

NCERT exemplar solutions by Dev Anoop

$$8 \textcircled{i} \quad a_n = 2n - 1$$

$$a_{n-1} = 2(n-1) - 1$$

$$= 2n - 2 - 1$$

$$= 2n - 3$$

$$a_n - a_{n-1} = 2n - 3 - 2n + 1$$

$$= -2$$

\therefore difference is independent of n
 \therefore A.P

$$8 \textcircled{ii} \quad a_n = 3n^2 + 5$$

$$a_n - a_{n-1} = 3n^2 - 3(n-1)^2$$

$$a_{n-1} = 3(n-1)^2 + 5$$

$$= 3(n^2 + 1 - 2n) + 5$$

$$= 3n^2 + 3 - 6n + 5$$

$$a_n - a_{n-1}$$

$$= 3n^2 + 5 - 3n^2 + 6n - 8$$

$$= 6n - 3$$

\therefore diff. is not indep.
of n
 \therefore not AP

$$8 \textcircled{iii} \quad a_n = 1 + n + n^2$$

$$a_{n-1} = 1 + n - 1 + (n-1)^2$$

$$= 1 + n - 1 + n^2 + 1 - 2n$$

$$= n^2 - n + 1$$

\therefore difference is not independent of n .
 \therefore not A.P.