Q.33 Explain cooling and heating circuits in moulds.

Q.34 Explain the method of Alternative conceptual design.

Q.35 Describe principle of shrinkage and allowance.

SECTION-D

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

Q.36 A circular plate with a diameter of 0.3m is to be compression moulded from phenol formaldehyde. If the preform is cylinderical with a diameter of 50mm and a depth of 36mm estimate the planten force needed to produce the plate in 10 seconds. The Viscosity of the phenol may be taken as 103 Ns/m^2.

Q.37 Calculate the Total Projected Area for the Polypropylene container mould, which has a moulding diameter of 70mm at the top and 50bmm at the base, with a height of 48mm. It consists of a hot runner mould tool of 4 impressions. The cavity at the split line has a diameter of 80mm, a cavity depth of 40mm, and a cavity diameter at the base is 50mm. The mould cavity base has a thermal gate in the centre. The component's wall section is 1.6mm.

Q.38 Write short note on:

a) Classification of design parameters according to the mould operations.

b) Principle of bill of material, selection of material, standard parts material for processing.

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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 What is the advantage of preheating the raw material in compression moulding?

a) Increase the flash b) Decrease the strength

c) Reduce the flow d) Reduce moulding pressure

Q.2 What is the purpose of performing for transfer moulding process?

a) To produce large parts

b) To produce coloured parts

c) To produce parts with metal inserts

d) To produce hollow parts

Q.3 Which moulding process consists of sprue, runner and gate?

a) Automatic compression moulding

b) Transfer moulding

c) Hand Compression moulding

d) Rotational moulding

Q.4 What is the name of the line which lies between two mould halves?

a) Parting line b) Centre line

c) Matching line d) Vertical line

Q.5 Which type of mould is called Runner less mould?

a) Compression mould b) Blow mould
c) Cold runner mould d) Hot runner mould

Q.6 _____ is the process of imitation of real world process on computer.

a) Simulation b) Injection analysis
c) Process analysis d) AutoCAD software

Q.7 What is the clearance between screw and the barrel?

a) 0.02mm b) 0.001mm
c) 0.002mm d) 0.15mm

Q.8 The drawing which represents the rough idea of the actual design is called _____

a) Conceptual sketch b) Conceptual elevation
c) Conceptual digit d) Conceptual parameters

Q.9 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

Q.10 _____ a polymer that irreversibly becomes rigid when heated

a) Thermoset b) Thermoplastic
c) Elastomer d) Poly vinyl chloride

SECTION-B

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

Q.11 The portion of a cast which forms the external shape is _____.

Q.12 A document which provide the specification of a particular product is called. (catalogue / data sheet)

Q.13 Expand CAD.

Q.14 Give two examples of thermosets.

Q.15 What is the name of scrap left in the pot bottom and sprue in transfer mould?

Q.16 What is the purpose of guide pillars in compression moulding process?

Q.17 Name two software's, which can be used for preparation of plastic moulds.

Q.18 Define Bulk density.

Q.19 Name two important processing parameters for injection moulding processes.

Q.20 Give importance of bill of material.

SECTION-C

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

Q.21 Explain any 5 allowances used in Plastic moulds?

Q.22 Classify the design parameters according to mould operations.

Q.23 Describe various data sheet formats.

Q.24 Explain three plate mould parts with diagram.

Q.25 Give the procedure of estimation of machining hours.

Q.26 Discuss various types of gate design.

Q.27 Give principle of drawing mould layout.

Q.28 Write short note on data for machine setup.

Q.29 Explain material used for mould elements.

Q.30 Explain the method of cost analysis and evaluation.

Q.31 Write short note on transfer pot calculation.

Q.32 What are various design heating parameters for optimum mould design?