Q.26 Differentiate between Hydraulic & pneumatic press.

Q.27 Differentiate between notching and piercing operation with a simple diagram.

Q.28 Write the various factors which have to be taken into considerations during press tool design process.

Q.29 For cutting a rectangular blank of 50x250 mm dimensions and thickness of 1 mm. Calculate the maximum blanking force in KN. Given the shear stress of the material is 240MPa.

Q.30 A punch is used for making holes in steel plates with thickness 8 mm. If the punch diameter is 20 mm and force required for creating a hole is 110KN then calculate the average shear stress in the plate.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.31 Draw & Design a progressive die to make a steel washer 20 mm outside diameter with 10 mm hole inside from 1.5 mm thick metallic sheet. The ultimate shear strength of the material is 320 N/mm^2

Q.32 Design and draw any piercing tool, with suitable dimensions.

Q.33 Take a utility component and explain in detail the design & drawing of bending tool.

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181832/121832/031832

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

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 Which of the following is power press?

a) Hydraulic press b) Fly press
c) Hand Press d) All of the above

Q.2 Which of the following is a drawing operation?

a) Embossing b) Curling
c) Trimming d) All of the above

Q.3 Which of the following is not a shearing operation?

a) Blanking b) Piercing
c) Punching d) Forming

Q.4 In a blanking operation, the clearance is provided on

a) The die
b) The die and punch equally
c) The punch
d) Neither the punch nor the die

Q.5 Which of the following acts as a support for the die block?

a) Punch holder b) Punch
c) Die shoe d) Stops

Q.6 Following is a multi-operation die.
a) Cutting die b) Forming die
c) Compound die d) All of the above

Q.7 The following die consists of number of stations in a row
a) Combination die b) Progressive die
c) Compound die d) All of the above

Q.8 In press, which of the following mechanism is used for applying power to the ram?
a) Rack and pinion b) Pneumatic
c) Hydraulic d) All of the above

Q.9 The cutting force in punching and blanking operation mainly depends on
a) The modulus of elasticity of metal
b) The shear strength of metal
c) The bulk modulus of metal
d) The yield strength of the metal

Q.10 In sheet metal the cutting force on the tool can be reduced by
a) Grinding the cutting edges sharp
b) Increasing the hardness of the die
c) Increasing the hardness of the punch
d) Providing "shear" on tool

SECTION-B

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

Q.11 Write the factors on which selection sheet metal forming operation depends upon.

Q.12 Stages in Shearing Process.

Q.13 Drawing

Q.14 Stripper plate

Q.15 Punch

Q.16 Cutting dies

Q.17 Forming tools

Q.18 Angular clearance

Q.19 Die life

Q.20 Embossing

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 What are the press tools? How their applications in industries are useful?

Q.22 Write the differences between curling and bending operations with example.

Q.23 What is Stripper plate? Write its various functions.

Q.24 Explain the working of progressive die with sketch.

Q.25 Give the comparison between conventional blanking and fine blanking.