

- Q.20 In forging process, metals are shaped by \_\_\_\_\_.  
a) Tense                      b) Explode  
c) Cohesion                    d) Impact

## **Section-C**

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

- Q.21 Explain forging dies and its application.
  - Q.22 Explain principle and drawing norms of die layout.
  - Q.23 Explain functions of forging dies.
  - Q.24 Explain classification of forging dies.
  - Q.25 Explain principle of clamping of die block.
  - Q.26 Explain principles of clamping allowances.
  - Q.27 Explain concept of work data sheet for forging dies.
  - Q.28 Briefly concept of trimming tool layout.
  - Q.29 Explain CAD, MDT software for modeling.
  - Q.30 Explain construction of die casting dies.
  - Q.31 Explain concept of shrinkage.
  - Q.32 Explain principle of standard parts in bill of materials.
  - Q.33 Explain software packages and applications.
  - Q.34 Explain concept of conceptual design.
  - Q.35 Explain worksheet from design parameter for optimal design.

## **Section-D**

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

- Q.36 Draw Assembly and detail drawing of die set and base using suitable dimensions.

Q.37 Draw Runner and gating system layout with using proper dimensions.

Q.38 Explain concept of design of casting die, selection of optimal design parameters and evaluation of alternative design in brief.

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**Branch : Advance Diploma in Tool & Die Making**  
**Subject : Tool Design Practice - IV**  
**(Forging & casting dies)**

Time : 3 Hrs.

M.M. : 100

## **SECTION-A**

**Note: Multiple type Questions. All Questions are compulsory. (10x1=10)**

- Q.1** Which of the following is not a casting process?

  - a) Shell casting
  - b) Die casting
  - c) Carbon dioxide mould casting
  - d) Floor moulding

**Q.2** Which of the following is not a costing process?

  - a) Semi centrifugal casting
  - b) Slush casting
  - c) Shell casting
  - d) None of the above

**Q.3** In centrifugal casting, core is made of

  - a) Sand
  - b) Ferrous metal
  - c) Non-ferrous metal
  - d) None of the above

**Q.4** In hot chamber die casting, the pressure is obtained by

  - a) Compressed air
  - b) Steam
  - c) Gas
  - d) None of the above

**Q.5** In cold chamber die casting, the molten metal is forced into cavities by

  - a) Steam
  - b) Compressed air
  - c) Hydraulic pressure
  - d) None of the above

- Q.6 The method used for casting of non-ferrous metals is  
 a) Centrifugal casting    b) Sand moulding  
 c) Die casting              d) None of the above
- Q.7 Sand blasting is used for  
 a) Cleaning the castings  
 b) Finishing the castings  
 c) Core making  
 d) Mixing sand & additives
- Q.8 In which casting, the molten metal is poured into permanent mould under the force of gravity?  
 a) Investment casting  
 b) Permanent mould casting  
 c) Centrifugal casting  
 d) All of the above
- Q.9 Hollow symmetrical and unsymmetrical parts are cast by  
 a) Die casting  
 b) Centrifugal casting  
 c) Gravity casting  
 d) Permanent mould casting
- Q.10 Which of the following castings uses pressure to fill the molten metal and no rise is used?  
 a) Centrifugal casting    b) Die casting  
 c) Investment casting    d) All of the above

### Section-B

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

- Q.11 Plastic deformation of metals below re-crystallization temperature is known as \_\_\_\_\_.  
 a) Hot working              b) Cold working  
 c) Normalizing            d) Quenching

- Q.12 Foundry crucible made up of \_\_\_\_\_.  
 a) Graphite                b) Lead  
 c) Cast iron              d) Mild steel
- Q.13 In hammer forging, hammer does not consist of \_\_\_\_\_.  
 a) Falling weight  
 b) Anvil  
 c) Die  
 d) Lifting mechanism for the ram
- Q.14 Which property of material by virtue of which materials deforms permanently  
 a) Elasticity              b) Toughness  
 c) Malleability            d) Plasticity
- Q.15 Cutting operation can be performed in single operation in \_\_\_\_\_ die  
 a) Progressive            b) Combination  
 c) Simple                  d) Compound
- Q.16 Simple dies are also known as \_\_\_\_\_ operation dies.  
 a) Double                  b) Multi  
 c) Single                  d) None of these
- Q.17 When atoms of metal reach a certain higher energy level, new crystals starts forming called \_\_\_\_\_.  
 a) Re-crystallization    b) crystallization  
 c) Deforming             d) None deforming
- Q.18 Metal deformation carried out at temperatures intermediate to hot and cold forming is called \_\_\_\_\_ forming.  
 a) Cold                    b) Zone  
 c) Warm                   d) None of these
- Q.19 Metal forging is process in which metals are formed and shaped using \_\_\_\_\_ force.  
 a) Shear                   b) Elastic  
 c) Tensile                d) Compressive