King Fahd University of Petroleum and Minerals
Department of Mathematics and Statistics
Math-102   Semester-153   QUIZ 05

NAME: Serial No.   ID:
Maximum Marks: 10   Section: 02   Time Allowed: 30 minutes

(1) Find the sum of the series $\displaystyle\sum_{n=1}^{\infty} \frac{3^{n-1}-1}{6^{n-1}}$.

(2) Use the integral test to determine whether the series $\displaystyle\sum_{n=1}^{\infty} \frac{1}{n^2-6n+13}$ is convergent or divergent .

(3) Investigate the convergence of the series $\displaystyle\sum_{n=1}^{\infty} \frac{4^n \; n! \; n!}{(2n)!}$ by the ratio test.