

### Problem 2 Solution

The statement is correct.

Proof:-

Any set of five consecutive integers is of the form  $\{n, n + 1, n + 2, n + 3, n + 4\}$  where  $n \in \mathbb{Z}$

Hence the sum(S say) of any set of five consecutive integers is of the form  $n + n + 1 + n + 2 + n + 3 + n + 4 = 5n + 10$  where  $n \in \mathbb{Z}$

$$\Rightarrow S = 5n + 10$$

$$\Rightarrow S = 5(n + 2)$$

$$\Rightarrow 5|S$$

Hence the sum of any set of five consecutive integers is divisible by 5.