**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)**

**Quiz 3 ANSWERS**

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

**Examine the shaft system below (dimensions in mm) and answer the following questions.**

**A**

*ϕ*.225 ±.003 $$

┴

*ϕ* .007

A

1. **Describe below each element of the *feature control frame*.** [3 Points]

**The shaft must lie perpendicular within a tolerance zone of 0.007 mm diameter (***ϕ* **) at the maximum material condition (MMC), with respect to datum axis A.**

1. **What type of geometric tolerance is involved here (form, orientation, or location)?** [1 Point] **ANSWER:**

**orientation**

1. **What is the basic size?** [2 Points] **ANSWER:**

$$0.225 mm$$

1. **What is the feature size at *MMC*?** [2 Points] **ANSWER:**

$$0.228 mm$$

**At MMC:** $ϕ=0.225+0.003=0.228 mm$

1. **What is the feature size at *VC*?** [2 Points] **ANSWER:**

$$0.235 mm$$

$$V\_{c}= ϕ\_{MMC}+Geom.Tol= 0.228+0.007=0.235 mm$$