FOGLIO 2 SULLE SERIE

STABILIRE IL CARATTERE DELLE SEGUENTI SERIE:

1. $\sum_{n=1}^{\infty} \operatorname{sen}\left((-1)^n \lg\left(1+\frac{1}{n}\right) + \frac{1}{n^2} \right)$

2. $\sum_{n=1}^{\infty} n \left(x^n + x^{n+2} \right) \left(1 - \cos\frac{x}{n} \right)$ $\quad x \in \mathbb{R}$

3. $\sum_{n=1}^{\infty} (-1)^n \left[e^{\left((n+1)^x - n^x\right)} - 1 \right]$ $\quad x \in \mathbb{R}$

4. $\sum_{n=1}^{\infty} \frac{(\lg n)^x}{\sqrt[n]{n!}}$ $\quad x \in \mathbb{R}$

5. $\sum_{n=1}^{\infty} \sqrt{n} \operatorname{sen}\left(\frac{x}{n} + \operatorname{sen}\frac{1}{n}\right)$ $\quad x \in \mathbb{R}$

6. $\sum_{n=1}^{\infty} \operatorname{sen}\left(\frac{\pi}{2} n\right) \left[n(-1)^n + \left(\operatorname{sen}\frac{1}{n}\right)^{-1} \right]$

7. $\sum_{n=1}^{\infty} n^x e^{y\left(\lg \frac{1}{\lg(1+1/n)}\right)^x}$ $\quad x, y \in \mathbb{R}$