By. Er. Dharmendra Sir 7974073108, 9584873492

DPM CLASSES

6th to 10th (Math's & Science), 11th & 12th (Physics, Chemistry, Math's)

TEST - PAPER (CBSE/NCERT)

RELATIONS AND FUNCTIONS

SESSION -2024-25

CLASS - 12th

JOIN TODAY FOR ADVANCE CONCEPTS

ONLY IN ₹3000 PER MONTH

MRP: ₹ 100/- ONLY

ALSO, BASIC CONCEPTS CLASSES IN SUMMER VACATION Apr, May & Jun (Every Year)

Add: Block -B, Near Glory Villa, 60 feet Road (Nearest land mark Scindia Statue), Shatabdipuram, Gwalior

Time : 1 hr Relations and Functions mm:

Q 1. If $A = \{a, b, c, d\}$ and the function $f = \{(a,b), (b,d), (c,a), (d,c)\}$ write in f^{-1}

Q.2. If $f : R \to R$ is defined by $f(x) = x^2 - 3x + 2$. Write $f\{f(x)\}$

Q.3. Is $g = \{(1,1), (2,3), (3,5), (4,7)\}$ a function? If g is described by $g(x) = \alpha x + \beta$, then what value should be assigned to α and β.

Q.4. If the mappings f and g are given by $f = \{(1,2), (3,5), (4,1)\}$ and $g = \{(2,3), (5,1), (1,3)\}$ Write fog.

Q.5. Let C be the set of Complex numbers. Prove that mapping $f : C \to R$ given by $f(z) = |z|$, $\forall z \in C$, is neither one-one nor onto.

Q.6. Let the function $f: R \to R$ be defined by $f(x) = \cos x \ \forall \ x \in R$. Show that f is neither one-one nor onto.

Q.7. Let $A = R - \{3\}$, $B = R - \{1\}$. If $f: A \to B$ be defined by $f(x) = \frac{x-2}{x-3}$, $\forall \ x \in A$ then show that f is bijective.

Q.8. Let $A = [-1, 1]$, then discuss whether the following functions defined on A are one-one, onto or bijective

(i) $f(x) = \frac{x}{2}$ (ii) $g(x) = |x|$

Q.9. If $f = \{(1,2), (3,5), (4,1)\}$ and $g = \{(2,3), (5,1), (1,3)$ then find gof and fog.

Q.10. If $f(x) = [4 - (x-7)^3]$, then $f^{-1}(x)$.