**ASSIGNMENT NO.-14(MATHEMATICAL REASONING)**

**(MATHEMATICS)**

1. Write the negation of the following statements:

 (i) New Delhi is a city (ii) $\sqrt{2}$ is not a complex number.

2. Find the component statements of the following compound statements:

 (i) The roof is red and the wall is white (ii) The sun shines or it rains

 (iii) 0 is a positive number or a negative number

3. Write the negation of the following compound statements:

 (i) All the students completed their homework and the teacher is present

 (ii) Square of an integer is positive or negative

4. Write the negation of the following statements:

 (i) For all the positive integers x ,we have x+2$>8.$

 (ii) Every living person is not 150 years old.

5. Write each of the following statements in the form “if – then”:

 (i) You get job implies that your credentials are good.

 (ii) You can access the website only if you pay a subscription fee.

6. Write the contrapositive of the following statements:

 (i) If a number is divisible by 9,then it is divisible by 3.

 (ii) If you are born in India,then you are a citizen of India.

7.Write the converse of the following statements:

 (i) If a number $n$ is even,then $n^{2}$ is even.

 (ii) If x is a prime number,then x is odd.

8. Given below are two pair of statements.Combine these two statements using “if and only if” :

 (i) p : If a rectangle is a square ,then all its four sides are equal.

 q : If all the four sides of a rectangle are equal,then the rectangle is a square.