

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



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TOPIC: 2.1 – SEQUENCES – DEFINITONS AND EXAMPLES

Uniet -TI Sequences and Series. An ordered set of real numbers Sinsing is called a requerce and is Sequence denoted log fsng. (i) If an = - , the req. is 1, - 13, - - ... Escample ui) I g an = n3, the seq. is 13, 23, n3, --uni) If an = b, the eq. is b, b, (14) If an = (-1), the seq. is -1, 1, -1, 1....(-1) A finite sequence has a finite number of terms. 导 1,213,4,5.....100 Infinite sequence, which is not divite is an infinite sequence. Eg 1,2,3,



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timit of a sequence Let { Sn} be the sequence of real numbers. for every ero. I a the integer N > 15- - - 1 2 E (07 N) 28 In approaches the Linut Lithion Jim Sn= L A requence [Sn} is raid to be convergent Convergence g it has a finite lemit i. lim Sn = L 5-3.5-5 1 = 0. Ivergena & lim Sn = 00, then SSn Jix divergent Eg. fny. n = 00.



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Oscillatary (concillates finitely) or ± ~ (oscillater infinitely) then I font in called an oscillatory sequence. 与 { [5]. oscillates finitely because aim (-1)= {1, news Kis { (=15, 03]. oscillates infinitely because. lim (-13.02 = ±00 Bounded sequence: A sequence fant is said to be bounded if I a number to such that Sn 2k, 4 n. Eg 1,2,3,,1,2,3 Monotonic sequence A sequence of Sny is said to increase steadily or to decrease steadily accurding as Snal 7 Sn Or Snal & Sn for all values ofn. Both increasing se decreasing sequence are called monotonic sequence.

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19 1,5,10,15