

B.Sc. (CBCS Pattern) Semester-IV
USELT07 - Electronics Paper-I - Communication Electronics

P. Pages : 2

Time : Three Hours



GUG/S/25/12006

Max. Marks : 50

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- Notes :
1. All questions are compulsory and carry equal marks.
 2. Draw well labelled diagrams wherever necessary.
 3. Use of calculator and log table is allowed.

Either:

1. a) What is Communication? Draw block diagram of electronic Communication system and explain its working. 5
- b) Explain the concept of noise. Define signal to noise (S/N) ratio. 5

OR

- c) Give the brief idea of frequency allocation for radio communication system in India (TRAI). 5
- d) Explain the Electromagnetic communication spectrum. 5

Either:

2. a) Explain the need for modulation. 5
- b) Explain the Amplitude Modulation. Draw its waveforms. 5

OR

- c) Explain the frequency modulation. Draw its waveforms. 5
- d) Explain the concept of demodulation. 5

Either:

3. a) Explain the generation of FM using VCO with suitable diagram. 5
- b) Draw the diagram of FM detector and explain. 5

OR

- c) Explain the sampling theorem. 5
- d) Define- 5
 - i) Channel capacity
 - ii) PAM and PWM in modulation

Either:

4. a) Explain the concept of ASK and FSK modulation. 5
- b) Explain Geosynchronous satellite with suitable diagram. 5

OR

- c) Explain the basic concept of mobile communication. 5
- d) Explain the frequency bands used in mobile communication. 5

5. Attempt **any ten** of the following. 1x10
=10

- a) What is base band signal?
- b) What is channel signal?
- c) Define communication.
- d) What is modulation index in amplitude modulation?
- e) What is phase modulation?
- f) State advantages of FM over AM.
- g) What is multiplexing in modulation?
- h) Define PPM?
- i) Explain the function of mixer in superheterodyne receiver.
- j) Write full form of CDMA and TDMA in mobile system.
- k) What is Cell splitting in mobile system?
- l) Define pulse code modulation.
