Sets Ex 1.4 Q4(i)

The given statement is 'True'.

If $m \in z$, then m can be written as $\frac{m}{1}$, which is of the form $\frac{p}{q}$, where p and q are relatively prime integers and $q \neq 0$.

This implies that $m \in Q$, the set of rational numbers.

Thus, $m \in z \Rightarrow m \in Q$

Hence $Z \subseteq Q$

Sets Ex 1.4 Q4(ii)

The given statement is 'True'.

$\because$ Crows are also Birds.

Sets Ex 1.4 Q4(iii)

The given statement is 'False'.

$\because$ A rectangle need not be a square.

Sets Ex 1.4 Q4(iv)

The given statement is 'True'.

If z is a complex number, then it can be written as $z = x + iy$, where x and y are real numbers and are called the real and imaginary parts of the complex number z.

If x is a real number, then
$x = x + i.0 \in C$,
where C is the set of complex numbers.

Thus $x \in R \Rightarrow x \in C$

Hence, the set of all real numbers is contained in the set of all complex numbers.

Sets Ex 1.4 Q4(v)

False, $\because$ $a \in P$ but $a \notin B$

Note that $\{a\}$ is an element of B which is different from the element 'a'.

Sets Ex 1.4 Q4(vi)

$A = \{L,I,T,E\}$ [$\because$ repetition is not allowed]

$B = \{T,I,L,E\}$ [$\because$ repetition is not allowed]

$= \{L,I,T,E\}$ [$\because$ the manner in which the elements are listed does not matter]

$\because$ Each element of A is an element of B and vice-versa

$\therefore$ $A = B$

Hence, the given statement is true.

********** END **********