

**Department of Industrial & Production Engineering**

IPE-205: Manufacturing Processes-I  
Class Test-II: Bulk Deformation Process

Time: 35 minutes

Marks: 20

Name: \_\_\_\_\_ Student No.: \_\_\_\_\_ Date: \_\_\_\_\_

Q.1. With the help of suitable sketch, describe the working principle of flashless forging. What are the attractive features of flashless forging? [07]

Q.2. Calculate the forging force for the cylindrical workpiece made of 1020 steel that is 90 mm high and 125 mm in diameter and is reduced in height by 40%. Assuming that it is a complex forging and that the projected area of the flash is 30% greater than the projected area of the forged workpiece. Assume necessary data. [06]

Q.3. Using sketches, illustrate the different stages in manufacturing a ring by forging. List the advantages and disadvantages of using a lubricant in forging operations. [07]