

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-III (OLD) EXAMINATION - WINTER 2017

Subject Code	e:1334	05				Date:29/11/2017
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Subject Name: Manufacturing and Assembly Drawing

Time: 10:30 AM to 01:00 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) Define Tolerance, Unilateral Tolerance, and Bilateral Tolerance with suitable sketches.
 - (b) What is a production drawing? Why production drawings must beprepared as per standard.
- Q.2 (a) Name the different types of Rivet Heads. What is the function of a cover plate in riveted joints?
 - (b) Differentiate between lap joint and butt joint, Chain riveting and zigzagriveting.

OR

- (b) Explain about Hole basis system with the help of a suitable example. 07
- Q.3 (a) Draw the conventions for following machine elements:
 i) Ratchet and pinion.
 ii) Holes on a linear pitch.
 iii) Helical Torsion Spring.
 iv) Disc spring stacked in parallel.
 - (b) Draw to 1:1 scale, the top view and sectional front view of a single riveted butt joint with double cover plates. The thickness of plates is 9 mm. Show at least three rivets in each row. Indicate all dimensions. Use snap head rivets.

OR

Q.3 (a) Define the following:

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

- (b) Define fit. Classify fits. Briefly explain about them. 07
- Q.4 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.

07



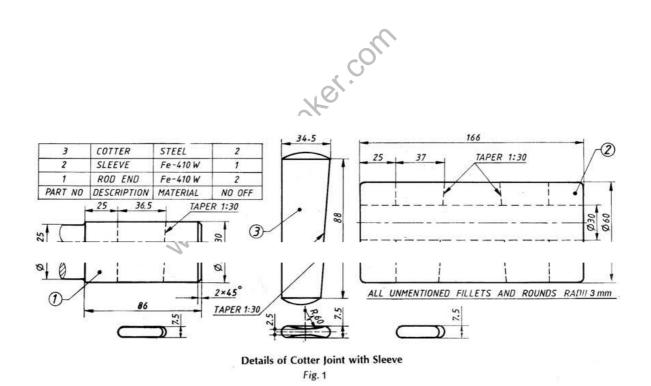
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- Q.4 Details of a flanged coupling (Unprotected type) are shown in Fig. 2. Draw to 1:1 scale the front view with top half in section, showing all the parts assembled, with one of the shaft being projected by a distance of 5 mm into the bore of the other flange.
- Q.5 Fig. 3 shows the assembly drawing of a petrol engine connecting rod. Prepare working drawings of CAP & Bearing Brass.

OR

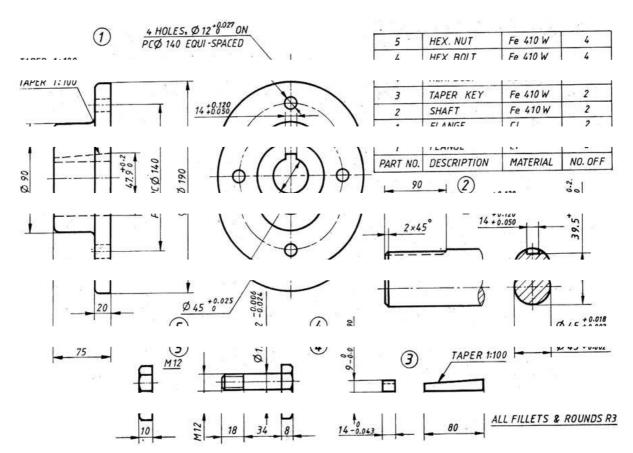
Q.5 Draw the assembly drawing of a two plate injection mould (Two cavity) for a cup (PP material) of outside diameter 40 mm, total height of 20 mm and wall thickness 1.5 mm. Mention the BOM.





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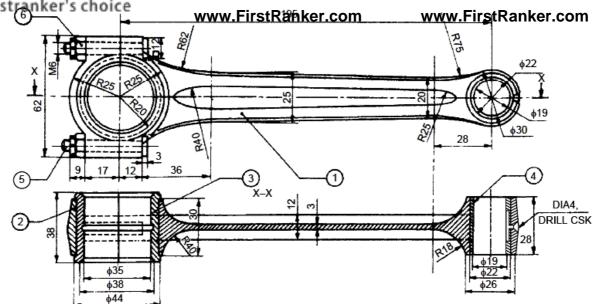
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All Dimensions in mm

Details of Flanged Coupling — Unprotected Type
Fig. 2





Parts list

Turio list								
Part No.	Name	Matl.	Qty.					
1	Rod	FS	1					
2	Сар	FS	1					
3	Bearing brass	GM	2					
4	Bearing bush	P Bronze	1					
5	Bolt	MCS	2					
6	Nut	MCS	2					
	1	1						

Fig. 3 Petrol engine connecting rod
