

:: ASSIGNMENT # 2 ::

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**Subject: Microprocessor and
Assembly Language**

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Assignment #2

Q₁ Answer:

Control unit, Arithmetic logic unit and the clock.

Q₂ Answer:

Data, Address and control buses.

Q₃ Answer:

conventional memory is outside the CPU and it responds more slowly to access requests. Registers are hardwired inside the CPU.

Q₄ Answer:

① Fetch ② decode ③ execute.

Q₅ Answer:

Fetch and store

Q₆ Answer:

Some basic architectural ~~mode~~ features that the x86 processor include: various modes of operation. These processors have three modes of operation that are primarily used: protected mode, real-address mode, as well as a system management mode. Addition to these, there exists a sub-mode, virtual-8086 which is a variant of the protected mode.

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Q7 Answer:

Intel assembly has 8 general purpose 32-bit registers: eax, ebx, ecx, edx, esi, edi, ebp, esp. Although any given data can be moved b/w any of these registers, compilers commonly use the same register for and some instructions can only use the registers they are designed to use.

Q8 Answer:

Name of the six segments are:
cs (code segment)
ds (data segment)
Es, Fs and Gs (extra segment register)
ss (stack segment)

Q9 Answer:

EAX is a 32-bit general-purpose register with two common uses to store the return value of a function and as a special register for certain calculation. It is technically a volatile register. Since the value isn't preserved instead, its value is set to the return value of a function before a function returns.

Q10 Answer:

SRAM stands for static random access memory. It holds data in static form and it does not need to be refreshed periodically. It is faster than DRAM. Does require power to glow.

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continuously in order to store bits of info
Also more expensive than DRAM. It is
used mostly as cache memory in personal
computer. Embedded systems in devices such as
mobile phones and digital cameras.

Q11 Answer:

Special purpose memory which is used to
image data for display of computer. used by
video adapters, simultaneously can be ~~used~~ accessed
by two devices which are different from each other.
Buffers b/w video card and CPU to provide
better graphics performance to computer display

Q12 Answer:

- ① High definition audio chip
- ② Updated memory access.

Q13 Answer:

DRAM (Dynamic Read only memory)
SRAM (Static Read only memory)
VRAM (Video Read only memory)
CMOS RAM (Complementary metal-dioxide semiconductor
Read only memory)

Q14 Answer:

The purpose of ~~it~~ it is ~~to~~ to handle ~~8~~
8 interrupt input at a time which are also known
as interrupt requests.

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Q₁₅ Answer:

High-level language function or application program such as C++ or Java are the most universal and portable.

Q₁₆ Answer:

post (power on self test), bootstrap, loader and system routine.

Q₁₇ Answer:

Small computer software that controls a particular hardware device connected to a computer operating system.

Connection b/w operating system and hardware.

without the device driver, devices such as printers, webcam, CD-ROM cannot perform their respective tasks.

Q₁₈ Answer:

The BIOS level: it ~~contains~~ controls converts characters or maps the character into some particular type of font provides display onto the screen of computer.

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Q₁₉ Answer:

No, they don't differ. If you buy a computer running Windows then you can install Linux on it or run Linux from a live CD/USB stick and it won't affect the BIOS at all. Similarly you can buy a computer sold running Linux and then install Windows on it.