

[Total No. of Questions - 9] [Total No. of Printed Pages - 2]
(2125)

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B. Tech 1st Semester Examination

Workshop Technology (CBS)

ME-103

Time : 3 Hours

Max. Marks : 60

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Attempt five questions in all, select one question from each sections A, B, C, D. Section E (Question 9) is compulsory.

SECTION - A

1. (a) Explain and classify various types of materials used in engineering applications.
- (b) Explain briefly different types of steels. (12)

OR

2. (a) What is metal forming?
- (b) Enumerate various differences between cold and hot working. (12)

SECTION - B

3. (a) What are applications of cast components? What is the use of a "core" ?
- (b) What are different steps of casting, starting from sand preparation upto obtaining ready and finished casting? (12)

OR

4. (a) What are different types of non-metallic material?

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- (b) Enumerate different types of joints in wood working. (12)

SECTION - C

5. (a) Explain the working principle of lathe.
- (b) What are differences between shaper and planer? (12)

OR

6. (a) Briefly explain the classify different welding processes.
- (b) What is the mechanism to produce different types of flames used in oxy-acetylene welding? (12)

SECTION - D

7. (a) What are various types of tools used in fitting operations?
- (b) What are advantages of Numerical Control systems over traditional manufacturing systems? (12)

OR

8. (a) Explain the process of threading with taps and dies.
- (b) What are different types of filing tools used in a typical fitting shop in industry? (12)

SECTION - E

9. Briefly explain/fill in the blanks :
 - (i) Brass is essentially an alloy having major constituents as _____ and _____
 - (ii) Elucidate the applications of a soft and hard wood.
 - (iii) As the metal starts cooling, capacity of dissolving gases goes on _____ (increasing/decreasing). Explain briefly the reason behind it.
 - (iv) Compare the NC and CNC manufacturing systems. (3×4=12)