

JK Lakshmipat University Jaipur
INSTITUTE OF ENGINEERING AND TECHNOLOGY

B. Tech. in Mechanical Engineering,

3rd Year (5th Semester)

End Term Examination, December, 2021

Course No. : ME1109
Course Title : Production Technology - II
Nature of Exam : End Term Examination
Weightage : 30%
Max Marks : 60
Duration : 180 Minutes
Date of Exam : _____ -12-2021

No. of Pages =	01
No. of Questions =	04

Session: _____

Note:

1. Please read through and follow all the instructions given on the cover page of the answer book.
2. All parts of a question should be answered consecutively.
3. Electronic gadgets including cell phones (other than calculator) not allowed during the examination.
4. All questions are compulsory.

- Q1. A metal component of 25mm * 25mm * 200mm having a yield stress of 7 MPa in simple tension, is to be pressed between flat dies to a size 6mm * 100 * 200mm. If co-efficient of friction as 0.25, calculate the maximum load. [Marks: 15] LO: 01
- Q2. A cold drawn steel cup with an inside radius of 30 mm and a thickness 3 mm is to be drawn from a blank of radius 40 mm. the yield stress in shear is 220 N/mm² and allowable stress in tension is 600 N/mm². Determine the, (a) drawing force taking $\mu=0.1$ and $\beta=0.005$ and (b) minimum possible radius of the cup which can be drawn from the given blank without causing a fracture. [Marks: 15] LO: 02
- Q3. In ORS the tool angles are: [Marks: 15] LO: 03
inclination angle (i) = 0°
Orthogonal rake angle (α) = 10°
Principal cutting edge angle (λ) = 75°
Determine, back rake and side rake angle.
- Q4. in order to manufacture a gear, the module of gear is very important parameter using which a spur gear. For a blank diameter of 30mm, find the indexing to cut 8 teeth on the blank. The module of cutter is 2. [Marks: 15] LO: 04