

رقم القيد:

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Group: Control**Midterm I****Date:** 28 / 11 / 2018**Important Notes:**

- This paper contains **FIVE** questions in **TWO** pages.
- Attempt **ALL** questions.
- Total time allowed **ONE HOUR**.
- Total Marks: **30**
- Enhance your answers with proper sketches whenever applicable.

Q.1 Multiple Choice Questions (MCQ): (10 Marks)

1. To access a memory of size **1KB**, the sizes of data and address lines are

a. 8 data / 8 address lines. ()	c. 10 data / 10 address lines.()
b. 8 data / 10 address lines. ()	d. 16 data / 16 address lines.()
2. The ATmega328 instructions **CLC** and **CLT** belong to the following category

a. Arithmetic Instructions. ()	c. Bit-wise Instructions. ()
b. Logic Instructions. ()	d. None of the above. ()
3. In microcomputer systems, push buttons are used as

a. Digital input devices. ()	c. Digital output devices. ()
b. Analog input devices. ()	d. Analog output devices. ()
4. After reading an instruction from ROM it is saved temporarily in

a. program counter. ()	c. top of stack. ()
b. instruction register. ()	d. any GPR. ()
5. ATmega328 bandwidth is

a. 4-bits ()	c. 16-bits ()
b. 8-bits ()	d. 32-bits ()
6. Von-Neumann microcomputer can access data and program memories simultaneously

a. True. ()	b. False. ()
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7. TinyAVR microcontrollers can process complex data such as audio and video.

a. True. ()	b. False. ()
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8. To restart ATmega328, pin #1 must be connected to ground.

a. True. ()	b. False. ()
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9. EEPROM of ATmega328 is 1KB volatile memory.

a. True. ()	b. False. ()
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10. T bit of status register is set when the result is positive.

a. True. ()	b. False. ()
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