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4th Sem / Branch: Eltx./ Power Eltx.
Subject:- Communication Systems/ Comm. Engg.

Time : 3Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 The major advantage of FM and AM is _____ (CO1)

a) Reception is less noisy
b) Higher carrier frequency
c) Smaller bandwidth
d) Small frequency deviation

Q.2 1 Gigahertz, GHz is equal to _____ (CO1)

() a) 10^7 Hz b) 10^8 Hz
c) 10^9 Hz d) 10^6 Hz

Q.3 AGC stands for _____ (CO2)

a) Automatic gain control
b) Access gain control
c) Automatic gauge control
d) None

Q.4 Demodulation is done in _____ (CO2)

a) Receiving antenna b) Transmitter
c) Radio receiver d) None

Q.5 A loop antenna is a commonly used for (CO3)

a) Radar
b) Direction finding
c) Satellite communication
d) All of the above

Q.6 Troposphere extends from earth surface to a height of (CO4)

a) 15 km b) 150 km
c) 50 km d) 400 km

Q.7 Skip distance for radio waves increases with (CO4)

a) Increase in frequency
b) Decrease in frequency
c) Temperature of atmosphere
d) None

Q.8 A passive satellite (CO5)

a) Only reflects back signals
b) Only generates signal
c) Only absorb signal
d) None

Q.9 Height of geostationary orbit is (CO5)

a) 75000 km b) 36000 km
c) 72000 km d) 108000 km

Q.10 Communication satellite have following subsystems (CO5)

a) Antenna system
b) communication system
c) Power sub system
d) All of the above

SECTION-B

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

Q.11 Audio frequency range is equal to _____ (CO1)

Q.12 Armstrong method is _____ method of FM generation. (CO1)

Q.13 FET stands for _____ (CO1)

Q.14 The image frequency must be rejected before the IF stage. (True/False) (CO2)

Q.15 Antenna beam width is a measure of directivity of an antenna. (True/False) (CO3)

Q.16 MUF stands for _____ (CO4)

Q.17 The point where satellite is closest from the earth is called the _____ (CO5)

Q.18 Virtual height is always _____ than the actual height. (CO4)

Q.19 Long distance short wave radio broadcasting uses ionosphere. (True/False) (CO4)

Q.20 Name any two direct method of FM generation. (CO1)

SECTION-C

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

Q.21 Explain classification of transmitter based on services. (CO1)

Q.22 Explain the working of low level AM transmitter. (CO1)

Q.23 Draw and explain the block diagram of communication receiver. (CO2)

Q.24 Define the term sensitivity and fidelity. (CO2)

Q.25 Describe selection criteria for intermediate frequency. (CO2)

Q.26 Describe the characteristics and applications of Yagi-Uda antenna (CO3)

Q.27 Define Antenna gain, effective aperture and directivity. (CO3)

Q.28 Write any 5 applications of Dish antenna. (CO3)

Q.29 Write a short note on geo stationary satellite. (CO5)

Q.30 Define the term virtual height, critical frequency and skip distance (CO4)

Q.31 Discuss about sky wave propagation. (CO4)

Q.32 Define active and passive satellites. (CO5)

Q.33 Write a short note on ionosphere propagation (CO4)

Q.34 Write the need of limiting and de-emphasis in FM reception. (CO2)

Q.35 Discuss advantages and disadvantages of satellite communication. (CO5)

SECTION-D

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

Q.36 Explain the principle and working of block diagram of Superhetrodyne FM receiver in detail. (Co2)

Q.37 Explain ground wave propagation along with its characteristics and applications. (CO4)

Q.38 Draw and explain the block diagram of satellite communication link in detail. (CO5)