

Roll No.

Total No. of Pages : 02

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B.Tech. (Computer Science & Engg./Electrical Engg./Electronics & Communication Engg./Information Technology) (Sem.-7)

ANALOG AND DIGITAL COMMUNICATION

Subject Code : BTEC-501-18

M.Code : 90690

Date of Examination : 14-07-22

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) A broadcast radio transmitter radiates 5 KW power when the modulation percentage is 60%. How much is the carrier power?
- b) Sketch the digitally modulated waveforms for the binary data 110101 using QPSK.
- c) What are the advantages of SSB over DSB Modulation?
- d) Define Noise bandwidth and Noise figure.
- e) Derive the formula of total Current in AM system.
- f) How FM is generated from PM?
- g) What is Time division multiplexing?
- h) Write distortions of Delta modulation.
- i) Draw spectrum of Phase shift keying and calculate band width.
- j) Write the concept of White noise and Gaussian noise.

SECTION-B

2. Explain the concept of noise in Angle modulation system.
3. Explain the generation of Double side band modulation using transistor.
4. With a block diagram explain AM receiver.
5. Why delta modulation is superior to DPCM?
6. What is MSK? Draw a spectrum of MSK?

SECTION-C

7. With signal space diagram and energy calculation, explain 8-QAM transmitter and receiver.
8. In FM, why we use Pre-emphasis and De-emphasis circuit at transmitter and receiver. Explain in detail.
9. Write a note on following :
 - a) Time division multiplexing
 - b) Nyquist criteria of inter symbol interference.

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.