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***B. Tech. Degree III Semester Examination in
Marine Engineering December 2015***

MRE 1303 WORKSHOP TECHNOLOGY

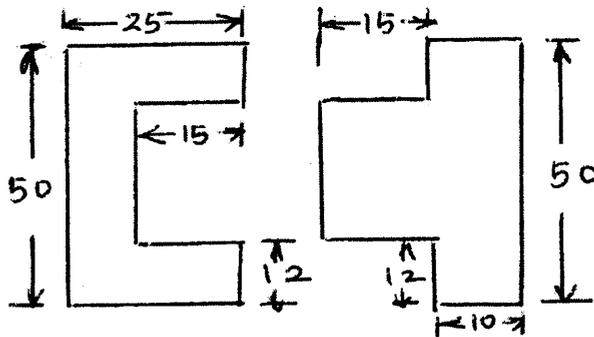
Time: 3 Hours

Maximum Marks: 100

(Draw figures wherever it is necessary)

(5×20=100)

I. (a)



What are the tools required for making a square joint on MS flat of the dimensions given above?

List the various operations to be performed for making the joint.

- (b) How do the following parameters affect the cutting forces in orthogonal cutting? (i) Rake angle (ii) Depth of cut (iii) Cutting speed.

OR

- II. (a) Briefly explain with figures atleast three common types of drills used in machining.
(b) What are the different methods for determining stresses on the chip tool contact length?

- III. (a) What are the different types of taper turning attachments attached to a lathe? Discuss them briefly.
(b) What are the motions of the arbor mounted milling cutter with respect to workpiece? Discuss.

OR

- IV. (a) What is the significance of capstan, turret and automatic lathes in a production shop?
(b) How is grinding different from other machining operations? Explain its applications in view of its capabilities.

(P.T.O.)

- V. (a) Define the effective diameter of a screw thread. Explain how the two wire method could be used for measuring the effective diameter of a screw.
(b) Explain the principles of interchangeability and selective assembly.

OR

- VI. (a) What are the systems of limits and fits? Explain briefly what system is followed in India and why?
(b) Explain in detail anyone method of squareness testing.

- VII. (a) What is a reducing valve? What are the design and construction considerations for a reducing valve?
(b) What do you understand by the term industrial safety? What are its objectives?

OR

- VIII. (a) What is bedding of bearing and why is it needed?
(b) Explain in brief the salient provisions of Factories Act 1948 regarding safety.

- IX. (a) Define the weldability of a material and the factors on which the weldability depends.
(b) Write brief notes on:
(i) Heterogeneous weld (ii) Arc blow (iii) Straight and reverse polarity
(iv) Flux and its purpose (v) Welding position.

OR

- X. (a) What is a consumable and non consumable electrode and where are they used?
(b) What are the common types of flux used in brazing and what is their significance?