**IE-352**

**Section 1, CRN: 13536**

**Section 2, CRN: 30521**

**First Semester 1432-33 H (Fall-2011) – 4(4,1,1)
MANUFACTURING PROCESSES - 2**

**Sunday, Nov 20, 2011 (24/12/1432H)**

**Quiz 4 ANSWERS**

|  |  |  |
| --- | --- | --- |
| **Name:**  | **Student Number:****4** | **Section:****8:00 / 10:00** |

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

**.008**

**B**

**∠**

.008

B

**30º**

$LMC: 0.340$

$MMC: 0.360$

$feature: 0.355$

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

**The featured dimension must lie,**

* **at a 30-degree angle**
* **with respect to datum axis B,**
* **and within a tolerance zone of length 0.008 mm between parallel planes (containing all points on the inclined face)**
* **where the top plane is tangent to high point(s) of the face.**
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:**

$$0.350 mm$$

1. ***Use the diagram above* to sketch the two planes that contain the MMC and LMC. (see diagram)**  [1 Point]
2. **If the feature size is** $0.355 mm$**, *use the diagram above* to sketch the two planes that must contain all points on the part.** [2 Points]
**(see diagram)**
* **Note, feature size (**$0.355 mm$**) lies within the size zone (**$0.340-0.360 mm$**)**
* **Also note, lowest point on face lies at:**

$$0.355-0.008=0.347 mm (i.e.within zone, since>LMC)$$

1. **If the datum (B) is removed from the FCF above, what is the resulting geometric tolerance type?** [1 Point] **ANSWER:**

**form (flatness)**