King Fahd University of Petroleum and Minerals
Quiz 3 Math 102-101

Name: ID: Section:

Note: Justify your answers in all the questions below.

Q 1) Determine whether the series $\sum_{n=1}^{\infty} \frac{\sin(n\pi)+(-2)^n}{4^n}$ is convergent or divergent. If it is convergent, find its sum.

Q2) Determine whether the sequence $\left\{\frac{\sin\left(\frac{n\pi}{4}\right)+(-1)^n\sqrt{n}}{n+1}\right\}$ is convergence or divergent.

Q 3) Find the sum of the series: $\sum_{n=1}^{\infty} \frac{2}{n(n+2)}$

Q 4) Test the series for convergence or divergence.

$$a) \sum_{n=1}^{\infty} \sin\left(\frac{1}{n}\right) \qquad b) \sum_{n=1}^{\infty} \frac{1+\cos^2 n}{n+n\sqrt{n}}$$