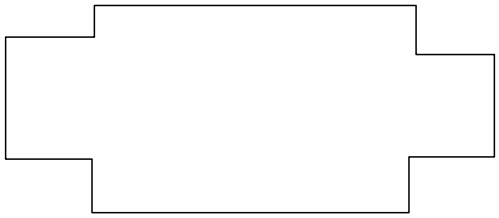
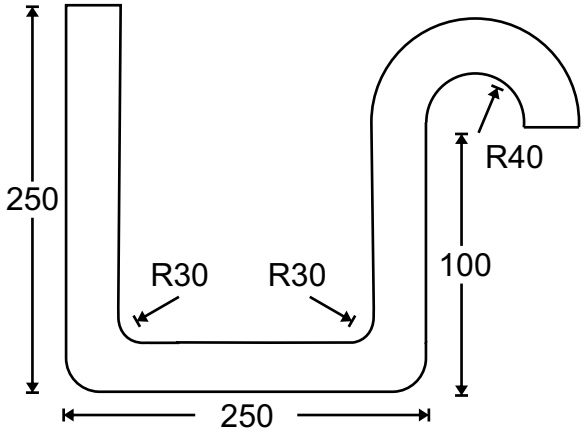
FIG. 1. The component is made of mild steel having ultimate shear strength of 750N/mm^2. Your design should include.

a. Press tonnage calculations.
b. Selection of economic strip layout
c. At least one view of the die



Q.32 Write short notes on
a) the function and formulae for shut height
b) B I S standard for bottom and top plates
c) sketch and explain a Hydraulic press

Q.33 Explain the parameters in bending die. Also determine the developed length of the part shown in figure, when the part has a thickness of 10mm.



Roll No. .....

3rd Sem / T&D,CNC(6th Sem),CAD/CAM (6th Sem)
Subject:- PRESS TOOL- Design and Drawing

Time : 3Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 Bevelling is particularly suitable for shearing of_____
a) Thin blank b) Thick blank
c) Very thin black d) Medium thick blank

Q.2 The operation of straightening a curved sheet is known as
a) Drawing b) Squeezing
c) Coining d) Planishing

Q.3 The operation of bending sheet of metal along a curved axis is known as
a) Plunging b) Notching
c) Slitting d) Forming

Q.4 In a cutting and forming operations can be performed in a single operation in
a) Simple die b) Compound die
c) Combination die d) Progressive die

Q.5 Which force is predominant in the sheet metal operations
a) Shearing force
b) Compressive force
c) Tensile force
d) Indirect compressive force

Q.6 During drawing operation the status of stress in cup would include:

a) Compressive stress in flange
b) Tensile stress in walls
c) Both A and B
d) None of above

Q.7 Shaving and trimming are_____operations

a) Primary b) Secondary
c) Hot working d) All of the above

Q.8 In optimum cutting conditions the cut band will be_____of sheet thickness

a) $1/3^{rd}$ b) $1/4^{th}$
c) 1/2 d) $1/8^{th}$

Q.9 The most favourable condition for a bend exists when the axis of the bend is

a) 90 degree b) 60 degree
c) 45 degree d) 30 degree

Q.10 _____operation cuts out various shapes from edges of workpiece material

a) Trimming b) Shaving
c) Notching d) All of above

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

Q.11 Formula for calculating Blank dia in drawing operation is given by, D=_____

Q.12 _____pillar type of die set is best suited for compound tools

Q.13 What is the function of pilot?

Q.14 Name two types of stop.

Q.15 Define Notching operation.

Q.16 _____angle allows the introduction of lubricant into the working zone in drawing.

Q.17 Give one application of cutting die.

Q.18 _____methods of manufacturing is used for the production of air cooler.

Q.19 Perforating is Punching_____hole in a sheet (one/two/many)

Q.20 The formula for Degree of drawing is_____

SECTION-C

Note: Short answer type questions. Attempt any six questions out of ten questions. (5x6=30)

Q.21 Sketch & explain the punching tools .

Q.22 Write short note on "die life".

Q.23 Explain grain direction and the method to achieve it.

Q.24 What are the function of ram, Land and die spring?

Q.25 Write short note on knock out and cutting clearance.

Q.26 Describe the applications of press & press tools in mass production industry.

Q.27 Write short note on construction and working of hand press with a line diagram

Q.28 Explain the working of a progressive die with sketch.

Q.29 Differentiate between embossing and coining process.

Q.30 Explain the difference between stripping force and restraining force.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (25x2=50)

Q.31 Design and draw a die to procedure sheet metal components of size 60 x 30mm with square protrusions of 10 x 10mm on both sides as shown in