

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech. (ECE) (Sem.-5)

**ANALOG AND DIGITAL COMMUNICATION**

Subject Code : BTEC-501-18

M.Code : 78297

Date of Examination : 12-06-2024

Time : 3 Hrs.

Max. Marks : 60

**INSTRUCTIONS TO CANDIDATES :**

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

**SECTION-A**

1. Write briefly :

- (a) Explain the significance of frequency spectrum.
- (b) What are the advantages of modulation?
- (c) Write the expression for phase modulation.
- (d) What is aliasing effect?
- (e) Explain under sampling.
- (f) What are the advantages of DPCM over PCM?
- (g) Differentiate between coherent and non-coherent detection.
- (h) Define ISI.
- (i) What are the limitations of digital modulation?
- (j) What are the various types of FSK?

### SECTION-B

2. Explain the principle of Pulse modulation.
3. Derive the noise in angle modulation.
4. Draw and explain Pulse amplitude modulation.
5. Derive an expression for Guassian noise characteristics.
6. Draw and explain minimum shift keying modulation.

### SECTION-C

7. What are the advantages of carrier suppression? Explain DSB-SC modulation in detail.
8. Explain digital multiplexers. Also, draw time division multiplexers in communication systems.
9. Draw and explain modulation and demodulation processes in continuous phase modulation.

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**