 3-30 MHz d) 300-3000 MHz

Q.3 A Yagi-Uda antenna is typically used for: (CO3)

a) Satellite Communication b) AM broadcasting

c) TV reception d) Radar systems

Q.4 What is the primary advantage of FM over AM? (CO1)

a) Better sound quality b) Longer range

c) Lower cost d) Simpler circuitry

Q5. What type of wave is primarily used for short-distance communication? (CO4)

a) Ground wave b) Space wave

c) Sky wave d) Surface wave

Q.6 Which layer of the ionosphere reflects sky waves? (CO4)

a) Troposphere b) Stratosphere

c) Mesosphere d) F-Layer

Q.7 Which type of antenna is used in AM radio receivers? (CO3)

a) Dish antenna b) Patch antenna

c) Ferrite rod antenna d) Yagi-Uda antenna

Q.8 What does the term "perigee" refer to? (CO4)

a) The point in the orbit farthest from the Earth

b) The point in the orbit closest to the Earth

c) The satellite's communication range

d) The speed of the satellite

Q.9 The main function of an antenna is to: (CO3)

a) Amplify signals

b) Transmit and receive radio waves

c) Convert analog signals to digital

d) Filter noise

Q.10 Which satellite is used for TV broadcasting? (CO5)

a) Low Earth orbit satellite

b) Medium Earth orbit Satellite

c) Geostationary satellite

d) Polar Orbit Satellite

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

Q.11 What is the full form of AM? (CO1)

Q.12 What is the typical frequency range of sky wave propagation? (CO4)

Q.13 Define modulation is communication systems. (CO2)

Q.14 What is the role of the ionosphere in sky wave propagation? (CO4)

Q.15 Name the three types of wave propagation. (CO4)

Q.16 What is the advantage of using a satellite in communication? (CO5)

Q.17 Describe the basic function of a radio receiver. (CO2)

Q.18 What is the primary use of patch antenna? (CO3)

Q.19 What is meant by "gain" in antennas? (CO3)

Q.20 Explain the term "Apogee". (CO4)

SECTION-C

Note: Short answer type Questions. Attempt any twelve questions out of fifteen Questions. (12x5=60)

Q.21 Draw a simple block diagram of an AM transmitter and explain its working. (CO1)

Q.22 Explain the working principle of an FM transmitter. (CO1)

Q.23 Describe the different types of antennas used in communication systems. (CO3)

Q.24 What are the basic characteristics of radio receiver? (CO2)

Q25 Explain how ground wave propagation works. (CO4)

Q.26 What is the difference between active and passive satellites? (CO5)

Q.27 Describe the structure and working of a dipole antenna. (CO3)

Q.28 Explain the concept of space wave propagation with ane example. (CO4)

Q.29 Discuss the main uses of geostationary satellites. (CO2)

Q.30 What is the importance of intermediate frequency (IF) in radio receivers? (CO2)

Q.31 Describe the key features of a Yagi-Uda antenna. (CO3)

Q.32 Explain how satellite communication systems work. (CO5)

Q.33 What is the concept of gain in antennas? (CO3)

Q.34 Discuss the role of the ionosphere in long-distance communication. (CO4)

Q.35 What are the advantages of FM over AM? (CO2)

SECTION-D

Note: Long answer questions. Attempt any two questions out of three Questions. (2x10=20)

Q.36 Draw and explain the block diagram of a super-heterodyne receiver. (CO2)

Q.37 Discuss the different modes of wave propagation and their applications. (CO4)

Q.38 Explain the working of satellite communication with a focus on geostationary satellites. (CO5)