United College of Engineering and Research, Prayagraj
Department of Computer Science

B.Tech(2020-21)
Discrete Structures and Theory of Logic(KCS 303)
Assignment-2

QNo.	Question	CO Type	Bloom's level
1	If D(n) is the set positive odd integers i.e. D(n) = {1,3,5,7,.....}, then prove with the help of mathematical induction P(n) = $1+3^n$ is divisible by 4.	CO1	L4
2	Determine whether each of these functions are bijective from R to R. 1. f(x) = $x^2 + 1$ 2. f(x) = x^3 3. f(x) = $\frac{x^2+1}{x^2+2}$	CO1	L4
3	Prove that $(A \cup B) \cap C = A \cup (B \cap C)$ if and only if A $\subseteq$ C	CO1	L3
4	Show that (A-B)$\cap$(B-A) = ϕ	CO1	L2
5	Let A be a set of 10 distinct elements. Determine the following:- 1. Number of different binary relations on A. 2. Number of different reflexive binary relations on A.	CO1	L2

Bloom's Taxonomy levels (1- Remembering, 2- Understanding, 3- Applying, 4- Analyzing, 5- Evaluating, 6- Creating)

CO - Course Outcome