## KING FAHD UNIVERSITY OF PETROLEUM \& MINERALS

Department of Electrical Engineering

| EE200 Digital Logic Circuit Design | Quiz \#2 (17/3/2007) |  |
| :--- | :--- | :--- |
| Student's Name : | I.D.\# : |  |

1. Express the following decimal numbers in binary using signed 2 's complement form with 8 bits. $X=+73$ and $Y=-96$. Find the sum $X+Y$ in binary and convert the result to decimal.
2. Express (327.5) 10 in BCD and Excess-3 codes.
3. Represent the message "Quiz\#2" in ASCII using hexadecimal representation

Table 1-7
American Standard Code for Information Interchange (ASCII)

| $b_{4} b_{3} b_{2} b_{1}$ | $b_{7} \boldsymbol{b}_{6} b_{5}$ |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 000 | 001 | 010 | 011 | 100 | 101 | 110 | 111 |
| 0000 | NUL | DLE | SP | 0 | (a) | P | - | p |
| 0001 | SOH | DC1 | ! | 1 | A | Q | a | q |
| 0010 | STX | DC2 | " | 2 | B | R | b | r |
| 0011 | ETX | DC3 | \# | 3 | C | S | c | s |
| 0100 | EOT | DC4 | \$ | 4 | D | T | d | 1 |
| 0101 | ENQ | NAK | \% | 5 | E | U | e | u |
| 0110 | ACK | SYN | \& | 6 | F | V | f | $v$ |
| 0111 | BEL | ETB | - | 7 | G | W | g | w |
| 1000 | BS | CAN | ( | 8 | H | X | h | x |
| 1001 | HT | EM | ) | 9 | I | Y | , | y |
| 1010 | LF | SUB | * | : | J | Z | j | z |
| 1011 | VT | ESC | + | ; | K | I | k | 1 |
| 1100 | FF | FS | , | < | L | 1 | , | , |
| 1101 | CR | GS | - | = | M | ] | m | , |
| 1110 | SO | RS | . | > | N | $\wedge$ | n | $\sim$ |
| 1111 | SI | US | 1 | ? | O | - | o | DEL |

