

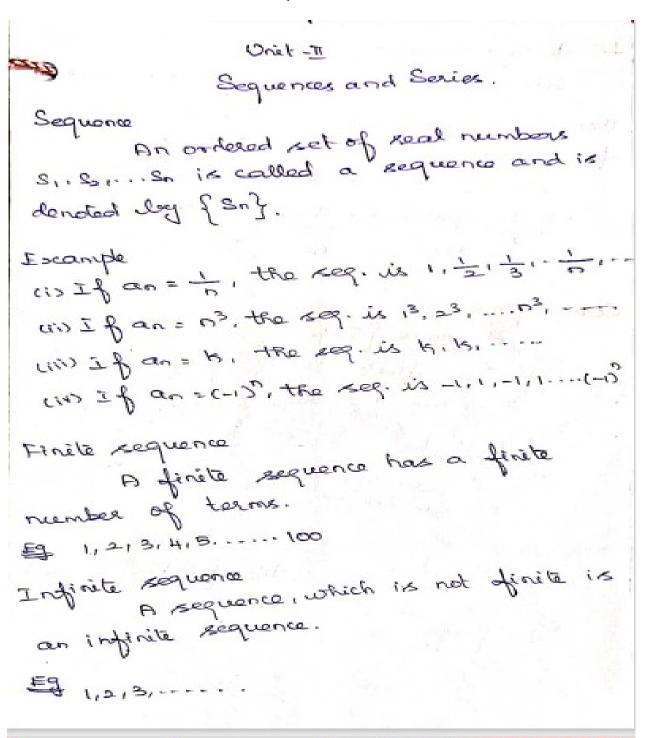
# SNS COLLEGE OF ENGINEERING Kurumbapalayam (Po), Coimbatore – 641 107



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## **TOPIC: 2.1 – SEQUENCES – DEFINTIONS AND EXAMPLES**





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Limit of a sequence

Let {2n} be the sequence of real numbers.

Then Sn approaches the limit L as Infinity, if

for every \$\epsilon \text{3} a + ve integer N =

1Sn-L/2 \epsilon (n>N)

2f 2n approaches the Limit Littion

Lim Sn = L

Convergence

Pit has a finite limit

€9: {n=} sim -1= 0.

18 lim sn = 0, then {sn} ix divergent

 $\lim_{n\to\infty} n = \infty$ 



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Oscillatory set Lim Snis not unique (oscillates finitely) or + 0 (oscillates infinitely) then I say is called an oscillatory requence. m { Fis. } oscillates finitely because noso (-1)= {1, new oscillates infinitely because lim (-15.02 = ±00 (1) {(1), 02}. Bounded Requence: behoused at bies si forz money if I a number to suchthat Snik, 4 n. Eg 12,31,1,2,3 Monotonic sequence A sequence & sof is said to increase steadily or to decrease steadily according as Soul 7 So Or Soul & So for all values of n. Both in wearing & decreasing sequence are called monotonic sequence.

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