# King Fahd Univ. of Petroleum and Minerals
## Faculty of Sciences
## Department of Mathematical Sciences

QUIZ No. 4
(MATH. 102-043 Sections 1 & 2)

**Name:**
**ID:**

**Prob. 1** Use the integral test to discuss according to the values of $p$

$$\sum_{k=3}^{\infty} \frac{1}{k(\ln k)[\ln(\ln k)]^p}$$

**Prob.2** determine wether the series is convergent or divergent

(a) $\sum_{k=1}^{\infty} \left(\frac{k}{k+1}\right)^{k^2}$

(b) $\sum_{k=1}^{\infty} \frac{\ln k}{e^k}$

**Prob. 3**

Is the following series absokutely convergent, conditionally convergent or divergent?

$$\sum_{k=2}^{\infty} \left(\frac{-1}{\ln k}\right)^k$$