Assignment Week-1

Q.1 Write 2 examples of each unit of the architecture? (S-3).

Input Unit → Mouse, Scanner
Output Unit → Monitor, Speakers
Storage Unit → Pendrive, Harddisk
Memory Unit → RAM, ROM
CPU → Intel series, Apple M1

Q.2 Write 3 examples of each of the above (S-5).

Desktop → HP 9000, Apple IMAC, Dell XPS
Laptop → HP ab029tx, Chromebook, Macbook Pro
Tablet → Samsung Galaxy tab, Lenovo tab, IPad.
Server → Web Server, Game Server, Application Server
Mainframe → IBM z15, IBM z13, IBM LinuxONE
Supercomputer → Fujitsu Fugaku, Param Shivay, Param 9000

Q.3 Write 2 examples of each category. (S-6)

Operating System → Windows, LINUX
Language Processor → Compiler, Interpreter
Device Driver → USB driver, ~~Sound card~~ Mouse driver.
Utility Software → Antivirus, Disk Defragmenter
Application Software → VLC, Browsers.

Q.4 Convert the following into the decimal number system. (S-16)

1) $(11010)_2 \rightarrow 1\times2^4 + 1\times2^3 + 0\times2^2 + 1\times2^1 + 0\times2^0$
$= 16 + 8 + 0 + 2 + 0$
$= (26)_{10}$

2) $(726)_8 \rightarrow 7\times8^2 + 2\times8^1 + 6\times8^0$
$= 7\times64 + 16 + 6$
$= (470)_{10}$

3) $(27FB)_{16} \rightarrow 2\times16^3 + 7\times16^2 + 15\times16^1 + 11\times16^0$
$= 8192 + 1792 + 240 + 11$
$= (10235)_{10}$

Q.1 Convert the following into octal number system.

1) $(10110)_2 \rightarrow 1\times2^4 + 0\times2^3 + 1\times2^2 + 1\times2^1 + 0\times2^0 = 22$

Decimal $\rightarrow (22)_{10}$

Octal $\rightarrow (26)_8$

8	22
8	2 - 6
	0 - 2

2) $(174)_{10} \rightarrow 1\times10^2 + 7\times10^1 + 4\times10^0 = 174$

Decimal $\rightarrow (174)_{10}$

Octal $\rightarrow (256)_8$

8	174
8	21 - 6
8	2 - 5
	0 - 2

3) $(1A3C)_{16} \rightarrow 1\times16^3 + 10\times16^2 + 3\times16^1 + 12\times16^0 = 6716$

Decimal $\rightarrow (6716)_{10}$

Octal $\rightarrow (15074)_8$

8	6716.
8	839 - 4
8	104 - 7
8	13 - 0
8	1 - 5
	0 - 1

Q.6 Convert into binary system.

1) $(254)_8 = 2\times8^2 + 5\times8^1 + 4\times8^0 = (172)_{10}$.

$= (10101100)_2$

2	172	0
2	86	0
2	43	1
2	21	1
2	10	0
2	5	1
2	2	0
2	1	1
	0	

2) $(9898)_{10} = (10011010101010)_2$

2	9898	0
2	4949	1
2	2474	0
2	1237	1
2	618	0
2	309	1
2	154	0
2	77	1
2	38	0
2	19	1
2	9	1
2	4	0
2	2	0
2	1	1
	0	

3) $(ABC)_{16} = 10\times16^2 + 11\times16^1 + 12\times16^0 = (2748)_{10}$

$= (101010111100)_2$

2	2748	0
2	1374	0
2	687	1
2	343	1
2	171	1
2	85	1
2	42	0
2	21	1
2	10	0
2	5	1
2	2	0
2	1	1
	0	

Q.7 Convert into hexadecimal system.

1) $(11110010)_2 = 1\times2^7 + 2^6 + 2^5 + 2^4 + 0 + 0 + 2 + 0 = (242)_{10}$

$= (F2)_{16}$

16	242	2
16	15	15
	0	

2) $(1234)_8 = 8^3 + 2\times8^2 + 3\times8 + 4 = (668)_{10}$

$= (29C)_{16}$.

16	668	12
16	41	9
16	2	2
	0	

3) $(761)_{10} = (2F9)_{16}$.

16	761	9
16	47	15
16	2	2
	0	

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