TED (21) 3042

(Revision-2021)

N22-2110220221A

Reg.No.....

Signature.....

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/ COMMERCIAL PRACTICE, NOVEMBER - 2022

PRINCIPLES OF ELECTRONIC COMMUNICATION

[Maximum marks: 75] (Time: 3 Hours)

PART A

I. Answer all questions in one word or one sentence. Each question carries one mark

(9 x 1 = 9 Marks)

		Module outcome	Cognitive level
1	Define Amplitude Modulation	M1.02	U
2	Draw the frequency spectrum of FM	M1.03	R
3	Define modulation index of FM wave	M1.04	U
4	Define Nyquist rate	M2.01	U
5	Write the function of an antenna	M2.03	U
6	Define SNR	M3.03	U
7	In collector modulator, transistor is operated in which mode	M3.01	R
8	Define sensitivity	M4.01	U
9	Give the value of IF in AM receiver	M4.03	R

PART B

II. Answer any eight questions from the following. Each question carries three marks

(8 x 3 = 24 Marks)

		Module outcome	Cognitive level
1	Write the applications of FM	M1.03	R
2	Draw the frequency spectrum of DSBSC and VSB	M1.02	U
3	Define PPM and draw its output with respect to its message signal	M2.02	U
4	List any three antenna parameters	M2.03	R
5	List the advantages of microwave antenna	M2.03	R
6	Explain the need of a buffer amplifier in AM transmitter	M3.01	U
7	Draw and explain de-emphasis circuit	M3.01	U
8	List different types of noise in communication system	M3.03	R
9	Define the terms, fidelity and noise figure of a radio receiver	M4.01	U
10	Describe simple AGC circuit	M4.03	U

PART C

Answer all questions. Each question carries seven marks (6 x 7 = 42 Marks)

		Module outcome	Cognitive level
III	Derive the mathematical representation of FM	M1.03	U
	OR		
IV	Derive the power relations in AM	M1.02	U
V	A transmitter radiates 8 KW with carrier unmodulated and 10.12KW when the carrier is sinusoidally modulated. Calculate the modulation index	M1.04	A
	OR		
VI	Illustrate pulse amplitude modulation and pulse width modulation	M2.02	U
VII	Explain the block diagram of PCM transmitter	M2.02	U
	OR		
VIII	Discuss the construction of microstrip antenna	M2.03	U
IX	Describe about balanced modulator	M3.01	U
	OR		
X	Draw and explain the block diagram of low level AM transmitter	M3.01	U
XI	Explain the block diagram of indirect method of FM transmitter	M3.01	U
	OR		
XII	Explain the block diagram of AM receiver	M4.02	U
XIII	Compare AM and FM receiver	M4.02	U
	OR		
XIV	Explain the working of diode detector circuit with a neat diagram	M4.03	U

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