Student name _____   Quiz   Student number _____

A) **Select the correct answer**

    1) **Only one of the following series diverges**

    a) $\sum \frac{3}{n^{\sqrt{5}}}$ b) $\sum \frac{3n}{n^6+1}$ c) $\sum \frac{3}{\sqrt[5]{n}}$ d) $\sum \frac{3}{n^{1.3}}$

    2) $\sum_0^\infty \frac{2}{3^n} =$

    a) 3   b) $\frac{3}{2}$ c) 2   d) 6

    3) **The sequence** $\left\{ \frac{5^n}{3^{n+1}} \right\}_{n=1}^{\infty}$

    a) converge to 1   b) converge to 0   c) converge to 2   d) Diverge

    4) **The sequence** $\left\{ \frac{3^n}{5^{n+1}} \right\}_{n=1}^{\infty}$

    a) converge to 1   b) converge to 0   c) converge to 2   d) Diverge

B) **Test the convergence of the following**

1) $\sum_0^\infty \frac{3^n n^2}{(n)!}$

2) $\sum_1^\infty \frac{(2n+3)^n}{n^{2n}}$