

King Fahd University for Petroleum and Minerals

Calculus 2

Quiz5

Dr. M. Jarrar

Name:-

ID:-

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Determine whether the series is absolutely convergent, conditionally convergent or divergent.

Q1) a) $\sum_{n=1}^{\infty} \left(\frac{n^2+1}{2n^2+1}\right)^n$ b) $\frac{2}{5} + \frac{2.6}{5.8} + \frac{2.6.10}{5.8.11} + \frac{2.6.10.14}{5.8.11.14} + \dots$ c) $\sum_{n=2}^{\infty} \frac{(-1)^n}{\ln n}$ d) $\sum_{n=1}^{\infty} \frac{\sin(\frac{1}{n})}{\sqrt{n}}$

Q2) Find the radius of convergence and interval of convergence of the series

a) $\sum_{n=1}^{\infty} \frac{3^n (x+4)^n}{\sqrt{n}}$ b) $\sum_{n=1}^{\infty} \sqrt{n} x^n$