**IE-352**

**Section 1, CRN: 32997**

**Section 2, CRN: 5022**

**Second Semester 1431-32 H (Spring-2011) – 4(4,1,1)   
MANUFACTURING PROCESSES - 2**

**Sunday, Apr 17, 2011 (13/5/1432H)**

**Exercise: Cutting Forces and Power**

|  |  |
| --- | --- |
| **Name:** | **Student Number:**  **42** |

**Relative Energies in Cutting**

In an orthogonal cutting operation, , , and the . It is observed that , and . Calculate the percentage of the total energy that goes into overcoming friction at the tool–chip interface.