

- Q.26 Explain the function of the core and cavity in an injection moulding.
 Q.27 What is thermoforming and how it is different from injection moulding?
 Q.28 Explain the purpose of surface treatment in mould making and its impact on final product quality.
 Q.29 How the time is estimated using process analysis for mould making?
 Q.30 What is maintenance and its advantages with respect to mould and machine?
 Q.31 What are some common safety methodology associated with moulding operations?
 Q.32 Define
 a) Trimming b) Fixture
 c) Coating with respect to post moulding technique.
 Q.33 Discuss the process of specifying a mould for a specific plastic component, highlighting key factors to consider.
 Q.34 Describe the benefits of using simulating software in mould design and analysis.
 Q.35 How a mould is specified and depicts its materials that is used in its construction?

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 Explain the principle of maintenance, safety and storage with respect to mould and machine.
 Q.38 Discuss in detail the principle of surface treatment, polishing technique of mould.

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**2nd Year / Branch : 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 primary focus of the principles governing mass production of plastic components
 a) Relationship between component and machine
 b) Relationship between material, machine and process
 c) Relationship between plastic material and mould design
 d) Relationship between industrial applications of plastics
 Q.2 Which industry commonly utilizes injection moulding for mass production
 a) Automotive b) Textiles
 c) Agriculture d) Food Processing
 Q.3 One of the critical components required for the injection moulding process
 a) Cooling tower b) Mould design
 c) Operator skill d) Conveyor belt
 Q.4 Material commonly used for making cooling channels in injection moulds
 a) Aluminum b) Brass
 c) Stainless steel d) Copper

- Q.5 Which component of an injection mould is responsible for shaping the final product
 a) Feeding system b) Cooling system
 c) Core d) Cavity
- Q.6 Which method of surface finishing involves applying a thin layer of metal onto the mould surface
 a) Electroplating b) Etching
 c) Sandblasting d) Polishing
- Q.7 Which factor is NOT considered when estimating moulding cost per unit
 a) Material cost b) Machine depreciation
 c) Labour cost d) Packaging cost
- Q.8 A mould specification typically include
 a) Material type used for the mould
 b) Dimensions and tolerances
 c) Injection pressure settings
 d) Cooling system design
- Q.9 Which parameter is commonly used to estimate the material requirement for a plastic component
 a) Weight b) Volume
 c) Color d) Texture
- Q.10 What is the primary purpose of safety measures in a manufacturing environment
 a) Enhance productivity
 b) Reduce maintenance costs
 c) Ensure worker well-being
 d) Improve material quality

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 processes involved.

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- Q.12 The clamping unit of an injection moulding machine is responsible for holding the _____ in place during the injection process.
- 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 A common material used in blow moulding is _____ due to its flexibility and strength.
- Q.16 Rotational moulding relies on _____ of the mold to evenly distribute the material.
- Q.17 The material commonly used for making mould bases is _____ steel.
- Q.18 Regular _____ of moulds and machines helps prolong their lifespan and ensure optimal performance.
- Q.19 Common plastics used for mass production include _____, polypropylene, and polycarbonate.
- Q.20 Simulation packages help in visualizing and optimizing _____ processes.

SECTION-C

- Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)
- Q.21 What factors influence the selection of plastics material and mould material for a specific application?
- Q.22 Discuss about the injection moulding machine and process.
- Q.23 Depict the functions of clamping, feeding and heating in compression moulding process.
- Q.24 Discuss the parameters and principle of transfer moulding processes.
- Q.25 What are some advantages and disadvantages of blow moulding processes?

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