

FACULTY OF SCIENCE

B.Sc. (CBCS) III-Year (VI-Semester) Regular & Backlog Examinations, June-2023

Electronics-VI (A)

(Digital Communication)

Time: 3 Hours

Max Marks: 80

SECTION-A

(4x5=20 Marks)

Answer any Four questions from the following

1. What is information rate and write the properties of information?
2. Discuss random signal and noise.
3. Explain digital signal transmission using QAM.
4. Explain cyclic codes.
5. What is NRZ coding explain?
6. Write about Bluetooth technology.

SECTION-B

(4x15=60 Marks)

Answer all the following questions

7. (a) Explain complex Fourier spectrum and what are the properties of FT.
(OR)
(b) Define entropy. Write its properties and explain mutual information.
8. (a) What is PAM? Explain generation of PAM with mathematical representation and write its drawbacks.
(OR)
(b) Explain Adaptive delta modulation (ADM) with figures of transmitter and receiver. Write the advantages of ADM.
9. (a) What are hamming codes? Draw structure of the encoder and decoder for a hamming code and explain.
(OR)
(b) What is Parity check code? Explain encoder and decoder for simple parity check code.
10. (a) Write about Facsimile, videotext, wifi and cognitive radio.
(OR)
(b) Explain global positioning system.