

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-III (New) EXAMINATION – WINTER 2018

Subject Code:2133405

Date:12/12/2018

Subject Name:Manufacturing and Assembly Drawing

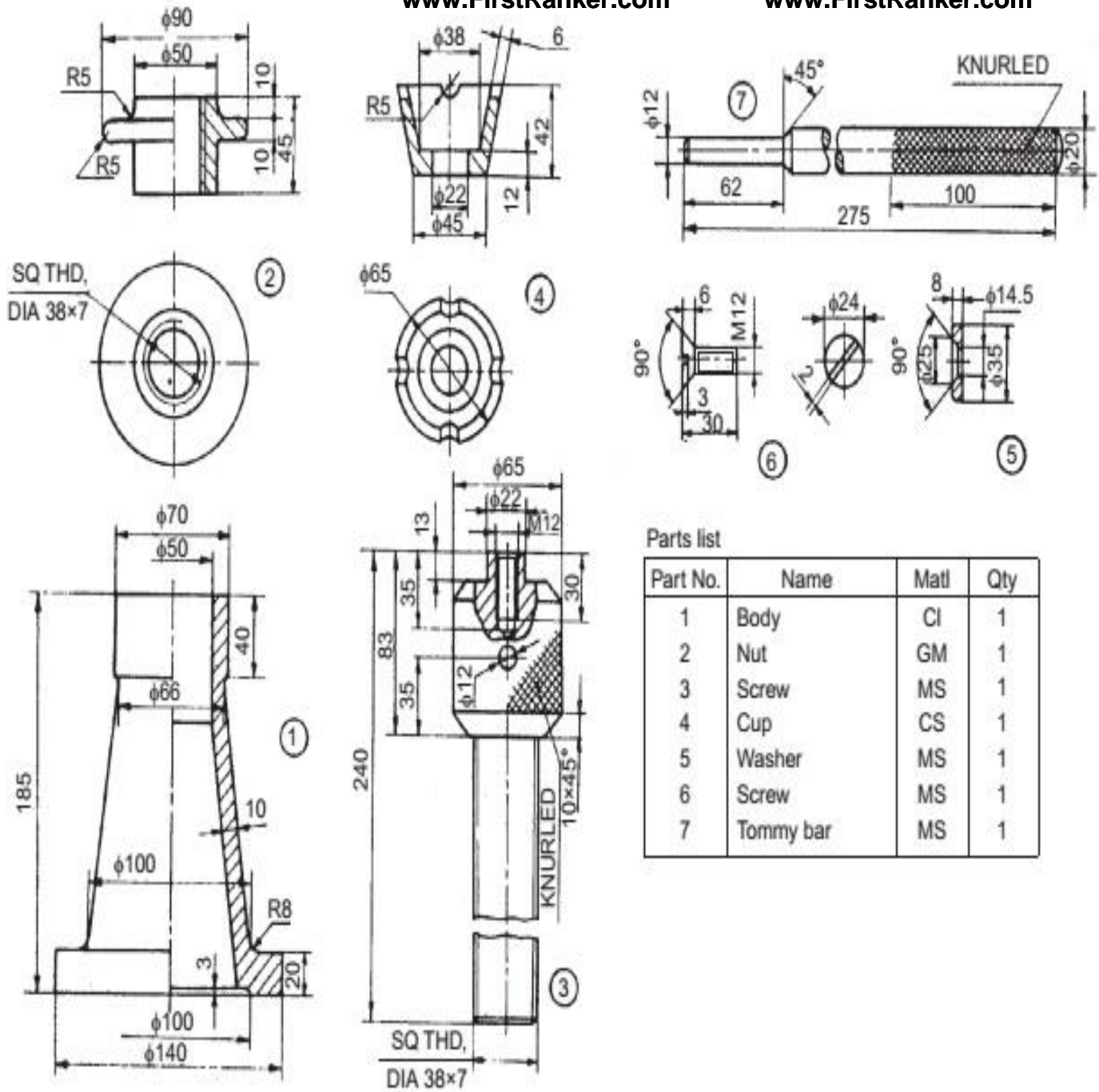
Time:10:30 AM TO 01:00 PM

Total Marks: 70

Instructions:

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

		MARKS
Q.1	(a) Draw the symbols for i) Cylindricity, ii) Angularity, iii) Runout	03
	(b) Draw any five Conventional Representation of Section lines	04
	(c) Draw the conventions for following machine elements: i) Leaf Spring with eyes and centre band ii) Serrated Shaft.iii) Bearing iv) Holes on a linear pitch.v) Butt Joint	07
Q.2	(a) What is Positional Tolerance.	03
	(b) Explain Tolerance, Unilateral and Bilateral tolerance with examples	04
	(c) Define Fit and types with neat sketches	07
	OR	
	(c) Differentiate between hole basis and shaft basis system with an example	07
Q.3	(a) Define Steel with an example	03
	(b) Write a short note on copper and copper alloys.	04
	(c) Explain Production Drawing and state the elements of Production Drawing.	07
	OR	
Q.3	(a) Draw the Surface roughness symbols for Roughness values Ra 0.025 μ m and 0.4 μ m.	03
	(b) Write a short note on Datum and Datum Features.	04
	(c) Define the following: i) Basic Size, ii) Actual Size, iii) Allowance, iv) Deviation	07
Q.4	(a) Define Ferrous and Non-Ferrous Metals and give example of each.	03
	(b) Write the effects of adding alloying elements Cr and V to steels	04
	(c) Write a short note on Geometrical, Form and Positional tolerances.	07
	OR	
Q.4	(a) What is the importance of surface roughness?	03
	(b) Explain what do you mean by B.O.M . Draw a sample B.O.M	04
	(c) Draw the symbols of the following: i) Concentricity ii) Profile of any surface iii) Perpendicularity iv) Parallelism v) Angularity vi) Symmetry vii) Circularity	07
Q.5	(a) What is an injection mould?	03
	(b) What are the different parts of an Injection mould?	04
	(c) The dimensions of a shaft and hole are: Basic Shaft size =60 mm and given as 60 -0.02 & Basic hole size =60 mm and given as 60 -0.005 find i) Tolerance of Shaft, ii) Tolerance of Hole, iii) Max Allowance, v) Min allowance, iv) Type of Fit.	07
	OR	
Q.5	The Fig Shows the parts of a Screw Jack .Assemble the parts and draw the Sectional Front view and Top view	14



Parts list

Part No.	Name	Matl	Qty
1	Body	CI	1
2	Nut	GM	1
3	Screw	MS	1
4	Cup	CS	1
5	Washer	MS	1
6	Screw	MS	1
7	Tommy bar	MS	1