Q.31 Explain the procedure to use data book for mould design.

Q.32 Write the procedure of estimation of material for the mould.

Q.33 Explain the method of Alternative conceptual design.

Q.34 What are various drawing norms and practices for assembly drawing of moulds.

Q.35 Write short note on transfer pot calculation.

SECTION-D

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

Q.36 A product has a projected area of 410 cm^2 and material is PE, How to calculate clamping force in this project's injection molding? Assume safety factor as 10% Kp as 0.32, assume other necessary constants and value.

Q.37 If clamping force = 700 kN, the max injection volume with 350 no of screws =140 cm^3, and the max injection pressure with 350 screws = 1500 bar, determine the shot capacity of the injection unit.

Q.38 Write short note on
a. Dimensional tolerances
b. Mould bases

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

Subject:- Tool Design Practice-III (Plastic Moulds)

Time : 4Hrs. M.M. : 100

SECTION-A

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

Q.1 Any rubbery material composed of polymers, that are capable of recovering their original shape after being stretched are known as_____
a) Plastics b) Thermosetting
c) Elastomers d) Thermoplastics

Q.2 _____are the connected channels that convey the molten metal to different parts of the mould.
a) Runner b) Sprue
c) Gate d) All of the above

Q.3 _____provide a flow-way in an injection mould to connect the nozzle(of the injection machine) to the each impression
a) Runner b) Sprue
c) Gate d) Feed system

Q.4 A handbook containing data or statistics for manufacturing processes is known as_____
a) Data sheet b) Data book
c) Log book d) Bill of material

Q.5 _____a polymer that irreversibly becomes rigid when heated
a) Thermoset b) Thermoplastic
c) Elastomer d) PolyVenyl Chloride

Q.6 Which process is used to manufacture plastic bottles?

a) Injection moulding b) Round moulding
c) Transform moulding d) Blow moulding

Q.7 The change in volume due to phase change of metal's from a liquid state to a solid state at the exposed surface is known as

a) Expansion b) Contraction
c) Voluminous d) Shrinkage

Q.8 The time taken by plastic material in mould which allow things to set, harden and develop traits is called_____

a) Setup time b) Curing time
c) Shrinkage time d) Cycle time

Q.9 _____is a large diameter channel through which the material enters the mould.

a) Runner b) Sprue
c) Gate d) Feed system

Q.10 The time elapsed between the beginning of one injection cycle and the next one is known as_____

a) Setup time b) Curing time
c) Shrinkage time d) Cycle time

SECTION-B

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

Q.11 A complete book, usually alphabetical list of items, often with notes giving detail is_____(Bill of material/catalogue)

Q.12 Channels through which molten metal flows into the die cavity are _____

Q.13 The portion of a cast which forms the external shape is_____

Q.14 A document which provide the specification of a particular product is called (catalogue/data sheet)

Q.15 Expand CAD.

Q.16 Which materials are known as Elastomers?

Q.17 _____is the distance from the top of the bed to the bottom of the slide with stoke down and adjustment up

Q.18 The zone where some device is placed for holding it firmly is_____

Q.19 _____process involves heating a polymer sheet of even thickness and drawing it over, or into a mould to form a rigid shape.

Q.20 _____extends out from the body of the forging as a thin plate at the line where the dies meet .

SECTION-C

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

Q.21 Give the principles of design layout.

Q.22 Enumerate standard mould parts.

Q.23 Explain mould housing.

Q.24 Write short note on shrinkage.

Q.25 Describe the working principle of runner.

Q.26 Classify feed system.

Q.27 Explain cooling and heating circuits in moulds.

Q.28 What are various design parameters for optimum mould design?

Q.29 Describe the principle of component geometry.

Q.30 Explain the quality and quantity requirement of the moulds.