

Assignment 1

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Abstract—This document gives the solution for Assignment 1 (ICSE Class 10 Maths 2018 Q.1(b)).

Q.) Sonia had a recurring deposit account in a bank and deposited ₹600 per month for 2½ years. If the rate of interest was 10% p.a., find the maturity value of this account.

Formula	Description
$P_{total} = P \times n$	Total sum deposited
$I = P \times \frac{n(n+1)}{2 \times 12} \times \frac{r}{100}$	Interest on the total sum deposited
$M.V. = P_{total} + I$	Maturity value of the recurring deposit
$M.V. = P \times n + P \times \frac{n(n+1)}{2 \times 12} \times \frac{r}{100}$	

TABLE II

Solution:

- Given :-**
Sum deposited every month, $P = 600$
Number of months, $n = \text{number of years} \times 12$
 $= 2.5 \times 12 = 30$
Rate of interest (p.a.), $r = 10\%$

Symbol	Value	Description
P	600	Sum deposited every month
n	30	Number of months
R	10	Rate of interest (p.a.)

TABLE I

Substituting the values of P, n and r, and solving, we get :-

$$M.V. = 20325 \quad (5)$$

Therefore, the maturity value of the account is ₹20325.

The code in

Assignment1/codes/recdep.py

verifies the solution.

- Formula :-**
Total sum deposited = Sum deposited every month x Number of months

$$P_{total} = P \times n \quad (1)$$

Interest on the total sum deposited,

$$I = P \times \frac{n(n+1)}{2 \times 12} \times \frac{r}{100} \quad (2)$$

Maturity value of the recurring deposit, M.V.
= Total sum deposited + Interest on the total sum deposited

$$M.V. = P_{total} + I \quad (3)$$

- To Find :-**
The maturity value of the given account

- Solution :-**
From eq.s (1), (2), (3), we get :-

$$M.V. = P \times n + P \times \frac{n(n+1)}{2 \times 12} \times \frac{r}{100} \quad (4)$$