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AU/IP/ME - 305 B.E. III Semester

Examination, December 2013

Machine Drawing And Design

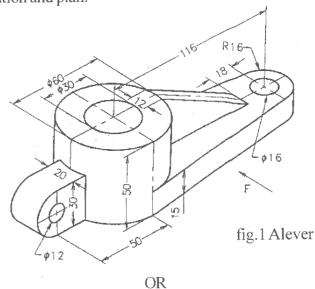
Time: Four Hours

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Note: Attempt one question from each unit. The question from Unit-II carry double weightage. Assume suitable missing/misprint data, if any.

Unit - I

1. Isometric view of a lever is shown in fig.1. Draw sectional elevation and plan.



- 2. a) Sketch the following welding symbols
 - i) Square butt weld ii) Fillet weld
 - iii) Plug weld

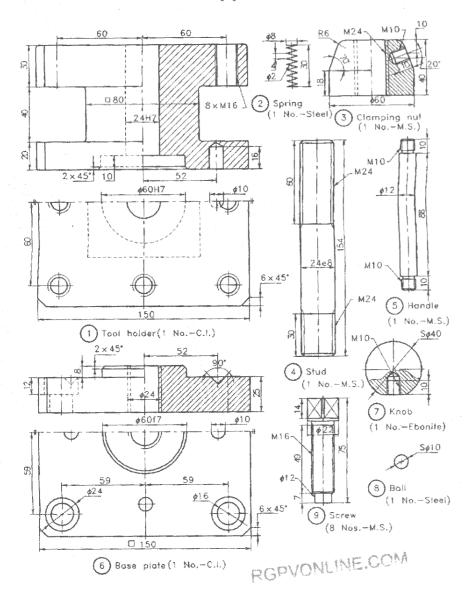


Fig.3
Lathe tool post (multiple tool) parts

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Draw double riveted chain lap joint of 18 mm thick plate using snap headed rivets. Show atleast three rivets in the plan and add a sectional view.

Unit - II

- 3. The part details of a socket and spigot joint are given in fig.2. Assemble them and draw
 - Elevation top half in section
 - Plan

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Side view from right

OR

- 4. The parts of a Lathe tool post (multiple tool) are given in figure 3. Assemble the parts and draw
 - Full sectional front view
 - Plan of the tool post

Unit - III

- What do you mean by engineering design. Explain with example.
 - What do you mean by standardization. What is it's importance in machine design.

OR

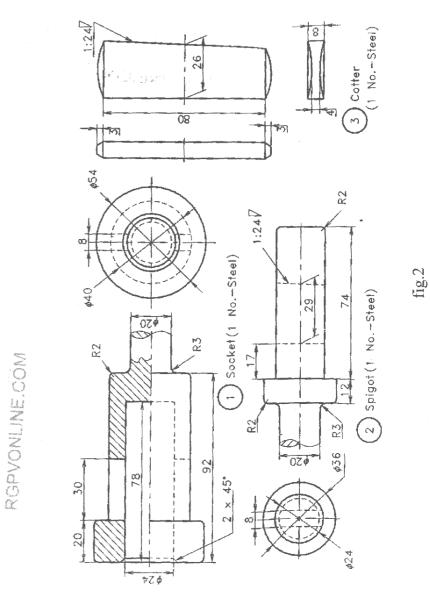
- What is computer Aided Drafting. Explain five edit commands used in drafting.
 - What is factor of safety. Explain its importance in design.

Unit-IV

7. Design a cotter joint to connect two mild steel rods. The joint is subjected to a 20KN tensile face. The allowable limits of tensile shear and crushing strengths are 60N/mm², 40N/mm² and 75N/mm² respectively.

OR

8. A triple riveted lap joint is to be made between 6.5mm thick plates. Permissible values of stresses for plate and rivets are $\sigma_{r} = 40MPa$, $\sigma_{s} = 25MPa$, $\sigma_{c} = 55MPa$ Using Zig-zag riveting, design joint and show dimensions on a sketch.



Socket and spigot joint (parts)

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