17550

16172

3 Hours / 100 Marks Seat No. | | | | | | | | |

Instructions : (1) All Questions are *compulsory.*

(2) Answer each next main Question on a new page.

(3) Illustrate your answers with neat sketches wherever necessary.

(4) Figures to the right indicate full marks.

(5) Assume suitable data, if necessary.

(6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

(7) Use of steam tables, logarithmic, Mollier's chart is permitted.

Marks

1. Answer any TEN of the following : **10 × 2 = 20**

(a) Write down the principle of rotational moulding.

(b) List the materials used in rotational molding.

(c) Why preheating of material is important in compression molding ?

(d) What is the effect of preforming on compression moulding cycle ?

(e) Write down any four advantages of transfer molding.

(f) State any four applications of calendering process.

(g) What are the types of calendering unit ?

(h) Why is PVC sheet calendared rather than extruded ?

(i) State the purpose of finishing with plastics.

(j) Define buffing.

(k) State any two limitations of ultrasonic assembly.

(l) State the principle of flocking.

(m) Enlist the various techniques of surface pre-treatment.

(n) state the limitations of screen printing.

2. Answer any TWO of the following : 8 × 2 = 16

(a) Explain principle & working of high speed mixer and ribbon blender.

(b) Explain spin welding technique with neat sketch and state its advantages, limitations and applications.

(c) Explain the process of electroless plating and electrolytic plating.

3. Answer any TWO of the following : 8 × 2 = 16

(a) Explain pot type transfer molding with neat sketch.

(b) (i) Draw neat sketch of Four Roll 'L' type calendar and three Roll 'I' type calendar with labels.

(ii) Compare calendering process with extrusion process.

(c) Explain solvent cementing process with advantages, methods and precautions.

4. Answer any TWO of the following : **8 × 2 = 16**

(a) (i) Draw labelled diagrams of upstroking and downstroking types of compression moulding machine.

(ii) Define breathing.

(b) (i) Explain Roll bending and Roll crown with neat sketch.

(ii) Explain working and constructional features of embosser with neat sketch.

(c) Explain two different surface treatment Techniques used with Polyolefin.

5. Answer any TWO of the following : **8 × 2 = 16**

(a) Explain Infrared and high frequency Preheating with neat sketch.

(b) (i) Compare compression and transfer moulding by giving four points.

(ii) Explain plunger type transfer molding with sketch.

(c) (i) Explain Vacuum metallizing with neat sketch.

(ii) Explain the process of hot transfer.

6. Answer any TWO of the following : **8 × 2 = 16**

(a) (i) Explain carousel type rotational molding process with neat sketch.

(ii) Write any four merits and demerits of rotational molding process.

(b) (i) Explain heating and cooling systems of rotational molding.

(ii) Write any four problems with their remedies and causes in rotational molding.

(c) (i) Explain any one printing method used for continuous plastic film with sketch.

(ii) Explain the printing method used for bottle caps.

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