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Total No. of Pages : 02

Total No. of Questions : 08

M.Tech.(ECE) (Sem.-1)

ADVANCE COMMUNICATION SYSTEM

Subject Code : EC-504

M.Code : 36205

Time : 3 Hrs.

Max. Marks : 100

INSTRUCTION TO CANDIDATES :

1. Attempt any FIVE questions out of EIGHT questions.
2. Each question carries TWENTY marks.

1.
 - a) What is the significance of carrier recovery and clock recovery circuit in digital communication system? Explain how these can be achieved. 10
 - b) Define Bit rate and Baud rate. Determine peak frequency deviation, minimum bandwidth and baud rate for a binary FSK signal with a marks frequency of 49 KHz, a space frequency of 51 KHz and input bit rate. 10
2.
 - a) Discuss the fundamental limitations on the performance of communication systems. 10
 - b) What is the difference between PCM and DPCM? Give the working of each. 10
3.
 - a) Discuss the significance of WDM in modern optical communication systems. How does it differ from TDM? 10
 - b) Explain SONET in brief. 10
4.
 - a) Explain different Transmission protocols used in mobile communication. 10
 - b) Discuss the role of QoS in mobile communication. 10
5. Explain :
 - a) GPRS 10
 - b) Delta modulation 10





6. a) Discuss in detail the basic transmission theory of Satellite Communication. 15
- b) An earth station antenna has diameter of 30 m has an overall efficiency of 68% and is used to receive a signal of 4150 MHz. At this frequency the noise temperature is 79K when the antenna appoints to the satellite at an elevation angle of 28 degree. Determine earth station G/T ratio under these conditions. If heavy rain causes sky temperature to increase so that the system temperature increases to 88 K, What will be the new G/T value? 5
7. a) Discuss how the design of satellite links is accomplished for specified C/N values? 10
- b) Explain CDMA used in satellite communications. What are its advantages? 10
8. Discuss :
- a) Switching in Optical networks 10
- b) Fading in mobile communication. 10

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.

