

**Code No: 153BR****JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech II Year I Semester Examinations, April/May - 2023****PRODUCTION TECHNOLOGY****(Mechanical Engineering)****Time: 3 Hours****Max. Marks: 75**

- Note:** i) Question paper consists of Part A, Part B.  
ii) Part A is compulsory, which carries 25 marks. In Part A, Answer all questions.  
iii) In Part B, Answer any one question from each unit. Each question carries 10 marks and may have a, b as sub questions.

**PART – A****(25 Marks)**

- 1.a) Can a finished casting be used as a pattern for making mould? Justify your answer. [2]  
b) Explain briefly about sweep pattern and match plate pattern. [3]  
c) Why weld should be panned with a hammer? [2]  
d) List out the advantages of gas welding. [3]  
e) What is the safety precautions observed in welding? [2]  
f) Why do most welding failures occur in HAZ? [3]  
g) What is angle bite? Write its importance. [2]  
h) Write three differences between cold working and hot working. [3]  
i) Describe classification of extrusion processes. [2]  
j) What properties of metals contribute to good forge ability? [3]

**PART – B****(50 Marks)**

- 2.a) What are the materials that are generally used for making patterns? Explain the reasons for their choice.  
b) Explain the working principle of shell mould casting, hot chamber and cold chamber die casting process. [5+5]
- OR**
- 3.a) What are the common allowances provided on patterns? Why and how they are provided?  
b) Large castings are not made by investment casting. Give your comments. [5+5]
- 4.a) Write primary and secondary combustion equations in oxy-acetylene gas welding process. Is it an endothermic process or exothermic process?  
b) Explain the inert-gas metal arc welding. How does it differ from metal arc welding? [5+5]
- OR**
- 5.a) Write difference between Arc welding and forge welding.  
b) Discuss the merits of AC and DC welding and explain the VI characteristics of arc and power sources. [5+5]

- 6.a) Explain explosive welding with neat diagram.  
b) What types of structure and property modifications can occur in welding heat zones? [5+5]

**OR**

- 7.a) Explain the mechanism of metal transfer in MIG/MAG welding.  
b) What is the difference between shielded and unshielded arc welding process? Draw schematic representation of shielded metal arc welding. [5+5]

- 8.a) Explain about hot spinning and cold spinning applications.  
b) What are different types of drawing? Explain each with a help of neat sketch. [5+5]

**OR**

- 9.a) What are various forces acting in rolling process, explain with suitable diagram?  
b) Distinguish between bending and drawing in sheet-metal operations. [5+5]

- 10.a) Explain forward extrusion and backward extrusion with neat sketches.  
b) Differentiate between roll forging and rotary forging. [5+5]

**OR**

- 11.a) Sketch and explain forging hammers. What are the advantages of cold forging?  
b) Discuss about Electro-hydraulic forming and electro-magnetic forming. [5+5]

---ooOoo---

downloaded from

StudentSuvidha.com