1. Do the following problems from the end of the chapter exercise of Chapter 1 of Digital Logic and Computer Design by Morris Mano :

1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 1-7

2. Do the following problems from end of the chapter Drill problems of Chapter 2 of Digital Design Principles and Practices by Wakerly

2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 2.10

3. Which of the following are analog quantities and which are digital?

a.)    Number of atoms in a sample of a material.

b.)    Altitude of an aircraft.

c.)    Grains of sand in a beach.

d.)   Volume through a loud speaker.

e.)    Time setting on a microwave oven.

f.)     Temperature of a room.

4. How many bits would be needed to represent (15768)10 in binary format?

5. Copy and complete the following table:

|  |  |  |  |
| --- | --- | --- | --- |
| **Hexadecimal** | **Decimal** | **Octal** | **Binary** |
| 1CAC |  |  |  |
|  | 789 |  |  |
|  |  | 431 |  |
|  |  |  | 010001110110 |
|  |  |  |  |

6. Convert the following numbers to the base indicated. All numbers in parts (a) – (d) are unsigned numbers.

(a)    1346.68 = ?2

(b)   101111101.1012 = ?16

(c)    5703.48 = ?16

(d)   8AD.916 = ?8