

- Q.24 Discuss the importance of proper cooling in injection moulding.
- Q.25 What are some advantages and disadvantages of blow moulding compared to rotational moulding?
- Q.26 Explain the function of the core and cavity in an injection mould.
- Q.27 Describe the difference between manual polishing and power-assisted polishing techniques.
- Q.28 Explain the purpose of surface treatment in mould making and its impact on final product quality.
- Q.29 Discuss the importance of accurate cost estimation in moulding production planning and budgeting.
- Q.30 Explain the importance of routine maintenance in increasing the life of injection moulding machines.
- Q.31 What are some common safety hazards associated with moulding operations, and how can they be reduced?
- Q.32 Explain the importance of correct mould material for achieving quality moulded parts.
- Q.33 Discuss the process of specifying a mould for a specific plastic component.
- Q.34 What is simulation and its application with respect to design?
- Q.35 What is the principle of selection of simulation parameters in simulation packages?

SECTION-D

- Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)
- Q.36 Discuss the importance of establishing a safety in a manufacturing facility and how it increases overall productivity.
- Q.37 Describe various parts and function of injection moulding machines.
- Q.38 Describe various principles and procedures of thermoforming process.

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2nd Year / Advance Diploma in Tool and Die Making
Subject:- Tool Design Theory - II (Plastic Moulds)

Time : 3Hrs. M.M. : 100

SECTION-A

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

- Q.1 The principle used to estimate machine time for mould making
 a) Cost-benefit analysis b) Process analysis
 c) Statistical analysis d) Quality control
- Q.2 The primary function of the clamping unit in an injection moulding machine
 a) Heating the plastic material
 b) Feeding the plastic material
 c) Holding the mould halves together
 d) Ejecting the finished part
- Q.3 The following is an important process of a blow moulding machine
 a) Injection b) Clamping
 c) Extrusion d) Milling
- Q.4 Material commonly used for making cooling channels in injection moulds
 a) Aluminum b) Brass
 c) Stainless steel d) Copper
- Q.5 The primary purpose of polishing in mould making
 a) Increase surface roughness
 b) Remove material defects
 c) Apply a protective coating
 d) Enhance mold strength

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- Q.6 The primary focus of the principles governing mass production of plastic components
- Relationship between component and machine
 - Relationship between material, machine , and process
 - Relationship between plastic material and mould design
 - Relationship between industrial applications of plastics
- Q.7 The primary purpose of safety measures in a manufacturing environment
- Enhancement productivity
 - Reduce maintenance costs
 - Ensure worker well-being
 - Improve material quality
- Q.8 A mould specification typically include
- Material type used for the mould
 - Dimensions and tolerances
 - Injection Pressure settings
 - Cooling system design
- Q.9 The purpose of adding mold release agents in rotational moulding
- To improve mold strength
 - To prevent material from sticking to the mold
 - To enhance color dispersion
 - To reduce rotational speed
- Q.10 Which of the following is not a standard maintenance procedure for injection moulding machines?
- Lubrication of moving parts
 - Cleaning of cooling channels
 - Calibration of temperature controllers
 - Painting of mould surfaces

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- ### SECTION-B
- Note:** Objective type questions. All questions are compulsory. (10x1=10)
- Q.11 Principles of injection moulding machine and parts focus on understanding the _____ and process involved.
- Q.12 Selection of injection moulding machines involves considering factors such as capacity, _____ , and efficiency.
- Q.13 The purpose of the cooling system in injection moulding is to_____ the mould and solidify the product.
- Q.14 Compression moulding process set-up data includes parameters such as temperature, pressure, and _____.
- Q.15 The key parts of a rotational moulding machine include the oven, _____ , and cooling station.
- Q.16 The types of transfer moulding presses include hydraulic, mechanical, and _____ presses.
- Q.17 The core and cavity are the primary components responsible for forming the _____ of the product.
- Q.18 Regular _____ of moulds and machines helps prolong their lifespan and ensure optimal performance.
- Q.19 Machine specification for injection moulding machines may include parameters like and shot capacity.
- Q.20 The concept of _____ involves implementing measures to prevent accidents and injuries in the workplace.

SECTION-C

- Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)
- Q.21 Describe the main principles of the injection moulding process and its parameters.
- Q.22 Describe the principles in the mass production of plastic components, considering the relationship between material, machine, mould, and process.
- Q.23 What are the primary parts of a compression moulding machine?

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