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| **Assignment # 1 Solution MTH202(Fall2022)** |

**Student Name: ---------**

**Student ID: BC------**

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| **Question No.1: Marks=5** |

Write the following compound statement in the symbolic form and then write its Converse, Inverse and Contrapositive.

**Statement**: If I like the teacher or the course is interesting, then I do not miss class.

**Solution:**

**Let Suppose:**

**A =** I like the teacher.

**B =** The Course is interesting.

**C =** I miss the Class.

**Given Statement:**

If I like the teacher or the course is interesting, then I do not miss class.

**Statement is Symbolic Form:**

( A ˅ B ) → ⁓ C

**Converse:**

⁓ C → ( A ˅ B )

**Inverse:**

⁓ ( A ˅ B ) → C

**Contrapositive:**

Statement is Symbolic Form: ( A ˅ B ) → ⁓ C

C → ⁓ ( A ˅ B )

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| **Question No.2: Marks=5** |

Given that

Where P: set of prime number and N: Set of Natural Numbers

Compute and draw a Venn diagram.

**Solution:**

Given:

U = {0,1,2,3, ….,19,20}

A = {2,3,5,7,11,13,17,19}

B = {1,2, 3, …. ,14,15 }

Find:

Ac – B =?

Now Solve:

Ac = U – A

= {0,1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20} – {2,3,5,7,11,13,17,19}

Ac = {0,1,4,8,9,10,12,14,15,16,18,20}

Now,

Ac – B = {0,1,4,8,9,10,12,14,15,16,18,20}– {1,2,3,4,5,6,7,8,9,10,11,12,13,14,15}

= {0,16,18,20}

Venn Diagram of Ac – B:

U

1, 4, 6, 8, 9,10, 12, 14,15

B

17, 19

A

0, 16,

18, 20

2, 3 ,

5, 7,

11, 13