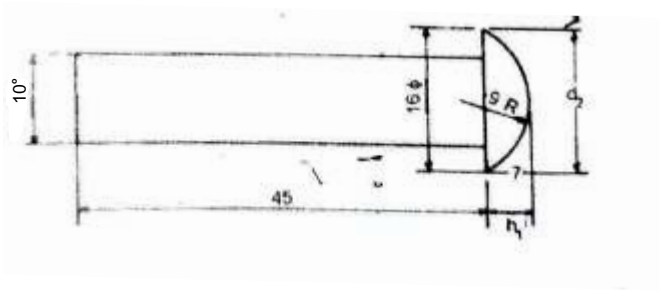
Q.28 Describe various drawing norms and practices for die casting design.
Q.29 Explain the selection method of machine for die casting.
Q.30 Describe methods of cooling layout.
Q.31 Explain the features of a typical CAD software package.
Q.32 How to design and develop a 3-D model of a component in CAD software?
Q.33 Explain how to design a multi cavity cold chamber die.
Q.34 Give the design procedure for a "reducing socket".
Q.35 Calculate the length of 1.5 cm dia stock dimension for a upset forge 1100 part assuming allowances. Dimensions in mm.



SECTION-D

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

Q.36 Draw the details of a forging die and tool by taking any suitable part example.
Q.37 Design and perform cost analysis and evaluation for die casting for an injection pressure of 150 bar for 4 cavities: gate dimension 10mmx20mmx50mm (2gates). The surface area of each cavity is 100 mm^2 for mild steel. Take at least two alternate designs.
Q.38 Write short note on
a) Principle of location of clampings
b) Hammer keys, fixing keys.

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Branch : Advance Diploma in Tool and Die Making

Subject:- Tool Design Practice-IV
(Forging & Casting Dies)

Time : 4 Hrs. M.M. : 100

SECTION-A

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

Q.1 The process of producing a metal component by hammering is called_____
a) Extrusion b) Edging
c) Trimming d) Forging
Q.2 Taper applied to the vertical walls of the die cast/molded component to help easily removing from the part from the die, is called_____
a) Rib b) Draft angle
c) Swift d) Web
Q.3 Thin internal members usually perpendicular to the web, is known as_____
a) Rib b) Draft angle
c) Swift d) Web
Q.4 The_____is used to join the projection with the wall.
a) Rib b) Boss
c) Fillet d) Web
Q.5 The forging tool used to spread the metal more efficiently, is known as_____
a) Fuller b) Edger
c) Blocker d) Trim Tool
Q.6 A forging tool that approximates the general shape of the final part with an intermediate same preliminary shape.
a) Fuller b) Edger
c) Blocker d) Trim Tool

Q.7 The tool that is used to cut off flash, around the part during forging is known as_____

a) Fuller b) Edger
c) Blocker d) Trim Tool

Q.8 The following is the drafting software for 3D modeling.

a) AutoCAD b) MDT
c) Mechanical Desktop d) All of the above

Q.9 _____is the total amount a dimension may vary or the difference between the upper(maximum) and lower (minimum) limits

a) Tolerance b) Limits
c) Fits d) Dimensions

Q.10 Connected channels that convey the molten metal to different parts of the mould are known as_____

a) Fuller b) Gating
c) Runner d) Draft angle

SECTION-B

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

Q.11 _____is the plane where two die halves meet along the forging.

Q.12 The thin section of metal remaining at bottom of a cavity or depression in a forging, is known as____

Q.13 A relatively short cylindrical projection on the surface of a forging is known as_____

Q.14 As a rule for 300mm of dimensions, the stock size will have at least_____mm of envelop

Q.15 The portion of the die impression that distributes metal, during forging into areas where it is most needed to facilitate filling the cavities of subsequent impression to be used in forging sequence is known as_____

Q.16 A tool designed to bend forging stock to conform to the general configuration die impressions used subsequently is known as_____

Q.17 The die impression that imparts the final shape to a forged part is known as_____

Q.18 The function of die-base is_____

Q.19 _____is the total amount a dimension may vary or the differences between the upper (maximum) and lower (minimum) limits.

Q.20 Connected channels that convey the molten metal to different parts of the mould are known as_____

SECTION-C

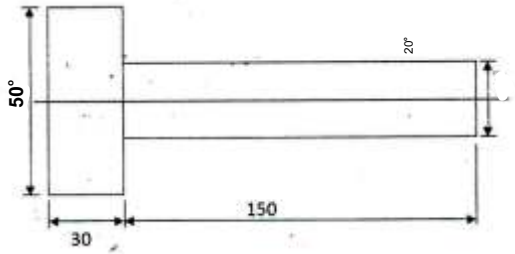
Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 Explain the concept and need of fillet and corner radius.

Q.22 Explain few forging operations with diagram.

Q.23 Describe material utilization.

Q.24 Calculate the net weight of material of density 7.86 gm/cc of forged component for the diagram, taking at least two allowances. Dimensions in mm.



Q.25 Describe how to decide the sequence of die operations, with examples?

Q.26 Explain how to select standard elements from catalogues?

Q.27 Explain any one gating system layout.