

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-III • EXAMINATION – WINTER 2013****Subject Code: 133405****Date: 07-12-2013****Subject Name: Manufacturing & Assembly Drawing****Time: 02.30 pm - 05.00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

**Q.1 (a)** Mention the abbreviations for the following: **07**

- i) Sketch,      ii) Round,      iii) Dimension,      iv) Gun Metal,  
v) Cast Iron,      vi) Low Carbon Steel,      vii) Tolerance.

**(b)** Draw the Conventions for the following: **07**

- i) Radial Ribs      ii) Diamond Knurling      iii) Bearing  
iv) Helical Torsion Spring.

**Q.2 (a)** Define the following: **07**

- i) Basic Size,      ii) Actual Size,      iii) Tolerance,      iv) Deviation.

**(b)** Write a short note on Basic Hole System and Basic Shaft System. **07**

**OR**

**(b)** Draw the sectional front view and top view of a double riveted lap joint using rivets in chain arrangement. Thickness of plates is 9 mm. Show all the dimensions on drawing. Use snap head rivets. **07**

**Q.3** Fig.1 shows the detail drawing of the different parts of a Cotter Joint with Sleeve. Assemble all the parts and draw the front view in Section. **14**

**OR**

**Q.3** Details of a flanged coupling (Unprotected type) are shown in Fig. 2. Draw to 1:1 scale the front view with top half in section, showing all the parts assembled, with one of the shaft being projected by a distance of 5 mm into the bore of the other flange. **14**

**Q.4 (a)** Draw the symbols of the following: **07**

- i) Concentricity      ii) Profile of any surface      iii) Perpendicularity  
iv) Parallelism      v) Angularity      vi) Symmetry      vii) Circularity.

**(b)** Draw the rivet heads of diameter 15 mm for the following: **07**

- i) Snap head for general work.      ii) Flat counter sunk for general work.  
iii) Flat Head for general work.

**OR**

**Q.4** Fig. 3 shows the assembly drawing of a petrol engine connecting rod. Prepare working drawings of CAP & Bearing Brass. **14**

**Q.5** The details of the Lathe tail stock are shown in Fig.4. Draw the front view in half section of the assembly. **14**

**OR**

**Q.5** Draw the assembly drawing of a two plate injection mould (Two cavity) for a cup (PP material) of outside diameter 40 mm, total height of 20 mm and wall thickness 1.5 mm. Mention the BOM. **14**

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