

Total No. of Questions : 8]

SEAT No. :

P1581

[Total No. of Pages : 2

[6002]-211

S.E. (Mechanical/Automobile)(Automation & Robotics)

**MANUFACTURING PROCESSES
(2019 Pattern) (Semester-IV) (202050)**

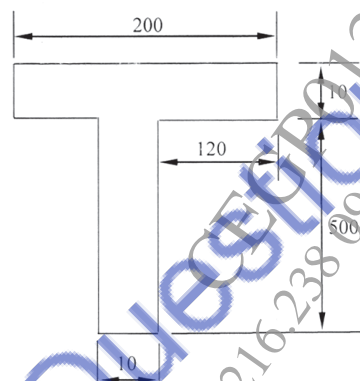
Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *All question are compulsory i.e. Solve Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right indicate full marks.*
- 4) *Assume Suitable data if necessary.*

- Q1)** a) Differentiate between a compound die and a combination die. [4]
b) Explain the method of reducing cutting forces in sheet metal work. [4]
c) Find center of pressure of the component as shown in fig. [10]



All dimensions are in mm.

OR

- Q2)** a) What is strip layout? Explain with proper sketch. [4]
b) Washer with 12 mm internal hole and 25 mm outside diameter is to be made from a strip of 1.5 mm thickness. Considering elastic recovery of the material, find [10]
i) Clearance
ii) Blanking die opening size
iii) Blanking punch size
iv) Piercing punch size
v) Piercing die opening size. Assume clearance to be 5% of the stock thickness.
- c) Explain with neat sketch-Metal spinning [4]

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- Q3)** a) Explain principle of resistance welding with neat sketch. State its advantages and limitations. [5]
b) Explain different types of flames with neat sketches in gas welding process. [6]
c) Explain any three welding defects with their causes and remedies. [6]

OR

- Q4)** a) Differentiate between TIG welding and MIG welding. [5]
b) Explain submerged arc welding process with neat sketch. [6]
c) What are the functions of coating in coated electrode? [6]

- Q5)** a) Explain blow moulding with suitable sketch. State its advantages, limitations and applications. [6]
b) Explain with neat sketch pressure thermoforming. State its advantages and disadvantages. [6]
c) Explain extrusion process for thermoplastic plastics. [6]

OR

- Q6)** a) With neat sketch describe injection molding process with its advantages, limitations and applications. [6]
b) Compare between Thermosetting plastic and Thermoplastic plastic. [6]
c) Describe screw type injection moulding with neat sketch. [6]

- Q7)** a) What are composites? State its advantages, limitations and applications. [6]
b) Explain fiber reinforced composites and particle reinforced composites. [5]
c) Differentiate between open mould and closed mould process. [6]

OR

- Q8)** a) Explain compression moulding process of composite manufacturing. [6]
b) Write a short note on-polymer matrix composites (PMC) [5]
c) Explain hand lay-up process of composite manufacturing. [6]

