

Course No: EQUP3324
Course Title: Microcontrollers and
Microprocessors
Date: 19/04/2018
No. of Questions: (3)
Time: 1 hours
Using Calculator (No)

University of Palestine



Second Midterm Exam
2018-2017
Total Grade: 30

Instructor Name: Dr. Alaa AbuZaiter
Student No.: _____
Student Name: _____
College Name: Engineering
Dep. / Specialist: Biomedical Eng.
Using Dictionary (No)

Question One:

(10 Marks)

1. What is the **Instruction Cycle** in microprocessor? List the **stages** of doing instruction cycle in microprocessor?

2. Define the followings:

a) **CPU:**

b) **Arithmetic Logic Unit (ALU):**

c) **The Control Bus:**

3. The architecture design of microcontrollers uses *Von Neumann architecture* or *Harvard architecture*, explain the differences between these architectures and which one is more better?

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Question Two:

(10 Marks)

1. What is the function of **Oscillator** in microcontroller?

2. List **5 types** of **Oscillator** in microcontroller? And explain two of them?

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3. PIC microcontrollers can be programmed in **high-level languages** or in their **native machine language**. What are the **advantages** and **disadvantages** of using each of these languages?

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Question Three:

(10 Marks)

1. Draw the block diagram forthe circuit using **PIC 16F84A**and**Two 7-segment** to display two digits of decimal number (such as 18). The two 7-segment are connected with **IC 74LS47**.
2. Write the code to program the PIC 16F84A using the **Micro C Software** for display the number 18?

End of Questions
Good Luck