

--	--	--	--	--	--	--	--	--	--

***B.Tech. Degree III Semester Examination in
Marine Engineering December 2017***

**MRE 1303 WORKSHOP TECHNOLOGY
(2013 Scheme)**

Time: 3 Hours

Maximum Marks: 100

(5 × 20 = 100)

- I. (a) With the help of neat figure explain the working of spring calipers and firm joint calipers.
(b) What are the conditions that would allow a continuous chip to be formed in metal cutting?

OR

- II. (a) What is the method generally used for measuring average chip tool interface temperature?
(b) What are the various methods available for measuring cutting tool temperature? Explain their application and disadvantage.
- III. (a) Explain the classification of machine tools based on production capacity. Give the relative advantages with reasons and applications.
(b) What are the various methods available for taper turning in a lathe? Explain their specific advantages and limitations.

OR

- IV. (a) What are the applications of shaping machine in a typical machine shop?
(b) Explain the characteristics that distinguish a milling process from other machining process.
- V. (a) What do you understand by the term interchangeable assembly?
(b) Explain the vernier principle as used in linear measurement.

OR

- VI. (a) Explain how gauge tolerance and gauge wear are allocated in the design of limit gauges.
(b) Discuss the methods of optical measurement. What are its advantages?
- VII. (a) Explain the salient features of Factory Act related to safety.
(b) What is the purpose of machine guarding? Explain how machine guards are classified.

OR

- VIII. (a) What are the different types of packing and joining materials commonly used in fitting and overhauling shops? How are they selected?
(b) What are the different types of control valves? Explain the working of any one of them.

- IX. (a) Differentiate between soldering and brazing.
(b) What are the functions of coatings on shielded electrodes?

OR

- X. (a) With a sketch explain the various equipments used in gas welding.
(b) What is the principle of operation of electric arc welding?
