B.Sc. S.Y. (CBCS Pattern) Sem-IV

USELT07 - Electronics Paper-I : Communication Electronics

P. Pages : 2 **GUG/W/22/12006**

Time : Three Hours * 2 3 8 5 * Max. Marks : 50

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

Either:

1. a) Draw the block diagram of electronics communication system and explain the function of each blocks. **7+3**

b) Explain the role of electromagnetic communication spectrum in communication system.

OR

c) What is Noise? Explain the effect of noise in communication system. **5+5**

d) Explain the role of TRAI in communication system.

Either:

2. a) Define Amplitude modulation. Explain amplitude modulation with suitable diagram. **5+5**

b) Derive the expression for the output power of amplitude modulated waveform.

OR

c) Differentiate between amplitude modulation and frequency modulation. **5+5**

d) Explain phase modulation with suitable diagram.

Either:

3. a) Explain the generation of FM using VCO with suitable diagram. **4+6**

b) Draw the block diagram of superheterodyne receive and explain it.

OR

c) State sampling theorem & explain it. **5+5**

d) Explain basic principle of PAM.

Either:

4. a) Draw block diagram of pulse code modulation system and explain it. **6+4**

b) Explain amplitude shift keying. (Ask with suitable diagram.)

OR

c) What is geosynchronous satellite? Explain the role of geosynchronous satellite in communication system. **5+5**

d) Explain the basic concept of mobile communication system.

5. Solve **any ten** of the followings.

a) What is electronics communication?

b) State the application of electronics communication.

c) What is channel?

d) What is modulation?

e) State advantage of amplitude modulation.

f) What is phase modulation?

g) What is VCO?

h) What is channel capacity.

i) Draw wave diagram of PWM.

j) State disadvantage of PCM.

k) State advantages of satellite communication.

l) Draw waveform of frequency shift keying (FSK).

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