Exam.Code:0939
Sub. Code: 33844

2124

B.E. (Mechanical Engineering)
Third Semester
MEC-304: Machine Drawing

Time allowed: 3 Hours **Max. Marks: 50**

NOTE: Attempt five questions in all, including Question No. 1 (Part-A) which is compulsory and selecting two questions each from Part B-C. Assume suitably the missing data, if any. All dimensions are in mm, if not mentioned otherwise. Supplement your answer with neat and labeled sketches wherever required. All software related questions must be answered with respect to AutoCAD software. All questions carry equal marks.

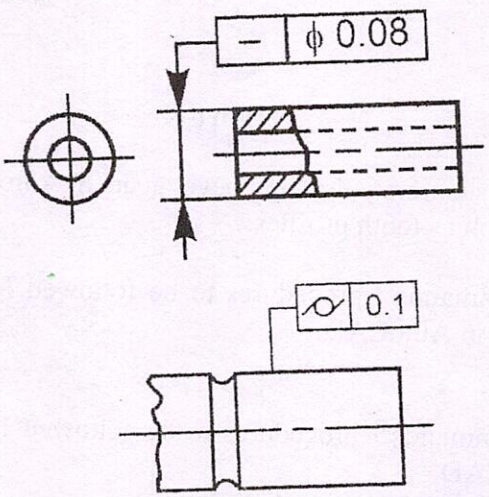
x-x-x

Part-A

1 (i) What is the significance of tolerances of form, such as flatness and straightness, in precision engineering?
(ii) How do you create geometric tolerances in AutoCAD, and what are the common symbols used?
(iii) What are the common head shapes for screws, and how do they influence functionality and ease of use?
(iv) Draw and compare Detailed, Schematic and Simplified thread representations.
(v) Draw and explain the output of Torus command in AutoCAD?

Part-B

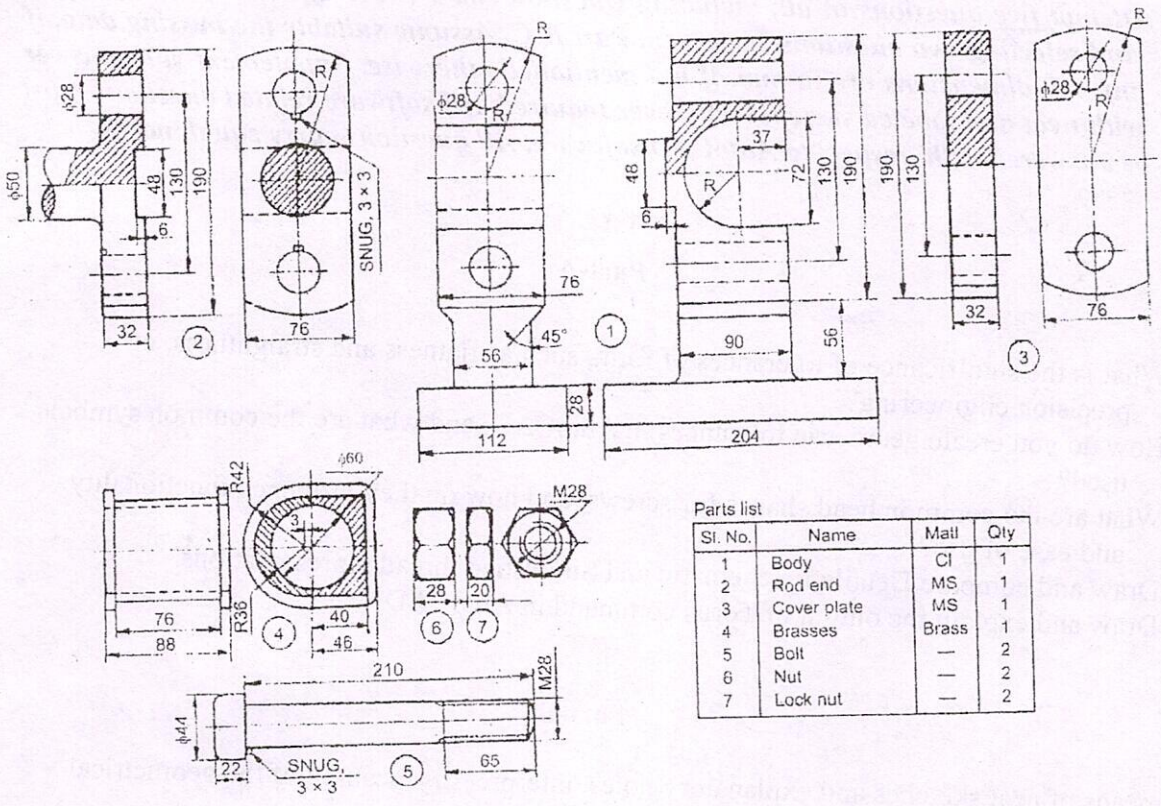
2 By means of neat sketches and explanatory notes, interpret the meaning of the geometrical tolerances shown in next figures.



3 Draw and explain the step-by-step procedure to draw an external ACME thread in AutoCAD, including key dimensions and features.

P.T.O.

4 Assemble the parts of the Crosshead shown in next figure and draw its orthographic views in first angle projection.



Parts list

Sl. No.	Name	Matl	Qty
1	Body	CI	1
2	Rod end	MS	1
3	Cover plate	MS	1
4	Brasses	Brass	1
5	Bolt	—	2
6	Nut	—	2
7	Lock nut	—	2

Part-C

5 Describe the procedure for accurately drawing bevel gears in AutoCAD, including the required dimensions and features such as tooth profiles.

6 Write the step-by-step commands / procedures to be followed for creating a 3D model of a Protected Flange Coupling in AutoCAD.

7 Write the step-by-step commands / procedures to be followed for creating a 3D model of a Footstep Bearing in AutoCAD.

x-x-x