



RAN - 2103000206030066

RAN-2103000206030066

B.Sc. (Sem. VI) Examination April - 2023

Physics - Elective Course - I

Modern Digital and Analog Communication System - II

[Total Marks: 50

सूचना : / Instructions

(१)

नीचे दशविवेक निशानीवाणी विगतो उत्तरवली पर अवश्य लपववी.

Fill up strictly the details of signs on your answer book

Name of the Examination:

B.Sc. (Sem. VI)

Name of the Subject :

Physics - Elective Course - I Modern Digital and Analog
Communication System - II

Subject Code No.: 2103000206030066

Seat No.:

--	--	--	--	--	--

Student's Signature

- (2) Draw neat diagram wherever necessary.
- (3) Symbols used in the paper have their usual meaning.
- (4) Question 1 is compulsory and figures to the right indicate full marks of the question.

Q1. Answer the following questions in short: (10)

- i. What is line coding or transmission coding?
- ii. Full form of ISS?
- iii. In the on-off or bipolar case a 0 is transmitted by?
- iv. Full form of ISDN?
- v. What is transparent line code?
- vi. Which value r the pulse transmission rate varies from 2 BT to BT ?
- vii. Full form of AWGN
- viii. Full form of MAP.
- ix. What is maximum likelihood receiver?
- x. Write a Karhunen loeve expansion

- Q-2. A. Write any one of the following [6]**
1. Draw the block diagram of digital communication system and explain briefly
 2. Explain block diagram of Regenerative repeater
- B. Write any one of the following [4]**
1. What is pulse shaping? Explain inter-symbol interference and effect
 2. The data stream 1010101000000111 is fed to scrambler find the scrambler output
- Q-3. A. Write any one of the following [6]**
1. Explain PSD (Polar Spectral Density) of Bipolar Signalling.
 2. Describe EYE DIAGRAMS as an important tool.
- B. Write any one of the following [4]**
1. Explain frequency shift keying
 2. Explain Differential PSK
- Q-4. A. Write any one of the following [6]**
1. Explain NYQUIEST first criterion for zero ISI.
 2. Explain properties of Gaussian Random Process
- B. Write any one of the following [4]**
1. Explain Binary Threshold detection?
 2. Explain Amplitude-shift keying.
- Q-5. A. Write any one of the following [6]**
1. Describe general expression for error probability of optimum receiver
 2. Describe Geometric Representation of White Noise Process.
- B. Write any one of the following [4]**
1. Describe Differentially Coherent PSK.
 2. Describe White Gaussian Noise
-