**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(A) \_\_\_\_\_\_\_\_\_\_ الدور( )**

Q1:Draw a block diagram of a digital communication system. What the function of each block.

Q2:Define a signal. Classify a signals. Explain in brief one type only.

Q3: Determine whether the following signal periodic or not :

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

Q4: Explain in brief a multiplexing.

Q5: Define a quantizer. Classify a quantization process.

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.