

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

Dec-24-0283 (CBCS)

ME-103 (Workshop Technology)

B.Tech. 1st

Time : 2 Hours

Max. Marks : 40

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, selecting at least one question each from section A, B, C and D. Section E is compulsory.

SECTION - A

1. (a) Differentiate between medium carbon, high carbon and high speed steel along with their applications. (4)
- (b) How will you select the suitable engineering materials for a particular application? (4)
2. (a) Describe the basic principles and equipment used in rolling operations. (4)
- (b) What is extrusion? What is the difference between direct and indirect extrusion process? (4)

SECTION - B

3. (a) What are the main constituents of moulding sand? Explain in brief. (4)
- (b) Briefly discuss the basic steps in sand casting process. Also, discuss the applications of casting. (4)
4. (a) Discuss the various cutting tools and measuring tools commonly used in carpentry. (4)
- (b) Sketch and explain the various wood working joints. (4)

SECTION - C

5. Draw a neat labeled sketch of a Drilling Machine and explain its main parts. (8)
6. (a) Give the advantages, limitations and applications of gas welding. (4)
- (b) Differentiate between soldering, brazing and welding. (4)

SECTION - D

7. (a) Explain with neat sketches the different types of files used for fitting operations. (4)
- (b) Discuss the various marking tools used during fitting operations. (4)
8. (a) Explain the function of basic components of NC system. (4)
- (b) Write the advantages and limitations of CNC machine over conventional machine. (4)

SECTION - E (Compulsory Question)

9. (a) What do you understand by hardness, strength and toughness?
- (b) Write the applications of forming process.
- (c) What is the function of core?
- (d) Write two differences between soft wood and hard wood.
- (e) Differentiate between shaper and planer.
- (f) State the principle of arc welding.
- (g) Which type of thread is produced by tap and die?
- (h) What do NC and CNC stands for? (8×1=8)