CHAPTER 2:

2nd Assignment Questions:-

1) Find the number of subsets of a set A containing 10 elements.
2) Find the domain of the function $\frac{1}{\sqrt{2-x^2}}$

3) If A = {1, 2, -1}, find A x A x A.

4) Is f ={(1,0), (2,3), (3,6), (4,9)} a function. If this is described by the formula f(x) = ax+b, then find the values of 'a' and 'b'.

5) Let f and g be two functions defined as f(x) = $\sqrt{x^2+1}$ and g(x) = $\sqrt{4-x^2}$, then find

   (i) f+g
   (ii) f-g
   (iii) fg
   (iv) f^2
   (v) $1/f$
   (vi) f/g

6) If $f(x) = x - \frac{1}{x}$. *prove that* $(f(x))^3 = f(x^3) + 3f(\frac{1}{x})$

7) Find the domain and range of each of the following real valued functions.

   i) $f(x)=\frac{x^2-5x+6}{x^2+6x+8}$ *ii)* $f(x)=\frac{x+2}{mod(x+2)}$, $x\neq 2$

8) Define polynomial function. If $f: R \to R$ defined by $y=f(x)=x^2+1$, $x \in R$, *then* find the domain and range of the function. Draw the graph of '*f*'.

9) Find the range of the functions *i)* $f: A \to R$, $f(x)= x^2+3$, *where* $A=\{-1,0,2,4\}$
ii) $g: A \to N$, $f(x)=3x$, *where* $A=\{x:x \in N, x \leq 7\}$

10) If n(A)=4, n(B)=3, then write n(A x B x B).