$$t_3 = ₹1000 + ₹\left\{10000 \times \frac{}{100}\right\} = ₹ 1\ldots$$

$$t_4 = ₹1000 + ₹\left\{9000 \times \frac{2}{100}\right\} = ₹ 1000 + ₹ 180 = ₹ 1180 \text{ and so on.}$$

Thus, the list of the amounts of instalments is (in rupees) :

1240, 1220, 1200, 1180, ...

$$t_2 - t_1 = 1220 - 1240 = -20$$
$$t_3 - t_2 = 1200 - 1220 = -20$$
$$t_4 - t_3 = 1180 - 1200 = -20 \text{ and so on.}$$

Hence, the list forms an AP.

EXERCISE 5.1

LEVEL I

1. Answer the following in one word, one sentence or as per the exact requirement of the question :

   (i) Write the next two terms of the AP : 1.19, 1.21, 1.23, 1.25, ...

   (ii) For the AP : $\frac{7}{2}, \frac{3}{2}, -\frac{1}{2}, -\frac{5}{2}, \ldots\ldots$, write the common difference.

   (iii) For the AP : a, 5, 13, 21, 29, ... , write the value of a.

   (iv) For the AP : $-2, 3, 8, p, q, \ldots\ldots$, write the values of p and q.

2. Write the AP with given first term a and common difference d for the following :

   (i) $a = 2, d = 3$ (ii) $a = -2, d = -3$ (iii) $a = 17, d = -6$

   (iv) $a = 7.3, d = 0.2$ (v) $a = 3\frac{3}{4}, d = \frac{1}{4}$ (vi) $a = 4.2, d = -0.4$

3. Examine, which one out of the following sequences is an AP. In case it is an AP, write next three terms

   (i) $-13, -10, -7, -4, \ldots..$ (ii) $\frac{1}{3}, 1\frac{2}{3}, 3, 3\frac{4}{3}, \ldots..$ (iii) $\frac{3}{5}, \frac{7}{5}, \frac{13}{5}, \frac{21}{5}, \ldots\ldots$

   (iv) .75, 1.25, 1.75, 2.25, ...   (v) 1.1, 1.8, 2.5, 3.2, ...   (vi) $p, p + .12, p + .24, p + .36, \ldots..$

   (vii) $0, \frac{1}{4}, \frac{1}{2}, \frac{3}{4}, \ldots\ldots$ (viii) $5, \frac{14}{3}, \frac{13}{3}, 4, \ldots\ldots$ (ix) $a, 2a + 1, 3a + 2, 4a + 3, \ldots\ldots$

   (x) $\sqrt{3}, 2\sqrt{3}, 3\sqrt{3}, \ldots..$ (xi) $a + b, (a + 1) + b, (a + 1) + (b + 1), \ldots\ldots$.