Shyed Shahriar Housaini; MCE 0705536; (DL&CD)

Ans to the q.no-1:

-45.943 so, $S = 1$;

$-45.943 = (-1)^1 \times 45.943 \times \frac{32}{32}$

$= (-1)^1 \times 1.43571875 \times 32$

$= (-1)^1 \times 1.43571875 \times 2^5$

$\therefore E - 127 = 5$

$\therefore E = 132$; in Binary $= 10000100$

1.M = 1.43571875

$\therefore$ M = .43571875 into binary

			Taken
.43	$\times 2$	= 0.87	0
0.87	$\times 2$	= 1.74	1
.74	$\times 2$	= 1.48	1
.48	$\times 2$	= 0.97	0
.97	$\times 2$	= 1.94	1
.94	$\times 2$	= 1.88	1

So, we get

$-45.943 = \frac{1}{S} \quad \frac{10000100}{E} \quad \frac{011011\ldots}{M}$

we will use $(-1)^S \times 1.M \times B^{E-127}$ $(B=2)$

$101.234 = (-1)^0 \times 101.234 \times \frac{64}{64}$

$= (-1)^0 \times 1.58178125 \times 64$

$= (-1)^0 \times 1.58178125 \times 2^6$

$\therefore S = 0$, $E - 127 = 6$

$\therefore E = 133$

E in binary $= 10000101$

$\therefore 1.M = 1.58\ldots$

$\therefore M = .58178125$

	Taken
$.58\ldots \times 2 = 1.16\ldots$	1
$.163\ldots \times 2 = 0.3\ldots$	0
$.3\ldots \times 2 = 0.6\ldots$	0
$.6\ldots \times 2 = 1.2\ldots$	1
$.2\ldots \times 2 = 0.4\ldots$	0

$\therefore M = 100101 \ldots\ldots$

So, we get $(101.234)_{10} =$

$$\frac{0}{S} \quad \frac{10000101}{E} \quad \frac{100101\ldots}{M}$$

Ans to Q. no-2

D flip flop using nor gates;

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