

University of Mumbai

Examination March 2022

Examinations Commencing from 17th May

Program: T.E (Mechanical Engineering)

Curriculum Scheme: CBCGS 2016

Examination: Semester V

Subject (Paper Code) 32605

Course Code: MEDLO5011 and Course Name: Press Tool Design

Time: 3 hours

Max. Marks: 80

Q1. (20 Marks)	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks	2 Marks each
1.	-----presses are preferred for blanking operation.	
Option A:	Hydraulic	
Option B:	Mechanical	
Option C:	Pneumatic	
Option D:	OBI	
2.	Die cushioning is preferred in drawing operations. It is ----	
Option A:	True	
Option B:	Can't say	
Option C:	False	
Option D:	Can be true or false	
3.	In piercing, clearance is provided on -----	
Option A:	both die and punch	
Option B:	either die or punch	
Option C:	die	
Option D:	punch	
4.	Which of the following holds the punch in position?	
Option A:	Bolster plate	
Option B:	Punch holder	
Option C:	Lower shoe	
Option D:	Upper shoe	
5.	Which die is used for more than one cutting operation per stroke?	
Option A:	Blanking die	
Option B:	Piercing die	
Option C:	Compound die	
Option D:	Progressive die	
6.	What is the name of pin provided for locating work in subsequent operation from previously pierced hole?	
Option A:	Back gauge	
Option B:	Pilot	
Option C:	Depth gauge	
Option D:	Die gauge	
7.	When sectional die block is used-----	
Option A:	Die cavity is medium	
Option B:	Die cavity is too small	
Option C:	Die cavity is too large	
Option D:	Die cavity is small	

8.	Spring strippers are used for ----- metal punching
Option A:	very thin
Option B:	very hard
Option C:	very thick
Option D:	very strong
9.	Height from top of bed to bottom of press ram is called-----
Option A:	die height
Option B:	maximum height
Option C:	shut height
Option D:	center height
10.	Which die is mostly used to produce washer?
Option A:	Blanking
Option B:	Piercing
Option C:	Progressive
Option D:	Compound

	Q2 (20 Marks)	
A	Solve any four	5 marks each
i	Differentiate between Drawing force and Blank holding force	
ii	Justify the need of inter-stage annealing in deep drawing operation	
iii	Differentiate between mechanical press and hydraulic press	
iv	Discuss the advantages of sectional die blocks	
v	Differentiate between bending and drawing	
vi	Explain energy supplied by flywheel in press along with the condition of overloading of press.	

	Q3 (20 Marks)	
A	Solve any Two	10 marks each
i.	With proper sketch explain following terms of die sets. Die block, Die shoe, Bolster plate, Punch plate, Pilot and stopper.	
ii.	Explain the design of Progressive die with suitable example.	
iii.	How the center of pressure is calculated? Take suitable example.	

	Q4 (20 Marks)	
A	Solve any Two	10 marks each
i.	How to determine Blank size, number of draws, percentage reduction, drawing and blank holding force in design of Draw die? Take suitable example.	
ii.	Discuss materials for press tool components and their hardness.	
iii.	Explain spring back, its causes and methods to reduce spring back.	