

17009(M)

**B. Tech 2nd Semester Examination**

**Workshop Technology (CBS)**

**ME-103**

**Time : 3 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. Explain the difference between malleable cast iron and grey cast iron.  
(b) What are metal alloys? How does the carbon content affect cast iron, wrought iron and steel with reference to hardness and toughness? (8)
2. (a) Explain the various cold drawing processes. For what purpose a draw bench is used in these operations?  
(b) How direct extrusion differs from indirect extrusion? Discuss their relative merits and demerits. (8)
3. (a) What do you understand by the term 'Gating System'? What are the main requirements expected for an ideal gating system?  
(b) What advantages are provided by a riser? Distinguish between a green sand moulding and dry sand moulding. (8)

4. (a) With a neat schematic diagram explain the working of a planar machine.  
(b) Why Lathe beds are made of cast iron? Explain the various operations that can be performed on a lathe machine. (8)
5. (a) Define welding. Describe briefly the methods of carbon arc and metallic arc welding.  
(b) Compare the merits and demerits of using A.C. and D.C. for arc welding. (8)
6. (a) What are the principal striking tools used in wood work? Describe any two.  
(b) Explain the different types of joints used in wood working. (8)
7. (a) What are the different numerical control systems? Explain the open loop system and closed loop system.  
(b) Give a brief classification of Files and chisels used in fitting. <https://www.hptuonline.com> (8)
8. (a) What are high speed steels?  
(b) What is 'setting' of saw teeth?  
(c) Differentiate between drilling and boring.  
(d) Define resistance welding.  
(e) What is CNC control?  
(f) What is centrifugal casting?  
(g) What are casting defect?  
(h) What do you mean by punching? (1×8=8)