

JK LAKSHMIPAT UNIVERSITY, JAIPUR

INSTITUTE OF ENGINEERING AND TECHNOLOGY

End Term Examination (Regular/Backlog), Nov.-Dec. 2015

B. Tech in Mechanical Engineering, Semester III

Roll No.....

ME 305: Advanced Machine Drawing

Time: 3 hours

Max. Marks: 100

Instructions to students:

1. Do not write anything other than your roll number on question paper.
2. Assume suitable data wherever required and mention it clearly.
3. Writing appropriate units, nomenclature, and drawing neat sketches/schematics/ flow chart wherever, required are an integral part of the answer.

Q.1A Multiple choice questions/Fill in the blanks (10 questions @ 1 mark)

10

- i. Outlines or principle line are drawn as
 - (a) Long and thin chain lines
 - (b) Thick continuous lines
 - (c) Thin continuous lines
 - (d) Thin ruled lines
- ii. Long breaks are shown by
 - (a) Thin ruled lines with short zigzags within them
 - (b) Short dashes of approximately equal length
 - (c) Dashed lines of medium thickness
 - (d) Continuous, thin and wavy lines drawn freehand
- iii. The dimension indicating a diameter should be preceded by the symbol...
In first angle projection method....
- iv. The object comes between the..... and the.....
- v. The top view is always below the..... view.
- vi. The size of the title block for all sizes of drawing sheets is mm X mm
- vii. Knuckle thread is a modified form of
- viii. The position of cutting plane is shown by
 - (a) Thick and long chain lines, thick at ends only
 - (b) Continuous, thin and wavy lines drawn freehand
 - (c) Thin continuous lines
 - (d) Long and thin chain lines
- ix. The size of trimmed A₀ sheet is
- x. The thickness of margin is

Q.2 Short answer type questions (4 questions @ 2.5 marks)

10

- i. Write all types of machine drawings.
- ii. Why clearance is necessary in cotter joint?
- iii. Why a gear coupling is used for connecting high speed machines?
- iv. Define circular pitch, diametric pitch, module pitch and state how they are inter-related?

Q.3A Find the pitch circle diameters and dimensions of the teeth of a gear with 35 teeth and 50mm pitch circle dia.

05

- Q.3B What is hole basis system for defining tolerance. Draw neat figures to explain clearly. 05
- Q.4A What is surface roughness and why does it exist? 05
- Q.4B Write short notes on assembly drawing and give its classifications. 05
- Q.5A A 50mm diameter shaft rotates in a bush bearing the tolerance for both shaft and bearing is 0.050mm and allowance is 0.10mm. find the dimensions of the shaft and the bearing on the hole basis system. 05
- Q.5B Why welding is more popular than riveted joints? 05
- Q.6A Briefly explain any two types of locking nut with neat figures. 05
- Q.6B Explain w.r.t. screw thread crest, root, flank, angle, depth, nominal diameter, core diameter, effective diameter, pitch, lead. 05
- OR
- Q.6B Give details of any 5 types of pipe joints. 05
- Q.7 Make a neat sketch of two or three teeth of a gear and show the following on it: Pitch circle, addendum circle, root diameter, crest, face, root, tooth thickness, circular pitch. 10
- Q.8A Draw three dimensioned view of the riveted joint for a tie bar as shown in fig. 1. Take thickness of bar as 12 mm. 15
- Q.8B Draw exploded view of a knuckle joint. 15
- OR
- Q.8B Draw with specifications the following forms of screw threads: Unified thread, Whitworth thread, Acme thread, Knuckle thread, Buttress thread. 15

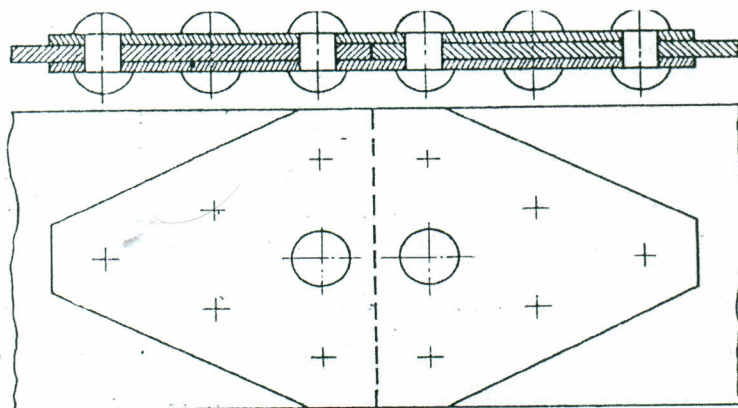


Fig. 1