Code No.: EC611OE | R20 | H.T.No. | | | 8 | R | | | | | |

CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
III–B.TECH–II–Semester End Examinations (Supply) - January- 2024
PRINCIPLES OF ELECTRONIC COMMUNICATIONS
(Common for CSE, IT, CSD)

[Time: 3 Hours] **[Max. Marks: 70]**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 20 marks. Answer all questions in Part A.
Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART-A **(20 Marks)**

1.	a)	Explain the types of Electronic Communication?	[2M]
	b)	Define the communication channel.	[2M]
	c)	Define envelope in analog communication .	[2M]
	d)	What is a Modulation index?	[2M]
	e)	List the main subsystems commonly found in satellites.	[2M]
	f)	Define the Equatorial orbit and Polar orbit.	[2M]
	g)	Define the critical angle.	[2M]
	h)	List out the Light Sources.	[2M]
	i)	What are the key features of ZigBee?	[2M]
	j)	Define the Personal-area network.	[2M]

PART-B **(50 Marks)**

2.	a.	Explain the need of modulation in detail?	[7M]
	b.	Explain frequency translation?	[3M]

OR

3.	Define amplitude modulation and derive the expression in time domain?	[10M]
4.	Explain in detail pulse modulation of PWM?	[10M]

OR

5.	Explain the digital modulation of QPSK?	[10M]
6.	Explain the significance of deployable mechanisms in satellite design?	[10M]

OR

7.	Explain the ground satellites subsystem applications ?	[10M]
8.	Explain the wavelength division multiplexing?	[10M]

OR

9.	Explain the ray theory transmission?	[10M]

OR

10.	Explain the process of commissioning ZigBee devices and Compare ZigBee with Bluetooth and IR ?	[10M]

OR

11.	Explain the Infrared (IR) Wireless and Mesh Wireless Networks?	[10M]

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