



**DIPLOMA IN AUTOMOBILE  
ENGINEERING**

**CENTRALIZED QUESTION BANK**

**4020561 – Computer Integrated Manufacturing  
Practical**

**DIRECTORATE OF TECHNICAL  
EDUCATION GOVERNMENT OF  
TAMILNADU**

## DIPLOMA END SEMESTER / YEAR EXAMINATION – 2023

**Course:** Automobile Engineering

**Subject :** Computer Integrated Manufacturing Practical

**QP Code :** 4020561

**Time :** 3 Hours

**Date :**

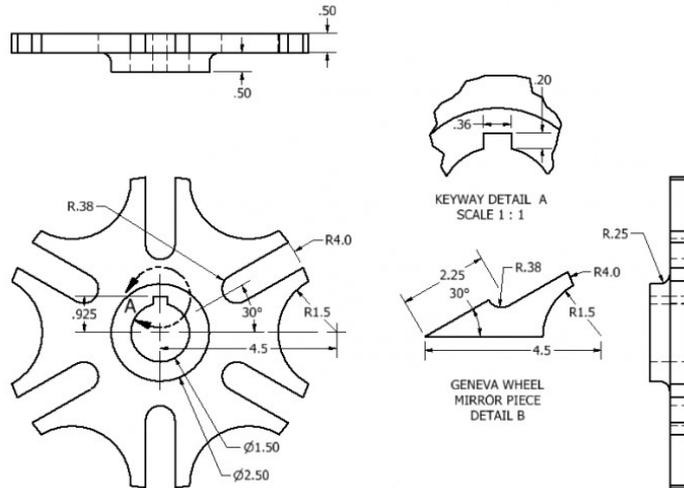
**Session:**

**Max Marks:** 100

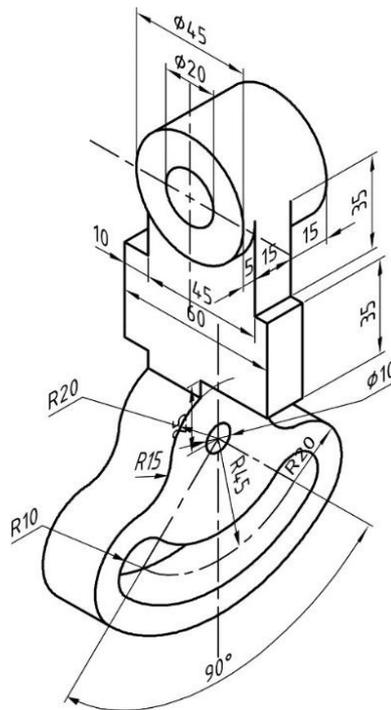
### Answer the Following Questions

1.     A) Create 3D Solid models of machine components using modelling software- Geneva Wheel.  
       B) Using Linear and Circular interpolation- Create apart program and Produce component in the CNC Lathe Machine .Material: M.S/ Aluminium / Acrylic fibre /Plastic
2.     A) Create 3D Solid models of machine components using modeling software- Bearing Block.  
       B) Using Stock removal cycle–part program for multiple turning Operations and produce component in the CNC Lathe Machine. Material : M.S/ Aluminium / Acrylic fibre / Plastic
3.     A) Create 3D Solid models of machine components using modeling software- Bushed bearing.  
       B) Using canned cycle Create apart program for thread cutting, grooving and produce component in the CNC Lathe Machine. Material: M.S/Aluminium /Acrylic fibre /Plastic
4.     A) Create 3D Solid models of machine components using modeling software- Gib and Cotter joint.  
       B) Using Linear interpolation and Circular interpolation–Create apart program for grooving and produce component in the Milling Machine. Material: M.S/Aluminium /Acrylic fibre /Plastic
5.     A) Create 3D Solid models of machine components using modeling software- Screw Jack.  
       B) Using canned cycle-Create apart program for drilling, counter sinking and produce component in the Milling Machine. Material: M.S/Aluminium /Acrylic fibre / Plastic
6.     A) Create 3D Solid models of machine components using modeling software- Universal Coupling.  
       B) Using sub program- Create a part program and produce component in the Milling Machine. Material: M.S/ Aluminium / Acrylic fibre / Plastic

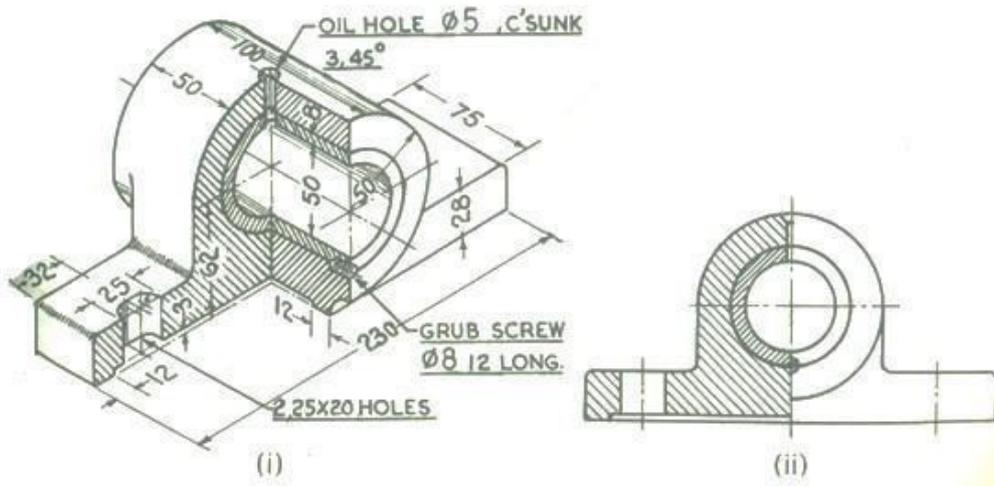
1. a. Geneva Wheel



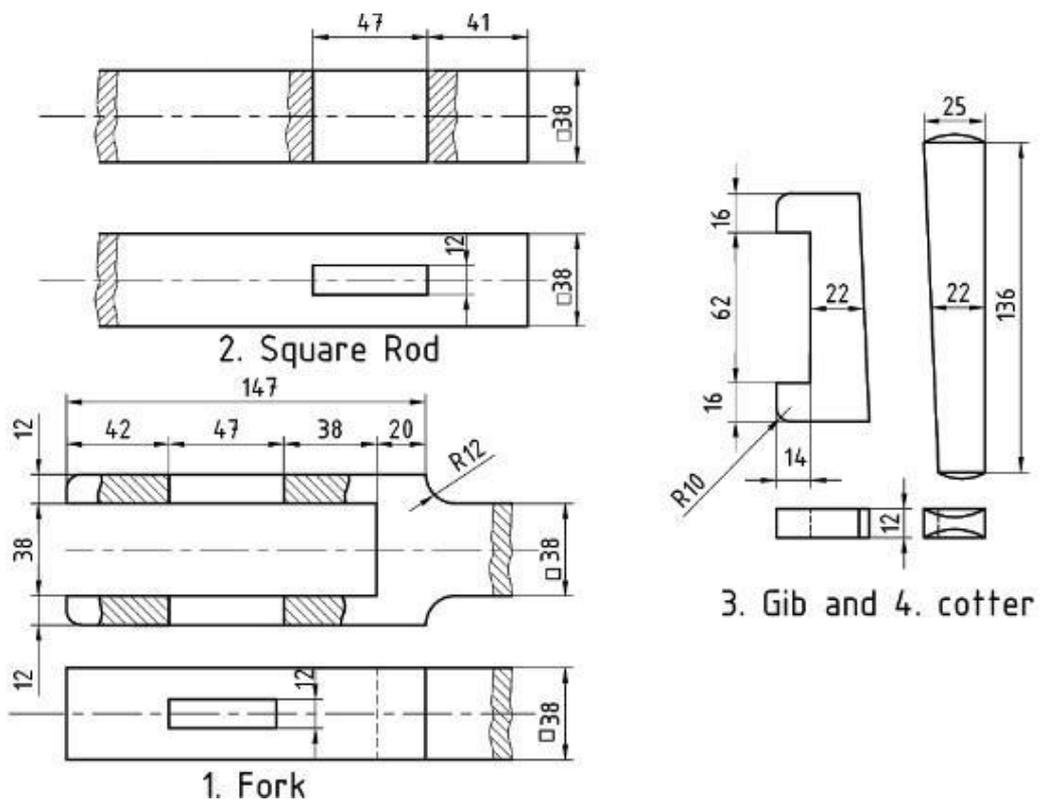
2. a. Bearing Block



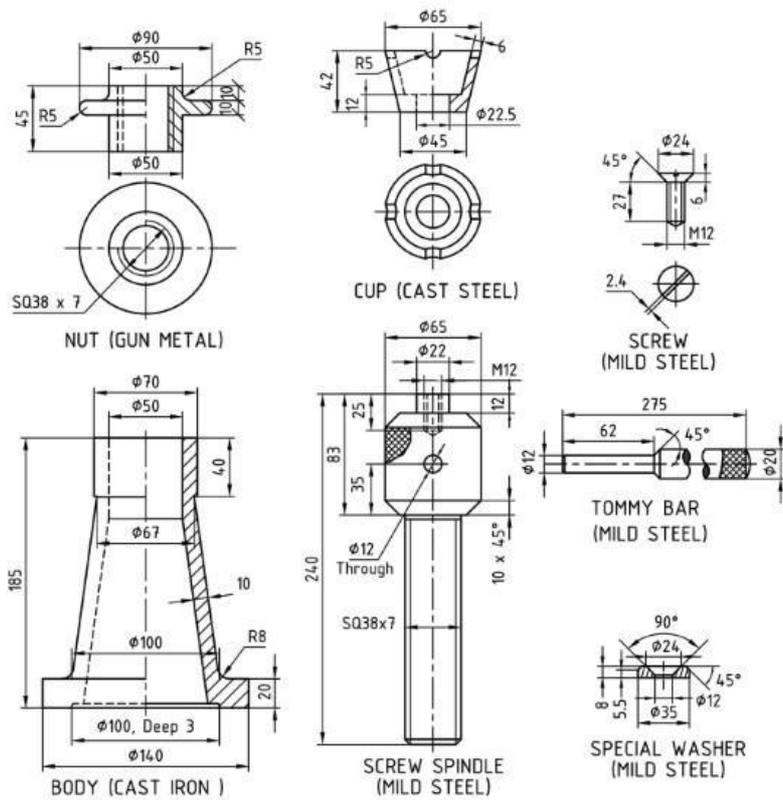
3. a. Bushed bearing



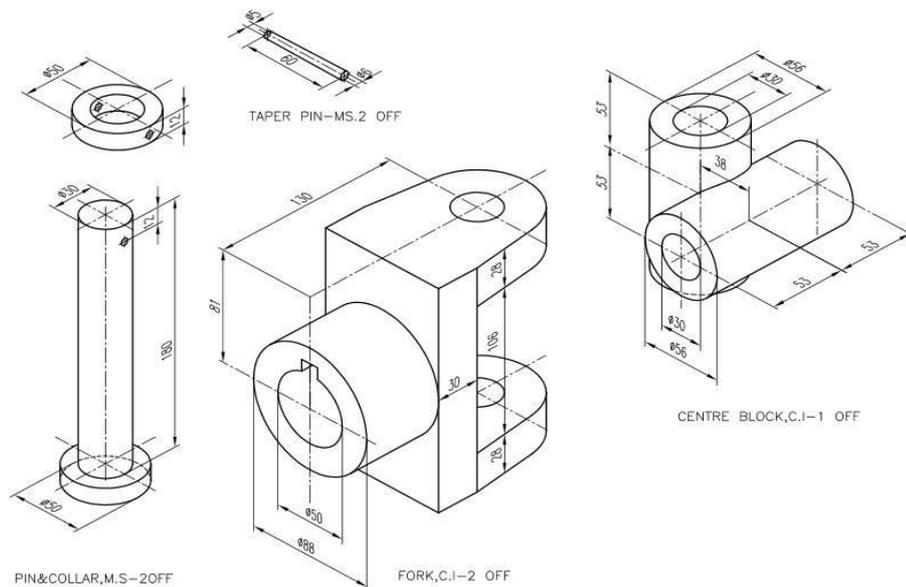
4. a. Gib and Cotter joint



5. a. Screw Jack



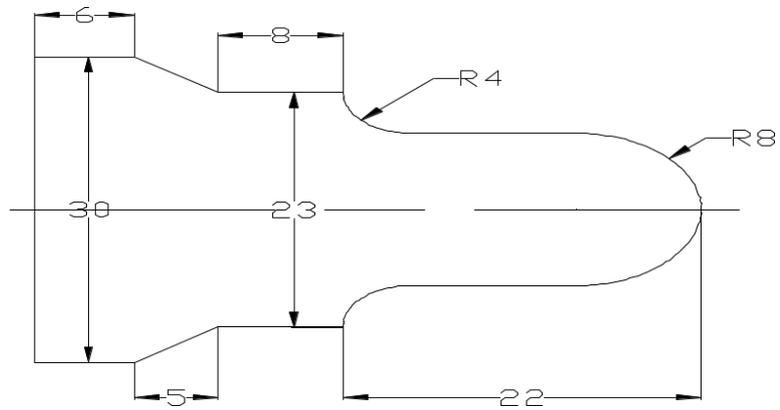
6. a. Universal Coupling



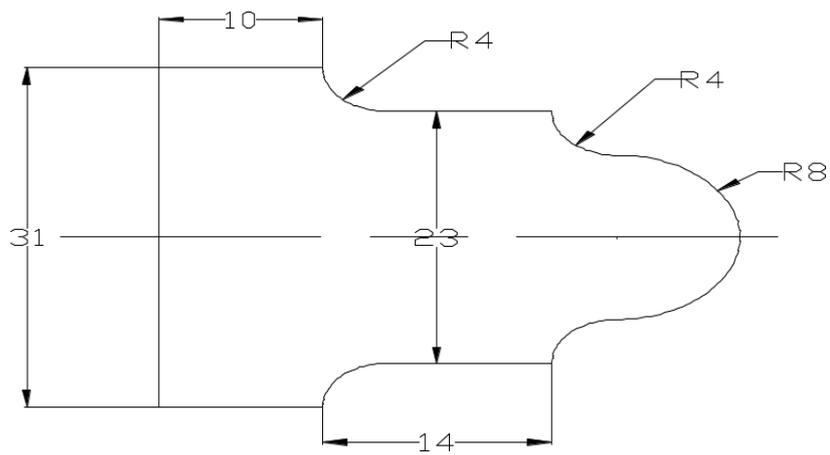
Note: Print the orthographic view and sectional view from the above assembled 3D drawing.

CNC Turning Machine Material: M.S/Aluminium /Acrylic fibre /Plastic

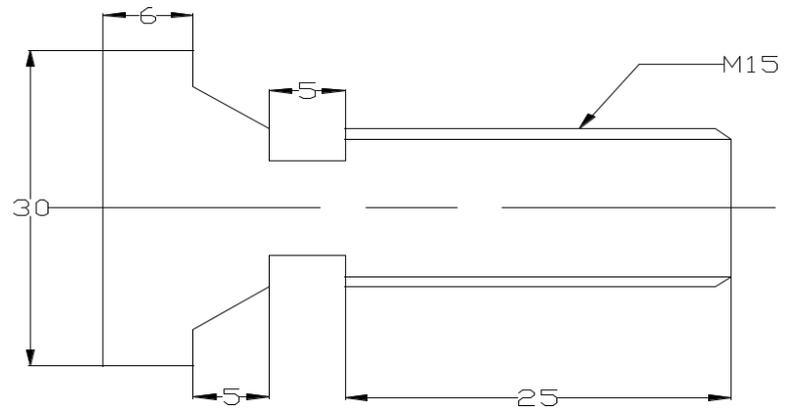
1. b. Using Linear and Circular interpolation- Create a part program and produce component in the CNC Lathe Machine.



2. b. Using Stock removal cycle –Create a part program for multiple turning operations and produce component in the CNC Lathe Machine.

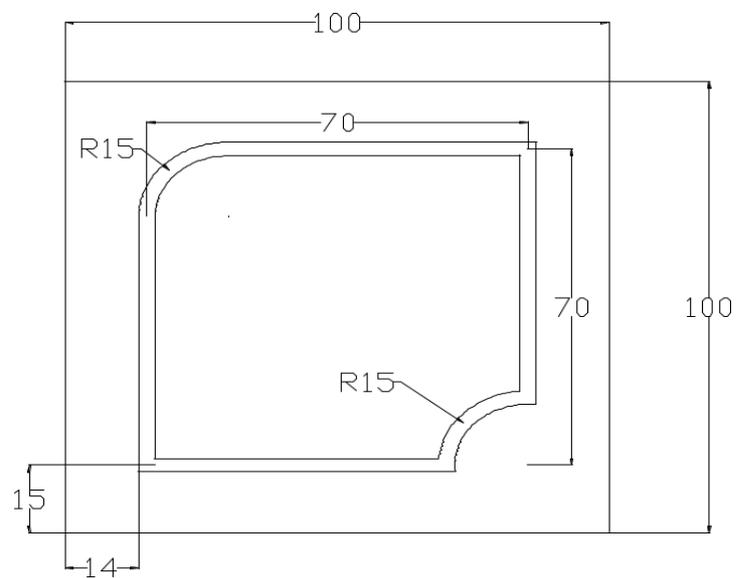


3. b. Using canned cycle- Create a part program for thread cutting, grooving and produce component in the CNC Lathe Machine.

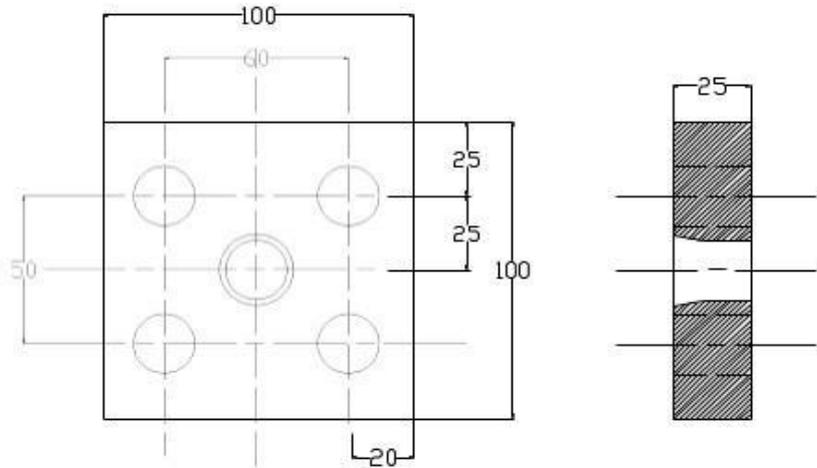


CNC Milling Machine Material: M.S/Aluminum /acrylic fibre/plastic

4. b. Using Linear interpolation and Circular interpolation- Create a part program for grooving and produce component in the Milling Machine.



5. b. Using canned cycle - Create a part program for drilling, counter sinking and produce component in the Milling Machine.



6. b. Using subprogram - Create a part program and produce component in the Milling Machine.

