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UG DEGREE END SEMESTER EXAMINATIONS - NOVEMBER 2025.

(For those admitted in June 2023 and later)

PROGRAMME AND BRANCH: B.Sc., ELECTRONICS

SEM	CATEGORY	COMPONENT	COURSE CODE	COURSE TITLE
III	PART - III	ELECTIVE GENERIC - 3	U23EL3A3	ELECTRONIC COMMUNICATION SYSTEM

Date & Session: 12.11.2025/AN

Time : 3 hours

Maximum: 75 Marks

Course Outcome	Bloom's K-level	Q. No.	SECTION – A (10 X 1 = 10 Marks) Answer <u>ALL</u> Questions.
CO1	K1	1.	Which of the following is the purpose of the transmitter? a) Converts signals to electric form b) Operating the received signal c) Converting the signal into a suitable form d) Reduces noise from the signal
CO1	K2	2.	----- is the advantage of FM over AM. a) Higher bandwidth efficiency b) lower power consumption c) Improved noise immunity d) simpler transmitter design
CO2	K1	3.	The primary mechanism of propagation of radiation in ionosphere. a) Reflection b) refraction c) diffraction d) scattering
CO2	K2	4.	----- is the frequency range of ground waves. a) 3KHz – 3 MHz b) 30KHz -300KHz c) 3MHz – 300MHz d) 3MHz -3GHz
CO3	K1	5.	What are the components present in Electromagnetic radiation? a) Electric field & gravitational field b) electric field & magnetic field c) magnetic field & gravitational field d) electric field & electromagnetic field
CO3	K2	6.	Which of the following is a type of antenna that is often used in satellite communication? a) Dipole antenna b) Yagi-Uda antenna c) Horn antenna d) Patch antenna
CO4	K1	7.	----- is the process of combining low frequency signal with high frequency carrier signal. a) Demodulation b) Modulation c) Filtering d) Amplification
CO4	K2	8.	Which of the following process of converting an acoustic signal into a sequence of words is -----. a) Speech synthesis b) Speech extraction c) voice detection d) speech recognition
CO5	K1	9.	The selectivity of receivers is determined by. a) sensitivity b) characteristics of IF section c) antenna direction d) all of the above
CO5	K2	10.	What is the purpose of matching network? a) To increase the input impedance b) To decrease the output impedance c) to maximize power transfer d) To filter unwanted frequencies

Course Outcome	Bloom's K-level	Q. No.	SECTION – B (5 X 5 = 25 Marks) Answer ALL Questions choosing either (a) or (b)
CO1	K3	11a.	What is Modulation? List out any two points about the need for modulation. (OR)
CO1	K3	11b.	Distinguish between Amplitude modulation and frequency modulation.
CO2	K3	12a.	Illustrate the fundamentals of EM waves. (OR)
CO2	K3	12b.	Analyse the basic concept of Ground waves.
CO3	K4	13a.	What is field intensity, and how is it related to radiation measurement? (OR)
CO3	K4	13b.	Explain the concept of polarization in antennas and discuss the effects of antenna height on radiation patterns.
CO4	K4	14a.	Describe the basic components and operation of a Continuous Wave (CW) transmitter. (OR)
CO4	K4	14b.	What is speech processing and what are its benefits?
CO5	K5	15a.	Describe the operation of an amplitude limiter in electronic circuits. (OR)
CO5	K5	15b.	Elaborate on FM receiver with the help of a block diagram.

Course Outcome	Bloom's K-level	Q. No.	SECTION – C (5 X 8 = 40 Marks) Answer ALL Questions choosing either (a) or (b)
CO1	K3	16a.	Explain the basic principles of Frequency Modulation (FM) theory, highlighting its advantages. OR
CO1	K3	16b.	Describe the frequency spectrum of an Amplitude Modulated (AM) wave, highlighting its components and bandwidth.
CO2	K4	17a.	What are the advantages and limitations of using sky waves for long-distance radio communication, and how do factors like frequency and ionospheric conditions affect their propagation? (OR)
CO2	K4	17b.	Analyse the characteristics and applications of space waves in communication systems, highlighting their advantages and limitations.
CO3	K4	18a.	Derive the relationship between antenna gain (G), radiated power (Pt), and power flux density (S) at a distance r from the antenna. (OR)
CO3	K4	18b.	Discuss the importance of bandwidth and beam width in antenna design.
CO4	K5	19a.	Describe the block diagram and operation of a Frequency Modulation (FM) transmitter, highlighting the role of each stage in the transmission process. (OR)
CO4	K5	19b.	Compare and contrast analog and digital speech processing.
CO5	K5	20a.	Elaborate on Superheterodyne Receiver. (OR)
CO5	K5	20b.	Describe the operation and characteristics of a radio detector in a receiver system.