

Ex 5.1

4(iii) $-1.2, -3.2, -5.2, -7.2, \dots$

$$a_2 - a_1 = -3.2 - (-1.2)$$

$$= -3.2 + 1.2$$

$$= -2$$

$$a_3 - a_2 = -5.2 + 3.2$$

$$= -2$$

$$a_4 - a_3 = -7.2 + 5.2$$

$$= -2$$

\therefore diff. remains constant

\therefore A.P.

4(iv) $-10, -6, -2, 2, \dots$

$$a_2 - a_1 = -6 - (-10)$$

$$= -6 + 10$$

$$= 4$$

$$a_3 - a_2 = -2 + 6$$

$$= 4$$

$$a_4 - a_3 = 2 + 2$$

$$= 4$$

\therefore diff. remains constant

\therefore A.P.

4(v) $3, 3 + \sqrt{2}, 3 + 2\sqrt{2}, 3 + 3\sqrt{2}, \dots$

$$a_2 - a_1 = 3 + \sqrt{2} - 3$$

$$= \sqrt{2}$$

$$a_3 - a_2 = 3 + 2\sqrt{2} - 3 - \sqrt{2}$$

$$= \sqrt{2}$$

$$a_4 - a_3 = 3 + 3\sqrt{2} - 3 - 2\sqrt{2}$$

$$= \sqrt{2}$$

\therefore diff. remains const

\therefore A.P.

4(vi) $0.2, 0.22, 0.222, 0.2222, \dots$

$$a_2 - a_1 = 0.22 - 0.2$$

$$= 0.02$$

$$a_3 - a_2 = 0.222 - 0.22$$

$$= 0.002$$

$$\therefore a_2 - a_1 \neq a_3 - a_2$$

\therefore not A.P.

4(vii) $0, -4, -8, -12, \dots$

$$a_2 - a_1 = -4 - 0$$

$$= -4$$

$$a_3 - a_2 = -8 - (-4)$$

$$= -8 + 4$$

$$= -4$$

$$a_4 - a_3 = -12 - (-8)$$

$$= -12 + 8$$

$$= -4$$

\therefore diff. remains const

\therefore A.P.