17031(N)

B. Tech 1st Semester Examination

Wokshop Technology (CBS)

ME-103

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 and question no. 8 is compulsory and is short answer type. Assume any missing data. All questions carry equal marks.

1. (a) Give a brief classification of engineering materials. Differentiate between metals and non metals with respect to their properties and uses.

   (b) What are metal alloys? State their advantages over pure metals. Discuss the importance and properties of tool steel.   (8)

2. (a) Briefly discuss the principle of metal rolling. Discuss the various rolling parameters and their effects.

   (b) What do you mean by hot extrusion? Differentiate between forward and backward extrusion.   (8)

3. (a) Discuss the main constituents of moulding sand. Explain the role of various additives used for moulding sand.

   (b) With neat diagram discuss different tools used for sand casting process.   (8)

4. (a) With a neat schematic diagram explain the working of a shaper machine.

   (b) What is a Lathe machine? Explain the various operations that can be performed on a lathe machine.   (8)

5. (a) Define welding? Give a brief classification of welding processes.

   (b) Differentiate between soldering and brazing processes.   (8)

6. (a) With neat diagram explain various marking and measuring tools of carpentry.

   (b) Explain the different types of joints used in wood working.   (8)

7. (a) What do you mean by numerical control in manufacturing systems? https://www.hptuonline.com

   (b) Give a brief classification of Files and chisels used in fitting.   (8)

8. (a) State important properties of cast iron.

   (b) Write the principle of metal forming.

   (c) Differentiate between drilling and boring.

   (d) Define resistance welding.

   (e) What is NC control?

   (f) What is moulding sand?

   (g) What are casting defect?

   (h) What is die and punch?   (1×8=8)