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Semester

5<sup>th</sup>

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Assignment No (2)

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Q1) The central processor unit (CPU) contain register and what other basic element.

Ans :- control unit , Arithmetic logic unit , and the clock.

Q2) The central processor unit is connected to the rest of the computer system using what three buses?

Ans :- DATA , Address and control buses.

Q3) why does memory access take more machine cycle than register access?

Ans :- conventional memory is outside the CPU and it responds more slowly to access requests. Register are hard-wired inside the CPU.

Q4) what are the three basic steps in the instruction execution cycle.

Ans :- fetch , decode , execute ,

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5) which two additional steps are required in the instruction execution cycle when a memory operand is used?

Ans :- Fetch and store.

6) What are the x86 processor three basic mode of operation?

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

7) Describe SRAM and its most common use.

Ans :- stands for static random access memory is semiconductor memory that holds data in static form and static memory does not need to be refreshed periodically faster than DRAM. Does require power to flow continuously in order to store bits of info. Also more expensive than DRAM.

Used mostly as cache memory in personal computers.

Embedded system in device such as mobile phones, digital cameras.

8) Describe VRAM :-

Ans :- Special purpose memory which is used to images data for display of computer used by videos adapters. Simultaneously can be accessed by two device which are different from each other. Buffers b/w video card and CPU to provide better graphics performance to computer display.

9) List at least two feature found in the Intel P965 Express chipset.

Ans :- high definition audio chip and updated memory access.

10) Name four type of RAM mentioned in the chapter.

Ans DRAM (Dynamic Read only memory) SRAM (Static Read only Memory) VRAM (video Read only memory) and CMOS RAM (Read only memory)

11) what is the purpose of the 8259A PIC controller?

Ans :- Handles 8 interrupt input at a time which are also known as interrupt requests.

12) Of the four levels of input/output in a computer system which is the most universal and portable?

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

13) what characteristic distinguish BIOS-level input/output?

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

14) why are device driver necessary, given that the BIOS already has code that communicates with the computers hardware.

Ans Small computer software that controls a particular hardware device connected to a computer operating system connection b/w operating system and hardware

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device communication

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

15) In the example regarding displaying a string of characters which device exists b/w the operating system and the video controller cards.

Ans The BIOS device. it controls convert characters or mps the character into some particular type of font provides display onto the screen of computer.

16) Is it likely that the BIOS for a computer running MS - windows would be different from that used by a computer running Linux?

Ans No they don't differ. if you buy a computer running windows then you can install Linux on it. or you can run Linux from a drive or buy a computer 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.

17) Name all eight 32-bit general-purpose registers.

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

18) Name all six segment registers.

Ans :-

Name all six segment registers :-

CS (code segment)

DS (data segment)

ES FS and GS (extra segment registers)

SS (stack segment)

19) What special purpose does the ECX register serve?

Ans :-

EAX is a 32-bit general-purpose register with two common uses: the return value of a function and as a special register for certain calculations.

it is technically a volatile register.  
Since the value isn't preserved  
Instead, its value is set to the  
returns value of a function before a  
function returns.

