

- Q.24 Explain various forging defects.
- Q.25 Write short note on alignment of dies.
- Q.26 Explain the balancing of parting line.
- Q.27 Write short note on extrusion dies.
- Q.28 Write specifications of dies and their materials.
- Q.29 Explain the principles of load calculations.
- Q.30 Write short note on safety and storage of forging dies.
- Q.31 Write the procedure of selection of trimming tool.
- Q.32 Write short note on castable materials.
- Q.33 Explain briefly the pressure die casting method.
- Q.34 Write short note on handling and movement of dies.
- Q.35 Write the remedies of die casting defects.

SECTION-D

- Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)
- Q.36 Explain the methods of feeding, cooling and ejection systems.
 - Q.37 Describe various pre-casting and post-casting techniques.
 - Q.38 Using open-die forging operations, a solid cylindrical piece of 304 stainless steel having 100 mm diameter x 72 mm height is reduced in the height to 60mm at room temperature. Assuming the coefficient of friction as 0.22 and the flow stress for this material at the required true strains as 1000MPa, calculate the forging force at the end of stroke.

No. of Printed Pages : 4

Roll No.

202036

**3rd Year / Branch : Advanced Diploma in
Tool and Die Making**

**Subject:- Tool Design Theory-IV
(Forging and Casting Dies)**

Time : 3Hrs.

M.M. : 100

SECTION-A

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

- Q.1 The manufacturing process which involves the shaping of metal using localized impact/compressive forces is known as
 - a) Casting
 - b) Forging
 - c) Injection moulding
 - d) Die machining
- Q.2 The forging tool, used to spread the metal is called _____
 - a) Fuller
 - b) Blocker
 - c) Bender
 - d) Edger
- Q.3 The tool used to enable the forming of complex shape to be finished to approximate intermediate shape is called _____
 - a) Fuller
 - b) Blocker
 - c) Bender
 - d) Edger
- Q.4 Function of blender in forging is to _____
 - a) To bend the part

- b) To give piece approximate shape
 c) To bend the forging die
 d) None of the above
- Q.5 Heating the material and creating bulb at one end of the material is known as _____
 a) Fullering b) Blocking
 c) Gathering d) Edgering
- Q.6 Plastic deformation of a metal by the application of a force causing that material to flow through an officer or die is called _____
 a) Extrusion b) Fullering
 c) Blocking d) Gathering
- Q.7 The thin section of metal remaining at bottom of cavity or depression in a forging are known as _____
 a) Web b) Rim
 c) Rib d) Flash
- Q.8 To cut off the flash, the part of the raw material which flowed around the part during forging is known as _____
 a) Flashing b) Trim
 c) Rimming d) None of the above
- Q.9 The SI unit for measuring volume is _____
 a) Cm^2 b) Cm^3
 c) Mm^3 d) M^3
- Q.10 The limitation of any real world process on computer is known as _____
 a) AUTOCAD b) CAD
 c) Simulation d) Analysis

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SECTION-B

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

- Q.11 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 in the forging sequence, is known as _____
- Q.12 Give the function of pre-forging
- Q.13 The die impression that imparts the final shape to a forged part is called _____
- Q.14 The elongation in forging operation is _____
- Q.15 _____ are the curved parts where two surfaces would normally join together at a sharp angle
- Q.16 Relation between the weight and volume is = _____
- Q.17 In _____ die casting, the molten metal is poured into a semi-permanent or permanent die.
- Q.18 _____ is a thin internal members usually perpendicular to the web, projection
- Q.19 _____ is a long, shaped bar of metal used as raw material for forging.
- Q.20 Which type of forging is also known as “Heading”?

SECTION-C

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

- Q.21 Explain press forging operations.
- Q.22 Write short note on closed die elements.
- Q.23 Explain principle of metal flow in upsetting die.

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