

Shiraji College (University of Delhi)

**Class Test on
Communication System
B.Sc. (Honours) Physics - Semester-VI**

Date : 22.04.2024

Attempt any four questions. All questions carry equal marks

Total Marks : 20

Duration : 1 Hour

1. (a) Explain Amplitude Modulation (AM) with a suitable waveform
(b) Calculate the modulation index for an FM wave where the maximum frequency deviation is 75 kHz and the modulating frequency is 3 kHz.
2. Explain the Frequency Modulation ^(FM)~~(AM)~~ in analog communication with the help of waveform. Write the formula for instantaneous voltage and modulation index in FM.
3. Explain the working of a superheterodyne receiver in detail with a diagram.
4. What is the difference between geosynchronous and geostationary satellites? Write the advantages of geostationary satellite.
5. (a) What is a transponder in a communication satellite? Define uplink and downlink frequency.
(b) Why is the uplink frequency kept higher than the downlink frequency?

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