

2103000206030066
EXAMINATION FEBRUARY-MARCH 2024
BACHELOR OF SCIENCE (SIXTH SEMESTER)
PHYSICS: ELECTIVE COURSE -1
MODERN DIGITAL AND ANALOG COMMUNICATION
SYSTEM-II-LEVEL 3

[Time: As Per Schedule]

[Max. Marks: 50]

Instructions:

1. Fill up strictly the following details on your answer book

- a. Name of the Examination : **BACHELOR OF SCIENCE (SIXTH SEMESTER)**
 - b. Name of the Subject : **PHYSICS: ELECTIVE COURSE -1
MODERN DIGITAL AND ANALOG COMMUNICATION
SYSTEM-II-LEVEL 3**
 - c. Subject Code No : **2103000206030066**
2. Sketch neat and labelled diagram wherever necessary.
 3. Figures to the right indicate full marks of the question.
 4. All questions are compulsory.

Seat No:

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Student's Signature

Q.1 Attempt any five in short

10

1. Which value r the pulse transmission rate varies from 2 BT to BT?
2. Full form of AWGN
3. Full form of PAM.
4. What is maximum likelihood receiver?
5. Write a Karhunen loeve expansion
6. What is Simplex?
7. Full form of ISS?
8. In the on-off or bipolar case a 0 is transmitted by?
9. Full form of ISDN?
10. What is transparent line code?

Q.2 (A) Write any one of the following

6

1. Explain block diagram of Regenerative repeater
2. Draw the block diagram of digital communication system and explain briefly

- (B) Write any one of the following** **4**
1. The data stream 1010101000000111 is fed to scrambler find the scrambler output
 2. What is pulse shaping? Explain inter-symbol interference and effect
- Q.3 (A) Write any one of the following** **6**
1. Describe EYE DIAGRAMS as an important tool.
 2. Explain block diagram of Regenerative repeater
- (B) Write any one of the following** **4**
1. Explain Differential PSK
 2. Explain frequency shift keying
- Q.4 (A) Write any one of the following** **6**
1. Explain properties of Gaussian Random Process
 2. Explain block diagram of Regenerative repeater.
- (B) Write any one of the following** **4**
1. Explain Amplitude-shift keying.
 2. Explain Binary Threshold detection?
- Q.5 (A) Write any one of the following** **6**
1. Describe Geometric Representation of white Noise Process.
 2. Describe general expression for error probability of optimum receiver
- (B) Write any one of the following** **4**
1. Describe White Gaussian Noise
 2. Describe Differentially Coherent PSK.
