



University of Asia Pacific

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"During Examination and upload time I will not take any help from anyone. I will give my exam all by myself."

17201012
①

Answer to the Q.No. a.

$$a_n = 17201012 \% 4 + 1 = 0 + 1 = 1 = 1n^0$$

$$b_n = 17201013 \% 4 + 1 = 1 + 1 = 2 = 2n^0$$

$$c_n = 17201014 \% 4 + 1 = 2 + 1 = 3 = 3n^0$$

$$\text{Eqn: } a_n T_n = b_n T_{n-1} + c_n \quad \text{--- (i)}$$

$$T_0 = 0$$

$$T_n = 2T_{n-1} + 3$$

$$S_n = \frac{a_{n-1} a_{n-2} \dots a_1}{b_n \cdot b_{n-1} \dots b_2} = \frac{1}{2 \cdot 2 \cdot \dots \cdot 2^{n-1}}$$

We know,

$$T_n = \frac{1}{S_n a_n} \left(S_1 b_1 T_0 + \sum_{k=1}^n S_k c_k \right)$$

$$\therefore T_n = \frac{1}{S_n a_n} \left(\sum_{k=1}^n S_k c_k \right)$$

[Solved]

$$\begin{array}{l} b_n = 2 \\ b_{n-1} = 2 \\ b_{n-2} = 2 \\ \vdots \\ b_2 = 2 \\ b_1 = 2 \\ \hline \text{every } b_i \text{ are so} \\ 2^{n-1} \text{ total} \\ \hline \end{array}$$

$$\frac{17201012}{2 \times 2}$$

Answer to the Q.No. 6

$$N_1 = 17201012 \% 100 + 50 = 12 + 50 = 62$$

$$N_2 = \cancel{1720101} 62 + 1000 = 1062$$

Reciprocal Sigma:

$$\sum_{\substack{62 \leq p \leq 1062 \\ p \text{ prime}}} \frac{1}{p}$$

Delimited:

$$\sum_{k=62}^{\pi(1062)} \frac{1}{N_k}$$

[Solved]