

**CMR ENGINEERING COLLEGE: : HYDERABAD**  
**UGC AUTONOMOUS**

**III-B.TECH-II-Semester End Examinations (Supply) - December- 2025**  
**PRINCIPLES OF ELECTRONIC COMMUNICATIONS**  
**(Common for CSE, IT, CSD, CSC)**

**[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) What is modulation?	[2M]
b) What is the speed of light?	[2M]
c) Differentiate modulation and demodulation Processes	[2M]
d) What is the difference between PAM and PWM	[2M]
e) What is Geosynchronous satellite	[2M]
f) What is a VSAT? Where is it used?	[2M]
g) Define skew rays.	[2M]
h) What is index of refraction?	[2M]
i) What is Infrared Wireless?	[2M]
j) What is IEEE wireless standard for ZigBee.	[2M]

**PART-B**

**(50 Marks)**

2. Explain the Electromagnetic Spectrum with suitable sketches.	[10M]
<b>OR</b>	
3. Explain signal Gain, Attenuation, and Decibels.	[10M]
4. Describe the two basic ways in which amplitude modulator circuits generate AM.	[10M]
<b>OR</b>	
5. Compare PSK and QPSK techniques.	[10M]
6. Explain Satellite Communication Systems.	[10M]
<b>OR</b>	
7. Explain Satellite Ground Stations.	[10M]
8. Explain Types of Fiber-Optic Cables.	[10M]
<b>OR</b>	
9. Explain various Light Sources with suitable sketches.	[10M]
10. Explain various Cellular Telephone Systems.	[10M]
<b>OR</b>	
11. Analyze WiMAX and Wireless Metropolitan-Area Networks.	[10M]

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