Q.27 Explain the Taylor's principle for designing plain limit gauges.
Q.28 Give the standard procedure for storage of press tools .
Q.29 Give standard checklist for maintenance of press tools.
Q.30 Explain various components of fixtures .
Q.31 What are the design parameters and tolerances for plain gauges .
Q.32 What does the term "Spring back" refers to in the context of non-cutting dies ?
Q.33 Explain various components of fixtures.
Q.34 What are three classifications of non-cutting dies ? Explain in brief .
Q.35 Write a short note on scrap handling equipments ?

SECTION-D

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

Q.36 Discuss the principles underlying the design of press tool elements for drawing operation, considering factors such as drawability, blank holding force, and punch and die design.
Q.37 Explain the construction of open jig and closed jig with diagram.
Q.38 Describe the 3-2-1 pin concept of location in jigs and fixtures. Also explain the principles of geometric and dimensional tolerances and their impact on tooling accuracy.

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2nd Year / Advance Diploma in Tool and Die Making
Subject:- Tool Design Theory-I
(Press Tools, Jigs & fixtures)

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 The operation of cutting of a flat sheet to the desired shape is called
a) Shearing b) Piercing
c) Blanking d) None of above

Q.2 Trammel is most commonly used tool
a) Sheet Metal work b) Forging
c) Welding d) Casting

Q.3 The Process in which leaving a tab without any material is
a) Notching b) Lancing
c) Parting d) Slitting

Q.4 In Die cutting operation, punching a number of holes in a sheet is called
a) Perforating b) Parting
c) Notching d) Lancing

Q.5 In blanking operation the angle of shear is provided on
a) Die b) Punch
c) Both punch and die
d) Can be on either die or punch

Q.6 Blanking and Piercing operations can be performed simultaneously in

a) Simple die b) Compound lie

c) Non compressive die d) Combination die

Q.7 Spring back during the sheet metal operation is caused because of the

a) Release of stored energy during elastic and plastic deformation

b) Release of stored energy during plastic deformation

c) Release of stored energy during elastic deformation

d) Excess energy that was utilized during the formatting process

Q.8 Which of the following is not correct about fixtures ?

a) It is used to hold the work

b) It is used to position the work the work

c) It assures high accuracy of parts

d) It is used to guide the cutting tool

Q.9 What is the primary goal of estimation methods in tool design and application ?

a) To increase production inefficiencies

b) To reduce material costs

c) To optimize production processes

d) T0 complicate manufacturing operations

Q.10 Which is the type of strip layout

a) Straight layout b) Angular layout

c) Staggered layout d) All of the above

SECTION-B

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

Q.11 Define shut height .

Q.12 The principle of shearing involves applying _____force to cut through the material .

Q.13 The 3-2-1 pin principles of location ensures accurate and repeatable positioning of work ____

Q.14 Describe stripping and ejection.

Q.15 Name two non-cutting operations on press tool.

Q.16 What is plastic deformation ?

Q.17 Define minimum material condition .

Q.18 Name any two-material handling equipments.

Q.19 The purpose of preparing a bill of material is to estimate____requirements.

Q.20 The construction of non-cutting die involves principles such as bending, drawing, forming and ___.

SECTION-C

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

Q.21 Show the various parts of a press tool with diagram .

Q.22 Write a sort note on integrated operations .

Q.23 Explain the working of progressive die.

Q.24 Briefly explain the application of press tool in mass production .

Q.25 Explain the significance die and punch clearance in press tool operations.

Q.26 What is the principle behind shearing operations in press tools ?