

SATHYABAMA UNIVERSITY

(Established under section 3 of UGC Act, 1956)

Course & Branch: B.E – Mechanical

Title of the paper: Machine Drawing

Semester: III

Max. Marks: 80

Sub.Code: 15307(2002/2003/2004/2005)/6C0067

Time: 4 Hours

Date: 26-11-2007

Session: FN

PART – A

Answer All the Questions

1. Compute the limit dimensions for a clearance fit on the hole basis system for a basis system for a basic size of 50mm diameter with a minimum clearance of 0.05mm, the tolerance on the hole is 0.045mm and the tolerance on the shaft is 0.015mm. Check the computed dimensions. (10)

2. Fig. 1 shows the sectional front view of a cotter joint with sleeve. Prepare the manufacturing drawing for the components involved in that assembly. Assume the diameter of the rods $d = 20\text{mm}$. (10)

3. (a) sketch a surface texture symbol with all the characteristics. (2)

(b) Sketch the symbols for the following characteristics
(i) Symmetry (ii) Circularity (iii) Runout (3)

4. Sketch the conventional representation of the following machine elements. (5)
(a) Internal threads
(b) Bearings
(c) Helical spring – tension
(d) Radial ribs
(e) Spur Gears

PART – B
Answer All the Questions

(1 x 50 = 50)

5. Details of a SWIVEL BEARING are shown in Fig.2. Draw the following views of the bearing showing all the parts assembled.
- (a) Front view in half section.
 - (b) Top view in section, the section being taken along the axis of the shaft
 - (c) Left view

Indicate on the drawing important overall dimensions.

