Answer on Question #46948 – Math – Set Theory

Which of the following statements are true? Give reasons for you answer. (This means that if you

think a statement is false, give a short proof or an example that shows it is false. If it is true, give a

short proof for saying so. For instance, to show that {1, Padma, blue} is a set' is true, you need to

say that this is true because it is well defined collection of 3 objectives.)

(i)   {MTE-04, -3, Indira Gandhi} Is a set.

(ii) for any two sets A & B, A union of B complement = A intersection B.

Solution.

(i)   {MTE-04, -3, Indira Gandhi} Is a set – True

because it is well defined collection of 3 objectives.

(ii)   for any two sets A & B, A union of B complement = A intersection B. –
     False.

If $A = \{1, 2\}$, $B = \{1, 2\}$,

$$A \cup B = \{1, 2\}, \qquad (A \cup B)^c = U \backslash \{1, 2\}, \qquad A \cap B = \{1, 2\} \neq U \backslash \{1, 2\}.$$