

2103000206020092
EXAMINATION FEBRUARY-MARCH 2024
BACHELOR OF SCIENCE (SIXTH SEMESTER)
ELECTRONICS PAPER – VII – LEVEL 2
ADVANCE COMMUNICATION SYSTEMS

[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 : **ELECTRONICS PAPER – VII – LEVEL 2 ADVANCE COMMUNICATION SYSTEMS**
 - c. Subject Code No : **2103000206020092**
2. Sketch neat and labelled diagram wherever necessary.
 3. Figures to the right indicate full marks of the question.
 4. All questions are compulsory.
 5. All symbols and abbreviations have their usual meaning.
 6. Non-programmable calculators are allowed.
 7. Q1 is compulsory.
 8. Assume data if necessary.

Seat No:

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Student's Signature

Q.1 Answer in brief

4x2=8

1. What is pulse width modulation?
2. Define Dynamic range
3. Define critical angle
4. Write the full form of FDMA and CDMA

Q.2 Answer in detail

- A. Define companding. Explain companding process in PCM using block diagram **7**
- B. Explain natural sampling and flat-top sampling and its advantages. **7**

OR

- A. Prove that Dynamic range for each magnitude bit in a linear PCM code is 6dB. Define dynamic range. **6**
- B. Prove that SQNR for PCM is $10.8 + 20 \log V / \Delta$ where Δ is the quantization interval **8**

- Q.3** A. Explain the advantages and disadvantages of geosynchronous satellites **8**
B. Explain angle of elevation **6**

OR

- A. Explain single channel PCM transmission system using block diagram **8**
B. Explain folded binary code in PCM, mid tread quantization and quantum **6**
- Q.4** A. Explain using block diagram the basic fiber optic communication system **8**
B. Give the physical description of optical fiber **6**

OR

- A. Write short notes on Splices and couplers **7**
B. Write short notes on TDMA **7**
