2003000205020092
EXAMINATION OCTOBER 2024
BACHELOR OF SCIENCE (FIFTH SEMESTER)
ELECTRONICS-VII LEVEL-2
ANALOG COMMUNICATION

[Time: As Per Schedule] **[Max. Marks: 50]**

Instructions:
1. Fill up strictly the following details on your answer book
   a. Name of the Examination : **BACHELOR OF SCIENCE (FIFTH SEMESTER)**
   b. Name of the Subject : **ELECTRONICS-VII LEVEL-2** ANALOG COMMUNICATION
   c. Subject Code No : **2003000205020092**
2. Sketch neat and labelled diagram wherever necessary.
3. Figures to the right indicate full marks of the question.
4. All questions are compulsory.

Seat No:

Student's Signature

Q.1 Write the answer briefly **2X4=8**

1. Why do we need modulation?
2. Compare AM and FM
3. Define signal to noise ratio
4. Write full form of PM, DSBSC and SSB

Q.2 A. Define amplitude modulation. Write down the instantaneous voltage of the resulting amplitude modulated wave. **7**

B. A 50 kW carrier is to be amplitude modulated to a level of 85%. what is the power in sidebands? **7**

OR

A. Define frequency modulation and give its mathematical analysis. **7**

B. Explain Armstrong method of FM generation **7**

Q.3 A. Explain standing waves in transmission line. **7**

7

B. The first stage of a two stage RF amplifier has a voltage gain of 15, a 600Ω of input resistor, a 2k Ω equivalent noise resistance and 30k Ω output resistance. For a second stage the similar values are 20, 100k Ω ,8k Ω and 1.4M Ω respectively. Calculate the overall equivalent input noise resistance.

OR

A.. Briefly explain radiation intensity. **7**

B. Explain internal noises in detail **7**

Q.4 A. An antenna radiates a total of 200W at a distance of 2.0km, to produce a power density of 1.2mW/m^2 in a given direction. An isotropic antenna would have to radiate 2600W to produce the same power density at that distance. What is the directive gain of the practical antenna in decibels? **7**

B. Explain types and parameters of antenna **7**

OR

A.Explain Space wave Propagation. **7**

B. Explain sky wave and ground wave propagation in detail. **7**

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