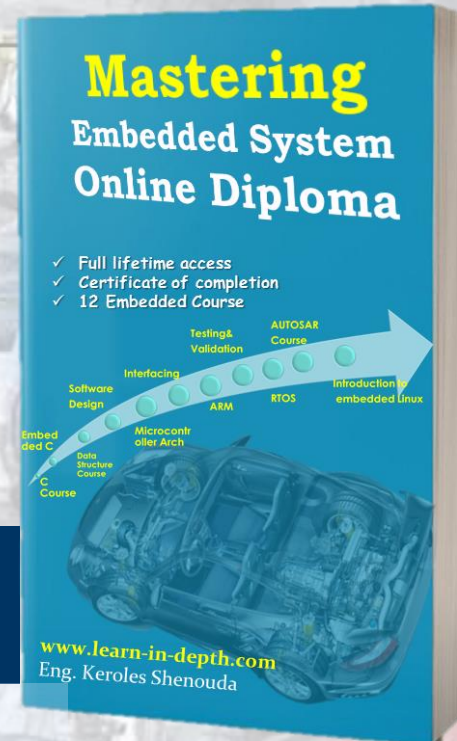


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Assignments :

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Answer those Questiones in white paper by your handwriting the Following Comparisons

<i>Definition</i>	<i>Meaning</i>
<i>Micro-processor</i>	incorporates the functions of a computer's central processing unit (CPU) on a single integrated circuit (IC, or microchip).
<i>Micro-controller</i>	is a small computer on a single integrated circuit containing a processorcore, memory, and programmable input/output peripherals.
<i>Embedded Systems</i>	An embedded system is a computer system—a combination of a computer processor, computer memory, and input/output peripheral devices—that has a dedicated function within a larger mechanical or electronic system.
<i>Mechatronic systems</i>	A scheme for definition of Mechatronics. A mechatronics system is, indeed, composed of mechanical parts, electric devices, electronics components, sensors, hardware and it is operated and controlled under the supervisions and commands that are programmed through suitable software.
<i>n-bit processor</i>	When we say a processor is of n bits in short n bit processor, it is referred to number of bits of data which can be processed by CPU simultaneously

Answer those Questiones in white paper by your handwriting the Following Comparisons

- ▶ Q2) Compare between *Micro-processor Vs Micro-controller*
- ▶ Q3) Compare between *Von-Neuman Vs. Harvard Architecture*
- ▶ Q4) *By Simple way illustrate The Types of (ROM)*
- ▶ Q5) *By Simple way illustrate The Types of (RAM)*
- ▶ Q6) *WHY ROM is Read only Memory although i can write on it ?*

A2)Ultimately, microcontrollers and microprocessors are different ways of organizing and optimizing a computing system based on a CPU. While a microcontroller puts the CPU and all peripherals onto the same chip, a microprocessor houses a more powerful CPU on a single chip that connects to external peripherals

A3)The major difference between the two architectures is that in a Von Neumann architecture all memory is capable of storing all program elements, data and instructions; in a Harvard architecture the memory is divided into two memories, one for data and one for instructions

A4)It is read write memory.Data at any memory location can be read or written.It is volatile memory, i.e. retains the contents as long as electricity is supplied.Data access to RAM is very fast / A5) It is read only memory.Data at any memory location can be only read. It is non-volatile memory, i.e. the contents are retained even after electricity is switched off and available after it is switched on.Data access to ROM is slow compared to RAM

A6)Because a certain software is loaded onto it, it should not be changed while the program is running

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Q7) Fill this Table

Type	Volatile	Writeable	Erase size	Max Erase cycle	Cost	Speed
SRAM	Yes	Yes	Byte	Unlimited	Expensive	Fast
DRAM	Yes	Yes	Byte	Unlimited	Moderate	Moderate
ROM	No	No	N/A	N/A	Inexpensive	Fast
PROM	No	Once with a device programmer	N/A	N/A	Moderate	Fast
EPROM	No	Yes, with a device programmer	Entire chip	Limited	Moderate	Fast
EEPROM	No	Yes	Byte	Limited	Expensive	Fast to read, slow to erase\write
FLASH	No	Yes	Sector	Limited	Moderate	Fast to read\slow to erase\write
NVRAM	No	Yes	Byte	Unlimited	Expensive (sram + battery)	fast