



## CLASS- XII(NON-MED)

### ASSIGNMENT-1(MATHS)

#### CH-1(RELATIONS AND FUNCTIONS)

Book – NCERT Mathematics

#### ❖ SUMMARY-

In this chapter , We will study about the types of relations and functions.

- **Ex- 1.1 – Types of Relation:(1 mark)**
  - a) Reflexive- A relation is called reflexive if  $a \in A$  then  $(a,a) \in R$ .
  - b) Symmetric - A relation is called symmetric if  $(a, b) \in R$  then  $(b, a) \in R$  , where  $a, b \in A$ .
  - c) Transitive - A relation is called transitive if  $(a, b) \in R$  and  $(b,c) \in R$  then  $(a,c) \in R$  , where  $a, b,c \in A$  .
- **Ex- 1.2 – Types of Function: ( 4 marks)**
  - a) F is One-One(or Injective) – If  $F(x) = F(y)$  then  $x = y$  , where  $x \in X$  ,  $y \in Y$ .
  - b) F is Onto(or Surjective) – If for each  $y \in Y$  , there exists  $x \in X$  such that  $F(x)=y$
- **Ex- 1.3 – To be done in the next assignment -2.**

❖ **SOURCES** – Please refer iDream learning mobile app and Diksha mobile app(or [www.diksha.gov.in](http://www.diksha.gov.in))

❖ **e-books** – NCERT e-books are available on diksha app.

❖ **CURRICULUM** – Please refer the curriculum for 2020-21. ([http://cbseacademic.nic.in/curriculum\\_2021.html](http://cbseacademic.nic.in/curriculum_2021.html))

#### ❖ Important questions:

1. Let  $A = \mathbb{R} - \{3\}$  and  $B = \mathbb{R} - \{1\}$ . Consider the function  $f: A \rightarrow B$  defined by  $f(x) = \frac{(x-2)}{(x-3)}$ . Is f

one-one and onto?

2. Show that the function  $f: \mathbb{R} \rightarrow \mathbb{R}$  is given by  $f(x) = 2x$  is injective.

3. Show that the relation R in the set  $\{1, 2, 3\}$  given by  $R = \{(1, 2), (2, 1)\}$  is symmetric but neither reflexive nor transitive.

❖ **NOTE** – Assignments should be done neatly in any notebook.

