

An n -digit number is a positive number with exactly n digits. Nine hundred distinct n -digit numbers are to be formed using only the three digits 2, 5 and 7. The smallest value of n for which this is possible is *(1998 - 2 Marks)*

- (a) 6 (b) 7 (c) 8 (d) 9

(b) Distinct n digit numbers which can be formed using digits 2, 5 and 8 are 3^n .

We have to find n so that $3^n \geq 900 \Rightarrow 3^{n-2} \geq 100$

$\Rightarrow n-2 \geq 5 \Rightarrow n \geq 7$. So the least value of n is 7.