Nepal College of Information Technology

(Affiliated to Pokhara University)

Balkumari, Lalitpur

Internal Assessment I

Program	: BE	Full Marks	: 80
Course	: Digital Communication	Time	: 2 hrs.

Candidates are required to give their answers in their own words as far as practicable.

*All question carry **Equal Marks.***

Attempt all questions.

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1. Why most of the communication systems are going to be replaced by digital communication system? Explain.
2. Define noise. Discuss various types of noises in communication system.
3. State sampling theorem and illustrate it.
4. What is pulse modulation system? Discuss various types of pulse modulation system.
5. Verify that the additional one bit for coding increases SQNR by 6 dB (approximately) in uniform quantization.
6. What is non uniform quantization? Why is it necessary? How can you achieve non uniform quantization? Explain.
7. What is differential pulse code modulation (DPCM)? What are its advantages over PCM system? Explain DPCM system with the help of block diagram.
8. A music signal is sampled at 40 KHz, and then each sample is quantized and coded using 24 bits. What is the maximum possible pulse duration? Also determine the minimum required signaling rate?

   If six such music signals have to be multiplexed and transmitted through a common channel with additional one byte as frame synchronization, then what is the minimum required signaling rate?

***** Best of Luck *****