

SECTION - D

8. Write short note on any two of the following :

- (a) Spade System (7)
- (b) TDMA efficiency (7)
- (c) Space Communication (6)

9. Explain the following :

- (a) INSAT System (10)
- (b) Multiple Access Technique (10)

Roll No.

22661

**M.Tech. 1st Semester (ECE)
CBCS Scheme Examination-
December, 2016**

SATELLITE AND SPACE COMMUNICATION

Paper : MTECE21C2

Time : 3 hours

Max. Marks : 100

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard will be entertained after the examination.

Note : Q. No 1 is **compulsory**. Attempt any **one** question from each Section.

1. Explain the following :

- (a) Orbital Spacing (5)
- (b) Angle of Evaluation (5)
- (c) Error Rate (5)
- (d) GPS System (5)

SECTION - A

2. (a) What is satellite communication ? Explain in detail with the help of a block diagram. (10)
- (b) Explain the historical development in satellite communications. List the different frequency bands used for satellite communication. (10)
3. (a) What do you mean by synchronous satellite ? Differentiate between Geo stationary and Geo synchronous satellites in detail. (12)
- (b) Briefly describe the different applications of the satellite. (8)

SECTION - B

4. (a) Discuss in detail the essentials of Earth coverage and slant range for a communication satellite. (10)

- (b) What are the orbital parameters required to determine a satellite orbit ? Name and explain each. (10)

5. Explain the following :

- (a) Eclipses (7)
- (b) Angle Period and Returning period (7)
- (c) Delay Transponder (6)

SECTION - C

6. (a) Discuss and explain coherent and non-coherent detectors in detail. (10)
- (b) Describe and explain as to why synchronization is necessary in spread spectrum communication systems. (10)
7. (a) What do you mean by TTC ? Explain in detail. (12)
- (b) Explain the block diagram of MSK in detail. (8)