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RAN-2103000206020092**T. Y. B. Sc. Electronics (Sem. - VI) Examination April - 2023****Electronics : Paper - VII****Advance Communication Systems****Time: 2 Hours]****[Total Marks: 50****सूचना : / Instructions**

- (1) नीचे दृशविले निशानीवाणी विगतो उत्तरवही पर अवश्य लखवी.
Fill up strictly the details of signs on your answer book
- Name of the Examination:
☛ **T. Y. B. Sc. Electronics (Sem. - VI)**
- Name of the Subject :
☛ **Electronics : Paper - VII Advance Communication Systems**
- Subject Code No.: **2103000206020092**

Seat No.:

Student's Signature

- (2) Figure on the right indicates full marks.
(3) All symbols and abbreviations have their usual meaning.
(4) Non-programmable calculators are allowed.
(5) Q. 1 is compulsory.
(6) Assume data if necessary.

Q. I. Answer in brief. 4 × 2

1. Define quantization noise
2. Write Kepler's first law of planetary motion
3. Define total internal reflection
4. What do you mean by idle channel noise?

Answer in detail**Q. II. A. Explain a simplex optical fiber communication link using block diagram. 8****Q. II. B. Discuss the construction of optical fiber. 6****OR****Q. II. A. Define index profile of an optical fiber. Explain different types of index profiles of optical fibers. 7****Q. II. B. Explain different types of losses in optical fiber. 7**

Q. III. A. Using a neat block diagram explain single channel PCM transmission system. **8**

Q. III. B. Explain different types of sampling in PCM. **6**

OR

Q. III. A. Define dynamic range. Prove that Dynamic range in dB = $6n$ ($n > 4$) where n is number of PCM bits. **6**

Q. III. B. Discuss signal to noise ratio in PCM. **8**

Q. IV. A. Explain different satellite orbital paths. **7**

Q. IV. B. Write short notes on FDMA. **7**

OR

Q. IV. A. Explain the advantages and disadvantages of geosynchronous satellites. **7**

Q. IV. B. Explain angle of elevation. **7**
