Assigment No.1

Q.1 Test the convergence of the series whose nth term is given by $\frac{\sqrt{n}}{n^2+1}$ (U.T.U. 2017)

Q.2 Examine the convergence of the series $\sum(\sqrt[3]{n^3+1}-n)$

Q.3 Test the convergence for series :→

(a) $\sum_{n=1}^{\infty} \frac{n^2}{3^n}$

(b) $\sum_{n=1}^{\infty} \frac{n!}{n^n}$

(c) $\sum_{n=1}^{\infty} \frac{n!.2^n}{n^n}$

(d) $\sum_{n=1}^{\infty} \frac{x^{n-1}}{n.3^n}$

(e) $\frac{2}{1}+\frac{2.5.8}{1.5.9}+\frac{2.5.8.11}{1.5.9.13}+\ldots\infty$

(f) $\frac{1}{1+2}+\frac{2}{1+2^2}+\frac{3}{1+2^3}+\ldots\infty$