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**Council for Technical Education and Vocational Training**  
**Office of the Controller of Examinations**  
Sanothimi, Bhaktapur

**Regular/Back Exam-2079, Bhadra/Ashwin**

<b>Program:</b>	<b>Diploma in Computer Engineering</b>	<b>Full Marks: 80</b>
<b>Year/Part:</b>	<b>III/I (2018)</b>	<b>Pass Marks: 32</b>
<b>Subject:</b>	<b>Applied Telecommunication</b>	<b>Time: 3 hrs.</b>

*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 TEN questions.**

1. Define telecommunication. Draw and explain the basic block diagram of telecommunication system in detail. [1+7]
2. Classify different switching system. Explain step by step switching. What is a rotary dial telephone? [2+4+2]
3. Describe the principle of Line of Sight (LOS). Explain the frequency distribution, fading effect and noise in communication. [3+5]
4. What is combination switching? Explain sky wave and space wave communication. [3+5]
5. A group of 20 servers carry a traffic of 10 erlangs. If the average duration of call is 3 minutes, calculate the number of calls put through by a single server and the group as a whole in 1 hour period. [8]
6. Explain GOS and blocking probability. [4+4]
7. Explain the GSM architecture with necessary diagram. [8]
8. Explain FTTH network. Define OLT, ONT and CPE. [5+3]
9. Define signaling technique. Differentiate between in channel and common channel signaling technique. [2+6]
10. Explain the basic cellular system with necessary diagram. Also, describe the trunking and efficiency of mobile radio environment in brief. [5+3]
11. Write short notes on: (any TWO) [2×4]
  - a. Wattmeter
  - b. Multimeter
  - c. Cable Cutter
  - d. GPS

**Good Luck !**

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