

Name:.....Serial#:.....Sec #.....

Q.1: Q.1: Use comparison test or limit comparison test to determine whether the series $\sum_{n=1}^{\infty} \frac{4(n-1)}{(n+2)^3}$ is convergent or divergent.

Q.2: Show that the series $\sum_{n=1}^{\infty} \frac{(-1)^{n-1}}{n^2}$ is convergent and find how many terms we need to add so that $|Error| < 0.01$.

Q.3: Determine whether the series $\sum_{n=1}^{\infty} \frac{(-1)^n}{\ln n}$ is absolutely convergent, conditionally convergent or divergent.