RAN-2003000205020092

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T. Y. B. Sc. (Electronics) (Sem. - V) Examination March - 2023

Analog Communication : Paper - VII

Time: 2 Hours] **[Total Marks: 50**

સૂચના : / Instructions

(1)

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fill up strictly the details of ☛ signs on your answer book

Name of the Examination:

☛ **T. Y. B. Sc. (Electronics) (Sem. - V)**

Name of the Subject :

☛ **Analog Communication : Paper - VII**

Subject Code No.: **2003000205020092**

Seat No.:

Student's Signature

(2) Figure on the right indicates full marks.

(3) All symbols and abbreviations have their usual meaning.

(4) Assume data if necessary.

Q. 1 **Answer in brief:** **08**

1. Define demodulation.
2. Why do we need modulation?
3. Briefly explain radiation intensity.
4. Define signal to noise ratio

Q. 2 (A) Explain external noises in detail. **07**

(B) An RF amplifier is having an input resistance of 12kΩ and works in the frequency range of 10 to 14.5 MHz. Calculate the r m s noise voltage at the input of this amplifier at an ambient temperature of 20°C. **07**

OR

Q. 2 (A) Explain sky wave and ground wave propagation in detail. **07**

(B) Using the fundamentals of transmission line find out its characteristic impedance. **07**

Q.3 (A) Explain types and parameters of antenna. **08**

(B) Explain Radiation pattern of antenna in detail. **06**

OR

Q. 3 (A) Explain collector C modulator. **07**

(B) Discuss super heterodyne receiver. **07**

Q. 4 (A) Explain reactance modulator. **08**

(B) Explain Armstrong method. **06**

OR

Q. 4 (A) Write down the instantaneous voltage of the resulting amplitude modulated wave.
Draw the waveforms of carrier wave, modulating signal, amplitude modulated signal and frequency spectrum. **08**

(B) Calculate the percentage saving in power if only one sideband is used over the DSBFC system at 50% and 70% modulation. **06**

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