Tutorial 2

Question: Peripherals

a) Which pins of which port are connected to the LEDs on our development board?
b) Why do we want the ability to enable the clock to only the peripherals which we are using?
c) What is the base address of the peripheral which manages clock distribution on our microcontroller?
d) What is the offset of the register which controls clock to the peripherals on the AHB?
e) Which bit of that register controls clocking of the peripheral specified in (a)
f) What is the base address of the peripheral which controls the pins specified in (a)?
g) Assuming pins are set to outputs, what is the offset of the register which sets whether the pins assert a high or low level?
h) What is the absolute maximum rated current out of each GPIO pin?
(hint: Refer to section 6.3 of the datasheet.)

1 x 8 = 8

Question: History

a) What does the story of the invention of the light bulb warn us about history? (1)
b) What device that was used in computing was derived from the light bulb? (1)
c) Why was it almost inevitable that something like the microchip was invented by different people/companies simultaneously? (2)
d) What new business models in the computing industry arose in the vacuum tube era (1940's to 1960's)? (1)
e) Arrange in chronological order of development:
- integrated circuit
- transistor
- integrated microprocessor
- electro-mechanical computer
- mechanical computer
- transistor

All correct: (2) Mostly correct: (1)

f) Name two problems which computers built out of relays suffered from? (2)
g) Why was the MTBF of vacuum tube based computer short? (1)
h) Which companies did AMD, Intel and Fairchild grow out of? (2)

Bonus:

What is the special purpose of the first word of flash?

(2)

Marked out of: 20
Available marks: 22