

Council for Technical Education and Vocational Training

Office of the Controller of Examinations

Sanothimi, Bhaktapur

**Regular/Back Exam-2077, Chaitra**

**Program: Diploma in Computer/IT Engineering**

**Full Marks: 80**

**Year/Part: II/II (2018 New Course)**

**Pass Marks: 32**

**Subject: Data Communication**

**Time: 3 hrs.**

*Candidates are required to give their answers in their own words as far as practicable.  
The figures in the margin indicate full marks.*

**Attempt Any Eight questions.**

1. What is network topology? Explain cellular wireless communication. [2+8]
2. Discuss data transmission. Describe the types of transmission impairments. [2+8]
3. What is signal encoding? Differentiate Analog and digital transmission. [2+8]
4. Explain Line Of Sight (LOS) propagation. Compare guided and unguided media. [4+6]
5. Discuss full duplex system with examples. Describe digital multiplexing. [2+8]
6. What is wireless propagation? Compare multiplexing and multiple access technique. [2+8]
7. State sampling theorem. Describe the block diagram of PCM System in details. [4+8]
8. What are the advantages of PCM Also draw the block diagram of PCM generator. Explain E1 and T1 carrier. [6+4]
9. What is electro mechanical switching? Explain circuit and packet switching with suitable examples. [2+8]
10. Write short notes on: (**Any Two**) [2x5=10]
  - a) Twisted pair and coaxial cable
  - b) Quantization
  - c) Circuit switching

**Good Luck!**