**2016-2015 أسئلــــة الإمتحانــات النهائيـــة للعــــام الدراســي**

**Sub: Digital Communication. AL-Maaref university college**

**Time: Three hours. Computer engineering techniques**

**Stage: Third. Note: Answer five questions**

**Sample(B) \_\_\_\_\_\_\_\_\_\_ الدور( )**

Q1: What are advantages and disadvantages of digital communication system.

Q2: What is meaning of digital coding. Draw a block diagram of digital coding.

Q3: Determine whether the following signal periodic or not :

a.x(t) = cos 12 πt , b. x(t) = cos 7/2 πt.

Q4: Draw a block diagram of pulse cod modulation (PCM).

Q5: Explain in brief a sampling theorem.

Q6: The information in an analog signal voltage wave form is it to be transmitted a bandwidth of 1 KHz and a maximum amplitude 10 Volts ,and the maximum quantization error is (0,01). Find the :

a. Minimum sampling rate required.

b. Number of bits in each PCM word.

c. Minimum bit rate required in the PCM signal.

d. Minimum absolute channel bandwidth required for the transmission of the PCM signal.

**Head of Department Lecturer**

**Dr. Eng. Yousif Hardan Dr. Eng. Yousif Hardan**