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**QUIZ-2(August -2022)**

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| **Program** | **B.Tech** | **Semester** | **Fall 2022-2023** |
| **Course Name** | **Discrete Mathematics and Graph Theory** | **Course Code** | **MAT2002** |
| **Faculty Name** | **Dr. Navneet Kumar Verma** | **Slot / Class No** | **(A21+A22+A23)** |
| **Time** | **20 Minutes** | **Max. Marks** | **10** |

**Answer ALL the Questions ( https://forms.gle/KSQqKjzmTpduwtAC8 )**

1. Let $A$ and $B$ be two sets in the same universal set. Then $A-B$ is
   **a)** $A\cap B$ **b)** $A'\cap B$ **c)** $A\cap B'$ **d)** none of these
2. For two sets A and B, $A\cap(A\cup B)$ is
   **a)** $A$
   **b)** $B$
   **c)** $\phi$
   **d)** None of these
3. Let $A=\{x:x \text{ is a multiple of } 3\}$ and $B=\{x:x \text{ is a multiple of } 5\}$. Then $A\cap B$ is
   **a)** $\{3,6,9.....\}$
   **b)** $\{5,10,15,20.....\}$
   **c)** $\{15,30,45.....\}$
   **d)** None of these
4. Which is of the following statement is false
   **a)** $A-B=A\cap B'$
   **b)** $A-B=A-(A\cap B)$
   **c)** $A-B=A-B'$
   **d)** None of these
5. If A and B ne sets, then $(A\cap B)\cup(A\cap\sim B)$ and $A\cap(\sim A\cap B)$ are equal to
   **a)** $A$ and $B$
   **b)** $A$ and $(A\cap B)$
   **c)** $(A\cup B)$ and $A$
   **d)** $A\cup(\sim B)$ and $(A\cup B)$
6. If A and B are two sets such $A\cap B=A\cup B$, then
   **a)** $A=\phi$
   **b)** $B=\phi$
   **c)** $A=B$
   **d)** None of these
7. If X and Yare two sets, then $X\cap(Y\cup X)'$ equals
   **a)** X
   **b)** Y
   **c)** $\phi$
   **d)** None of these

8. Which of the following is true

**a)** $\{x : x+2=2\}=\phi$

**b)** For any set A & B either $A \subseteq B$ *or* $B \subseteq A$

**c)** Set of all persons on earth is an infinite set

**d)** $\{x : x \in R, -1<x<3\}$ is infinite set

9. A and B are two sets having 3 and 5 elements respectively and having 2 elements in common. Then the number of elements in $A \times B$ is

**a)** 6

**b)** 36

**c)** 15

**d)** None of these

10. For three sets A, B and C in the same universe, $(A \cup B)-C$

**a)** $(A-C)\cup(B-C)$

**b)** $(A-C)\cap(B-C)$

**c)** $A\cup(B-C)$

**d)** None of above