National University of Computer and Emerging Sciences

Chiniot-Faisalahad Campus
Chiniot-Faisalahad Campus

School of Computing

Question No. 1

a) Determine the convergence or divergence of the sequence a_n

lim
$$g_n = \frac{(-1)^n \cdot (-1)^l + 5^n / 5^l}{(-1)^n + 8^n}$$

$$an = \frac{(1+5)}{(-1+5)}n$$

$$=\frac{(n+1)4^n}{4n}$$

School of Computing

Question No. 1

a) Determine the convergence or divergence of the sequence a_n $a_n = (-1)^{n+1} + 5^{n+1}$ a_n

$$\frac{1}{(-1)^n + 5^n}$$

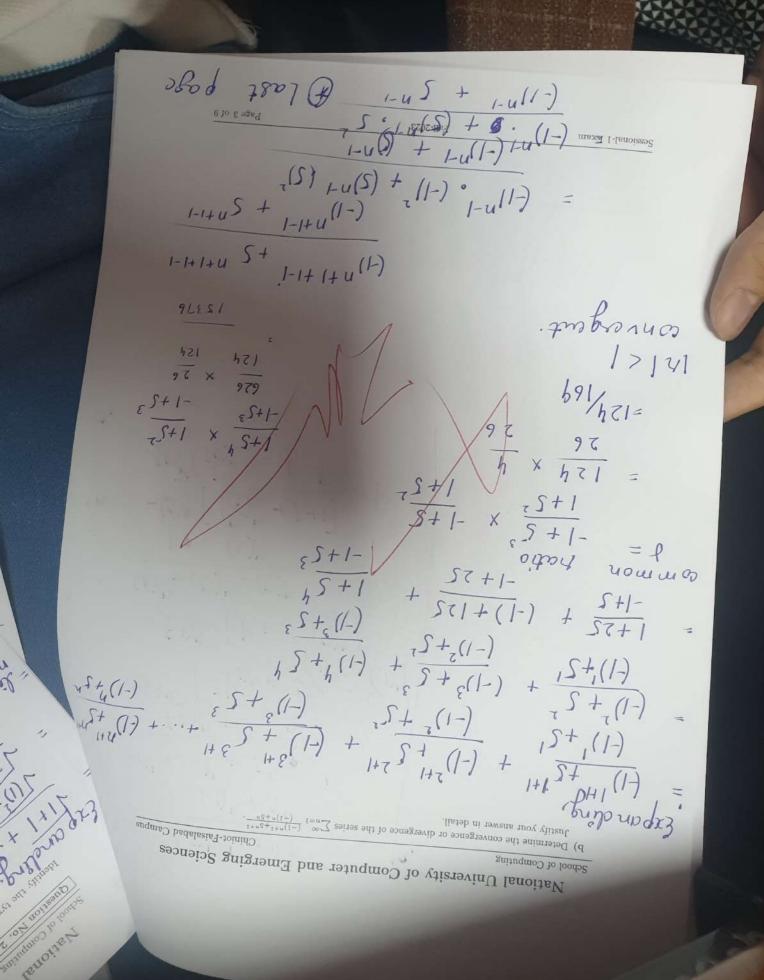
$$\alpha_n = (-1)^n \cdot (-1)' + 5^n + 5'$$

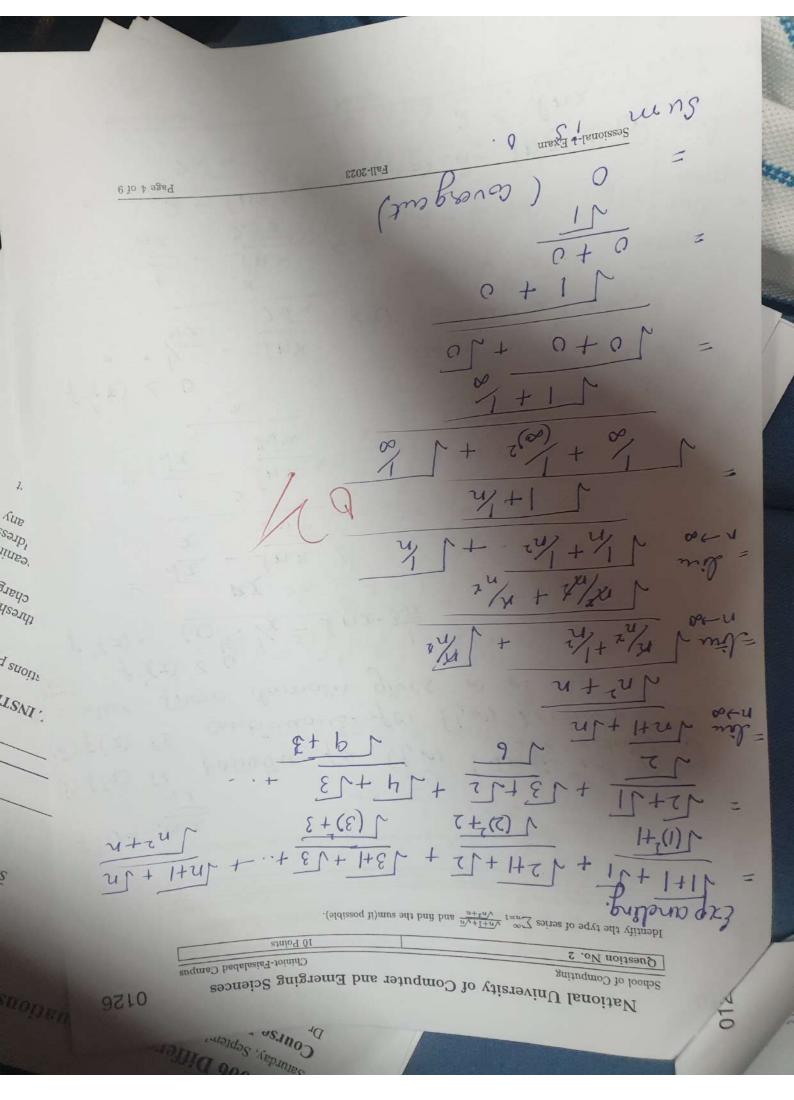
$$a_n = \frac{(1)^n + 5^n}{(-1)^n + 5^n - 5^n$$

$$a_n = (1)^n - (5)^n - (5)^n$$

$$\alpha_n = -(5)^n$$

$$(5)^n + (+1)$$





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attition 01 Question No. 3 Chiniot-Fairslabad Campus

(11) f(x) ? & continuous. for [1,0) beclause (1) f(x) is posiutive for (1,0) (1x is not giving

Apply integral tent to determine the convergence or divergence of the series $\sum_{n=1}^{\infty} \frac{|n|^n}{\sqrt{n}}$.

value phon domain gives to v.

1 (x) < (x) = (x), f (x) = (x), f

xux > 6 0 > xux -6 =

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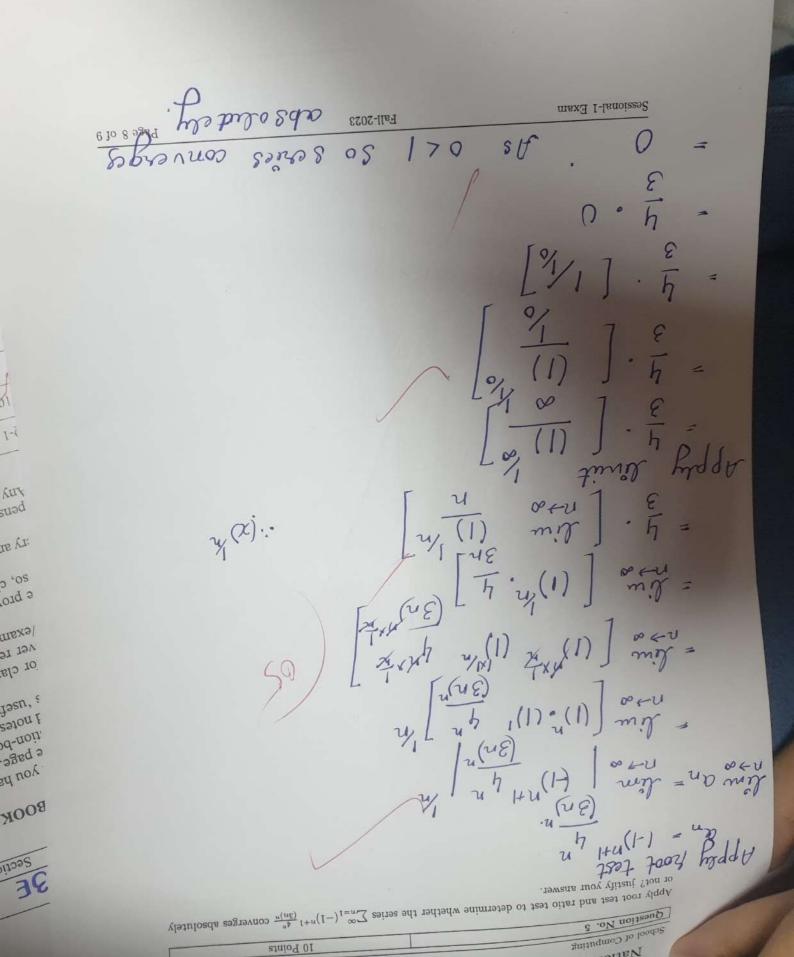
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Fall-2023

Sessional-1 Exam

21 eu gu th ITE e 3 Apply limit comparison test to determine the convergence or divergence of the series $\sum_{n=1}^{\infty} \frac{2^n + 3^n}{3^n + 4^n}$. 2 strioq 01 Question No. 4 Chiniot-Faisalabad Campus School of Computing National University of Computer and Emerging Sciences

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10 Points

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