Ecodesign of electronic devices
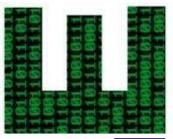
UNIT 9: Microcontroller systems part 2

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1.1   Quiz

▪   PLEASE, CHOOSE THE CORRECT ANSWER:

1.   Is term GPIO intended only for microcontroller output pins?
2.   Are microcontroller pins separated by ports?
3.   Are microcontroller pins for ignition and shutdown of LED diodes set as inputs?
4.   Can USART communication only work by receiving data from an external device?
5.   Is AD conversion speed conditioned by AD converter resolution?
6.   Is PWM phase modulation?
7.   Does microcontroller interruption interrupt only execution of the main program?
8.   Can microcontroller interruption be only periodic - time repetitive?
9.   Can microcontroller have multiple ADC units?
10. Are SPI and I2C serial communications?

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1.2 Assignment

Write a program for microcontroller STM32F407 that will control functioning of all four LED diodes with serial communication. LED diodes are controlled with PWM signal 15kHz. Through serial port send translational ratio for each LED diode.

An example of translational ratio command for 200 green LED diodes:

'LED_GREEN_POWER_200'

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