

B.Tech 7th Semester (ECE) F-Scheme**Examination, December-2017****SATELLITE COMMUNICATION****Paper- ECE-403-F***Time allowed : 3 hours]**[Maximum marks : 100*

Note : *Question number 1 is compulsory. Attempt any one question from each section.*

1. (i) What do you mean by active and passive satellite?
Discuss. 5
- (ii) Discuss the concept of CSSB system. 5
- (iii) Compare TDMA and CDMA.
- (iv) Discuss tracking and positioning in satellite. 5

Section-A

2. (i) Describe the evolution and growth of satellite communication. 10
- (ii) What is synchronous satellite? Discuss the advantages and applications of satellite communication. 10
3. (i) Derive the expression for general link design equation. 10
- (ii) Write short note on atmospheric and ionospheric effects on link design. 10

Section-B

4. (i) Explain S/N ratio in FM with multiplexed

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telephone signal analog satellite communication. 10

- (ii) Explain inter modulation products and their effects in FM/FDM system. 10
5. (i) Describe the elements of digital satellite communication. 10
- (ii) Discuss satellite digital link design equation. 10

Section-C

6. (i) Explain TDMA frame acquisition and synchronization. 10
- (ii) Explain satellite switched TDMA system. 10
7. (i) What are look angles? Also explain earth coverage and slant range in satellite. 10
- (ii) What do you mean by station keeping and satellite stabilization? 10

Section-D

8. (i) Explain VSAT in special purpose communication satellite. 10
- (ii) Discuss satellite communication with respect to fiber optic communication. 10
9. Write short note on: 20
- (i) Tracking and positioning.
- (ii) Deep space optical communication
- (iii) SARSAT