

[illegible]

- (a) Define Tempering Process.
- (b) Define Welding and list various welding processes.
- (c) Explain smithy operation.
- (d) What is template and what is its purpose?
- (e) Define Gear Ratio and velocity ratio.
- (f) List various types of gears.
- (g) What do you mean by surface finish?
- (h) Define Annealing process.
- (i) Explain the significance of countersunk rivets in sheet metal work.
- (j) List various types of rivets used in sheet metal work.

**SECTION-B**

2. Explain the process of drilling. List various types of drills.
3. Explain the procedure for pipe inspection.
4. Explain the nomenclature of a gear with the help of a neat and labelled diagram.
5. List various safety precautions to be undertaken while working in machine shop.
6. Write a short note on 'Various forms of Dies'.

**SECTION-C**

7. Discuss various aspects of sheet metal working with the help of sketches. Explain the process of inspection of sheet metal work. (7,3)
8. Write notes on the following :
  - (a) Various forms of surface finish and surface finish measurement (5)
  - (b) Types and identification of hydraulic pipes and end fittings (5)
9. Explain the process of arc welding for preparing a lap and tee joints. List various equipments used during the welding. Write down safety precautions to be undertaken while welding. (5,2,3)

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**