King **F**ahd **U**niversity for **P**etroleum and **M**inerals
Department of Mathematics & Statistics
Term 141 Math 102 Quiz#5 (10.2, 10.3, 10.4 and 10.5)
Family Name: Sec.# S.r#

Q1. Determine whether the series converge or diverge. **Find the Sum** if it is Convergent.

$$\sum_{n=0}^{\infty} \frac{(-1)^n 2^{3n}}{3^{2n-1}}$$

Q2. Determine whether the series converge or diverge. **(Write your result and the test you applied)**

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

$$\sum (3^{\frac{1}{n^2}} - 1)$$

$$\sum \frac{2^n + n}{3^n + n^2}$$

$$\sum_{n=2}^{\infty} \frac{1}{n \ln n}$$

Q3. For $\sum \frac{1}{n^4}$, what is the minimum number of terms needed to estimate the sum with reminder at most 10^{-5} ?