

Vidyavardhini's College of Engineering and Technology

Program: Mechanical Engineering

Curriculum Scheme: CBCGS (REV-2016)

Examination: TE

Semester V

Course Code: MEDLO5011

Course Name: Press Tool Design

Time: 2 hour

Max. Marks: 80

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks. 2 Marks each
1.	Which material property is used to calculate Drawing load?
Option A:	Yield strength
Option B:	Youngs Modulus
Option C:	Shear strength
Option D:	Ultimate Tensile strength
2.	Infer the condition when will hydraulically driven presses be used.
Option A:	large forces and slow speed
Option B:	Slow speed
Option C:	Large force
Option D:	Less force and high speed
3.	It is the operation of bending a sheet metal to the desired shape for accommodating a screw through a plunged hole
Option A:	curling
Option B:	plunging
Option C:	forging
Option D:	perforating
4.	The holding force in drawing is most likely to be Drawing force
Option A:	Greater
Option B:	Equal
Option C:	Half
Option D:	One third
5.	The cutting clearance in piercing operation is provided on
Option A:	Die block
Option B:	Punch
Option C:	Stripper plate
Option D:	Neither on die nor on punch
6.	Plastic flow of material is observed in
Option A:	Embossing

Option B:	Lancing
Option C:	Bending
Option D:	Coining
7.	Which material property is used to calculate Bending load?
Option A:	Yield strength
Option B:	Youngs Modulus
Option C:	Shear strength
Option D:	Ultimate Tensile strength
8.	A symmetrical cup of diameter 40mm and height 60 mm with corner radius 2mm is to be obtained from C20 material. Calculate blank size in mm.
Option A:	106
Option B:	96
Option C:	124
Option D:	114
9.	Calculate the bend allowance for 90° bend for material thickness of 2.0 mm and bend radius R3.0
Option A:	2.8
Option B:	4.2
Option C:	2.4
Option D:	3.7
10.	Triple action presses is used for following operation
Option A:	Fine Blanking
Option B:	Drawing
Option C:	Forming
Option D:	Coining
11.	Referring to the above data, calculate the draw force in KN. Consider the yield strength for C20 material to be 400 MPa and C value as 0.6. Assume the cup to be obtained in a single draw.
Option A:	206
Option B:	296
Option C:	224
Option D:	244
12. is added to steel when toughness, hardness and wear resistance are desired.
Option A:	Copper
Option B:	Aluminum
Option C:	Tungsten
Option D:	Lead
13.	Normally for h/d ratio up to 0.75, the recommended percentage draw is
Option A:	10

Option B:	15
Option C:	25
Option D:	40
14.	Determine bending force in KN for a wiping die for C45 steel of 1.5mm sheet thickness and 1 m width. The die radius used is 3 mm. UTS of steel is 800 MPa.
Option A:	87.8
Option B:	79.2
Option C:	97.2
Option D:	72.9
15.	A symmetrical cup of diameter 40mm and height 60 mm with corner radius 2mm is to be obtained from C20 material. Calculate blank size in mm.
Option A:	106
Option B:	96
Option C:	124
Option D:	114
16.	Which of the following parts is used for holding the metal sheet during blanking operation?
Option A:	Spherical steel ball
Option B:	Roller
Option C:	Blank holder
Option D:	magnet
17.	Indicate which of the following specifies a cutting operation?
Option A:	Bending
Option B:	Perforating
Option C:	Drawing
Option D:	Embossing
18.	The cutting clearance in blanking operation is provided on
Option A:	Die block
Option B:	Punch
Option C:	Stripper plate
Option D:	Neither on die nor on punch
19.	Recognize the operation of cutting a sheet metal in a straight line along the length
Option A:	Notching
Option B:	Perforating
Option C:	Lancing
Option D:	Slitting
20. die is a die which can perform two or more operations in a single station.
Option A:	Progressive
Option B:	Compound

Option C:	Transfer
Option D:	Simple

Q2.	Solve any Four Questions.	10 marks each
A	Classify press working operation on basis of cutting and noncutting. Also, explain when to select press working operation for a given component	
B	Design Punch and Die size for piercing square of 35 mm from a sheet of 2 mm thickness. Consider cutting clearance to be 10% of the sheet thickness and shear strength of the work material is 420 MPa. Also calculate cutting load and select press on basis of load required	
C	Illustrate methods of feeding material for coils and strips in a press shop. Explain pneumatic feeder.	
D	Discuss difference between bending and drawing operation. Explain various factor affecting drawing operation	
E	Explain step by step the calculations required for Blank development and Draw Die design	