

Domain of  $f^{-1}(x) : (-1, 1)$

(14)

$\therefore$ ) Condition  $\frac{x+1}{-x+1} > 0$

Case :  $-x+1 < 0$  i.e.  $x > 1$ .

$$\frac{x+1}{-x+1} > 0 \rightarrow x+1 < \cancel{x+1} < 0$$

$$\rightarrow \cancel{x} < -1$$

$$\rightarrow x < -1$$

(No such  $x$  when  $x > 1$ )

Case :  $-x+1 > 0$  i.e.  $x < 1$

$$\frac{x+1}{-x+1} > 0 \rightarrow x+1 > \cancel{x+1} > 0$$

$$\rightarrow \cancel{x} > -1$$

$$\rightarrow x > -1$$

$$\therefore -1 < x < 1$$

i.e.  $x \in (-1, 1)$