

:: ASSIGNMENT # 1 ::

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**Subject: Microprocessor and
Assembly Language**

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Assignment # 1

Q₁ Answer:

High level language ~~program~~ program must be translated into machine language before they can be executed. (Machine language instructions are encoded as binary numbers that are meant to be used by a machine, not read or written. syntax that is close to human language)

Q₂ Answer:

A language whose source program can be compiled and run on a wide variety of computer system is said to be portable.

Q₃ Answer:

Some examples of portable embedded system application are automobile fuel and ignition system, air conditioning control system, security system, hand held computers, modems, printers and other intelligent computer peripherals.

Q₄ Answer:

Device driver are programs that translate general operating system commands into specific reference to hardware details that only the manufacturer knows about.

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②

M T W T F SQ₅ Answer:

A high-level language may not be provided for direct hardware access even if it does awkward coding technique must often be used resulting in possible maintenance problem.

Q₆ Answer:-

code for the expression

$$X = (Y \times 4) + 3$$

```

mov    eax, Y    ; move Y to EAX
mov    ebx, 4    ; move 4 to EBX
imul  ebx        ; EAX = EAX * EBX
add    eax, 3    ; add 3 to EAX

mov    X, eax    ; move EAX to X

```

Q₇ Answer:

Virtual machine concept computers are constructed in layers, so that each layer represent a translation layer from a high level instruction set in a low level instruction set.

Q₈ Answer:

$$1 \times 2^7 + 1 \times 2^6 + 1 \times 2^5 + 1 \times 2^4 + 1 \times 2^3 + 0 \times 2^2 + 0 \times 2^1 + 0 \times 2^0$$

$$\Rightarrow 128 + 64 + 32 + 16 + 8 + 0 + 0 + 0$$

$$\Rightarrow 128 + 64 + 32 + 16 + 8$$

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③

M T W T F S S

Q₉ Answer:

$$\begin{array}{r}
 \textcircled{1} \textcircled{0} \textcircled{0} \textcircled{0} \\
 00 \ 00 \ 11 \ 11 \\
 00 \ 00 \ 11 \ 11 + \\
 \hline
 00 \ 01 \ 11 \ 10 \text{ Answer}
 \end{array}$$

Q₁₀ Answer:∴ (CF57)₁₆ Answer.Q₁₁ Answer:

$$\begin{array}{r}
 (1110 \ 0101 \ 1011 \ 0110 \ 1010 \ 1110 \\
 1101 \ 0111)_2
 \end{array}$$

Q₁₂ Answer:

58

Q₁₃ Answer:

FF E6

Q₁₄ Answer:~~32667~~ 32667Q₁₅ Answer:

181

Q₁₆ Answer:

Unicode is a universal computing standard to represent texts in most writing system. It was invented to store most of the world's characters. it was started during 1987



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④

M T W T F SQ¹⁷ Answer:

T	F	$T \vee F$	$(T \vee F) \vee T$
0	1	0	1
0	1	0	1
1	0	0	0
1	0	0	0

Q₁₃ Answer:

$\neg x$	$\neg x$	y	$\neg x \vee y$
F	T	F	T
F	T	T	T
T	F	F	F
T	F	T	T