

10 Serie

a) Determinare il carattere delle seguenti serie

$$\sum_{n=1}^{+\infty} \frac{n^2 + 5}{n^4 + 3n^3 - 6n + 2} \quad (58)$$

$$\sum_{n=1}^{+\infty} \frac{1}{\sqrt{n(n+1)}} \quad (59)$$

$$\sum_{n=1}^{+\infty} (e^{\frac{1}{n}} - 1) \quad (60)$$

$$\sum_{n=1}^{+\infty} \log \left(1 + \frac{1}{n^\alpha} \right) \quad (61)$$

$$\sum_{n=1}^{+\infty} \frac{1}{n \log n} \quad (62)$$

$$\sum_{n=1}^{+\infty} \frac{n!}{n^n} \quad (63)$$

$$\sum_{n=1}^{+\infty} \sin \left(\frac{1}{n^{3\alpha}} \right) n^{\frac{3}{2} - 2\alpha} \quad (64)$$

$$\sum_{n=1}^{+\infty} \frac{4^n}{n^3(7^\alpha + 2)^n} \quad (65)$$

$$\sum_{n=1}^{+\infty} \left(\cos \frac{1}{n^\alpha} - 1 \right) n^{1-\alpha} \quad (66)$$

$$\sum_{n=1}^{+\infty} \left(\frac{1}{n} + \sin \frac{1}{n} \right) n^\alpha \quad (67)$$

$$\sum_{n=1}^{+\infty} \frac{1 - \cos \frac{b}{n}}{\sin \frac{1}{n^\alpha}}, \quad \alpha > 0, \quad b \in \mathbb{R} \quad (68)$$