

- Q.25 Enumerate the differences between hot chamber die casting and cold chamber die casting.
- Q.26 Draw the main parts of Gravity die casting process giving their function.
- Q.27 What are the advantages and disadvantages of impact forging?
- Q.28 Draw a line diagram of a screw press explaining its working.
- Q.29 Explain the working of Ejector return mechanism with its neat diagram.
- Q.30 Differentiate between injection unit and ejection unit.
- Q.31 Explain centrifugal casting process.
- Q.32 What are the various general design consideration in product design for die casting.
- Q.33 Draw the various steps involved in forging a hexagonal nut from a cylindrical bar.
- Q.34 Write the various factors which decide the size, location and number of ejector pin?
- Q.35 Give the generalized specifications of any forging machine.

#### SECTION-D

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

- Q.36 Explain the following terms:  
 a) Locking unit  
 b) closed die forging design
- Q.37 Explain any five forging tools with their diagrams.
- Q.38 Describe these with their diagrams: Bottom gating, Runner layout.

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#### 6th Sem / T & D

#### Subject:- Forging and Casting Dies-Design & Drawing

Time : 3Hrs.

M.M. : 100

#### SECTION-A

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

- Q.1 In which of the gating system molten metal flows into the mould cavity due to the adverse effect of gravity?  
 a) Top gating                      b) Bottom Gating  
 c) Parting gating                d) All of the above
- Q.2 In casting, gating ratio is defined as the ratio of  
 a) Sprue area: total runner area : total gate area  
 b) total gate area: sprue area : total runner area  
 c) total runner area : sprue area : total gate area  
 d) total runner area : total gate area: sprue area
- Q.3 Centrifugal method of casting is used to \_\_\_\_\_  
 a) Ensure purity and density at extremities of a casting  
 b) Cast symmetrical objects  
 c) Obtain high density and pure castings  
 d) Use heavy cast mould to act as chill
- Q.4 An investment casting process is also known as \_\_\_\_\_  
 a) Hot chamber die casting process  
 b) Cold chamber die casting process  
 c) Lost wax process  
 d) Centrifugal casting process

- Q.5 The process of removing the burr or flash from the forged parts in drop forging is known as\_\_\_\_\_1  
 a) Trimming                      b) Coining  
 c) Lancing                        d) Shot peening
- Q.6 A drawing out, open die forging operation is one, in which thickness of a bar is reduced by successive forging steps at specific time intervals is called \_\_\_\_\_  
 a) Upsetting                      b) Cogging  
 c) Tumbling                      d) Swaging
- Q.7 Which of the following hammers is also called a gravity hammer?  
 a) Board hammer              b) Air-lift hammer  
 c) Power drop hammer      d) Nail hammer
- Q.8 Which of the following open Die forging operation reduces the height of a forging and increases its diameter?  
 a) Cogging                        b) Upsetting  
 c) Expanding                    d) Hollow forging
- Q.9 Which of the following method is used for making crankshafts?  
 a) Drop forging                b) Press forging  
 c) Open die forging          d) Closed die forging
- Q.10 Which of the following problems arises in die casting that can be solved by having vacuum die casting?  
 a) Overheating  
 b) Interruption in progressive solidification  
 c) Air in the cavity  
 d) Difficulty in cooling of casting

## SECTION-B

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

- Q.11 Swage forging is\_\_\_\_\_.
- Q.12 Draft angle is used for\_\_\_\_\_?
- Q.13 Define fuller.
- Q.14 Cogging process is used for\_\_\_\_\_
- Q.15 Gravity die casting is used for sections which are \_\_\_\_\_
- Q.16 Define feed system.
- Q.17 Name any two furnaces for casting.
- Q.18 In vacuum die casting, the molten metal does not experience any back pressure while injection it into the die cavity (True/False)
- Q.19 The shape of the solid blanks in compressed impression die forging is \_\_\_\_\_?
- Q.20 Name any one die locking mechanism.

## SECTION-C

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

- Q.21 Explain permanent mould casting process giving its advantages.
- Q.22 A casting having 1.2 kg weight is required to cast. The material is supposed to flow through 3 number of gates. Calculate the area of cross section of the gate.
- Q.23 Differentiate between open and blind risers.
- Q.24 Enlist the main criteria for selection of a melting furnace.