

Total No. of Questions : 8]

SEAT No. :

PA-2632

[5925]- 310

[Total No. of Pages : 3

S.E. (Automation&Robotics/Mechanical/Automobil & Mechanical)
MANUFACTURING PROCESSES
(2019 Pattern) (Semester - IV) (202050)

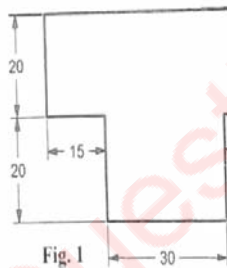
Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) All questions 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.

- Q1) a)** Explain with neat sketch any two sheet metal operations. **[8]**
- b) What is centre of pressure? Write a detailed procedure for centre of pressure. Also Find centre of pressure of component shown in fig. 1 is to be made from mild steel sheet of 1.7 mm thick. **[10]**



OR

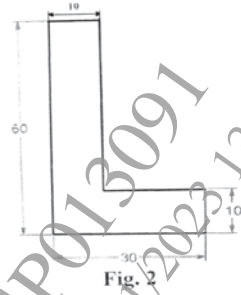
- Q2) a)** Explain compound and progressive sheet metal dies. **[8]**
- b) A part shown in fig. 2 is to be made from sheet of 3 mm thick and ultimate shear strength of material is 30 N/mm². **[10]**

Determine:

- i) Stock Strip layout
- ii) % utilization of strip
- iii) Clearance between punch and die.

P.T.O.

- iv) Blanking force,
- v) Sectional view of press.



- Q3)** a) What is coating on an arc welding electrode, with advantages. [6]
- b) Explain principle of TIG welding with advantages. [6]
- c) Explain in detail type of joints used in welding. [5]

OR

- Q4)** a) Compare between Spot and Seam weld process. [6]
- b) Compare between Soldering and brazing process. [6]
- c) Explain any five defects in welding process. [5]

- Q5)** a) Differentiate between thermoplastics and Thermosetting plastics. [6]
- b) Explain with figure injection molding process. [6]
- c) Explain in detail extrusion of pipe and extrusion of sheets. [6]

OR

- Q6)** a) Explain with figure blow molding process. [6]
- b) Explain in detail vacuum forming process. [6]
- c) Write short notes on pressure forming process. [6]

- Q7)** a) Explain with figure Spray lay-up process. [6]
- b) Explain with figure vacuum impregnation process. [6]
- c) Write short notes on nano-composites. [5]

OR

- Q8)** a) Explain with figure Hand lay-up Process. [6]
- b) Explain with figure Fabrication of ceramic matrix composites. [6]
- c) Write short notes on Filament winding process. [5]

