

328831(28)

B. E. (Eighth Semester) Examination, April-May 2021

(New Scheme)

(Et&T Engg. Branch)

ADVANCED COMMUNICATION SYSTEMS

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : Attempt all questions. Part (a) of each unit is compulsory carry 2 marks. Attempt any two parts from (b), (c) and (d) carry 7 marks.

Unit-I

1. (a) Define Synchronous Satellite. 2
- (b) Give the name and explain at least three different orbital parameters. 7

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- (c) What is meant by Look Angles? Derive the expression for look angles. 7
- (d) Explain the eclipse affecting satellite communication system. 7

Unit-II

2. (a) What is the relation between Noise figure and Noise temperature? 2
- (b) Derive general link design equation and find out system noise temperature, C/N and G/T ratio. 7
- (c) Explain various interference effects on complete link design. 7
- (d) How atmosphere and ionosphere effect on link design? 7

Unit-III

3. (a) What is Guard Time? 2
- (b) Explain TDMA frame and burst structure. 7
- (c) Give the comparison between TDMA and CDMA. 7

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- (d) Explain FDMA system used in Satellite Communication. 7

Unit-IV

4. (a) What is Total Internal Reflection? 2
- (b) Explain difference between single and multimode fiber. 7
- (c) Write a note on different types of attenuation in optical fiber communication. Draw typical attenuation vs. wavelength curve. 7
- (d) Explain the difference between step index fiber and graded index fiber. 7

Unit-V

5. (a) What is basic principal of Avalanche Photodiode? 2
- (b) Write notes on Population Inversion. Give difference between spontaneous and stimulated emission. 7
- (c) Write down in detail the differences between LED and LASER. 7
- (d) Discuss optical Network SONET in detail. 7