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3 Hours / 100 Marks

Seat No.

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- 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) Use of Non-programmable Electronic Pocket Calculator is permissible.
 - (7) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.
 - (8) Use of steam tables, logarithmic, Mollier's chart is permitted.

Marks

1. Answer any TEN :

10 × 2 = 20

- (a) Name any two rotomold plastic products and material used for it.
- (b) What do you mean by pulverisation ? Why is pulverised material used in rotational moulding ?
- (c) Define preheating. Why is preheating necessary in compression moulding process ?
- (d) What do you mean by breathing ? Why is it necessary in compression moulding ?
- (e) List the types of transfer moulding process. Name any two transfer moulded products.
- (f) Define calendaring process. Name any two materials used for calendaring.

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- (g) Write the principle of high speed mixture. Name the materials for which it is used in calendaring process.
- (h) What is embosser roll ? Why is it used in calendaring process ?
- (i) Define “buffing”. Name any two plastic materials on which buffing operation is carried out.
- (j) Define plastic welding. List types of plastic welding.
- (k) List the types of joints used for joining plastic. Which joint is strongest of all joints ?
- (l) What is surface treatment ? Why is it necessary to treat a surface before printing ?
- (m) Name the different types of printing. Suggest suitable printing technique for milk bag.
- (n) Name any two plastic products for which electrolytic plating method is used.

2. Answer any FOUR :

4 × 4 = 16

- (a) Describe heating and cooling system for rotomoulding.
- (b) What is poscasing ? Why is it necessary in case of compression moulding ?
- (c) Write principle of transfer moulding process.
- (d) Compare calendaring process with extrusion process.
- (e) (i) List the types of finishing operations carried out on plastic.
(ii) Explain grinding operation principle.
- (f) Write principle of corona treatment. Draw a diagram for the treatment.

3. Answer any FOUR :**4 × 4 = 16**

- (a) Name the different types of rotational moulding machine. Explain any one with a diagram.
- (b) Explain a troubleshooter in compression moulding. State causes and remedial measures for it.
- (c) Explain pot type transfer moulding with a diagram.
- (d) Draw neat sketches of any two types of calendar arrangement.
- (e) What do you mean by solvent cement ? Explain method of preparation of solvent cement.
- (f) Explain vacuum metalising with a diagram.

4. Answer any FOUR :**4 × 4 = 16**

- (a) Explain troubleshooting guide for rotational moulding.
- (b) Describe compression moulding process with a diagram.
- (c) Write application of calendared films and sheets.
- (d) Write the advantages and limitations of transfer moulding.
- (e) What is purpose of filing on plastic product ? Explain the criteria for file selection.
- (f) Explain screen printing with a diagram.

5. Answer any FOUR :**4 × 4 = 16**

- (a) Write advantages and limitations of rotation moulding process.
- (b) Differentiate between sheet moulding compound and dough moulding compound used in compression moulding.

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- (c) Explain any two types of trouble-shooters in transfer moulding.
- (d) Write the advantages and limitation of calendaring process.
- (e) Describe ultrasonic welding process, with a diagram.
- (f) What do you mean by flocking ? Explain flocking with a diagram.

6. Answer any FOUR :

4 × 4 = 16

- (a) Explain the troubleshooting guide for calendaring process.
 - (b) Explain in brief scrap and cold trim handling in calendaring process.
 - (c) Explain hot plate welding with a diagram.
 - (d) Describe the principle and working of electrolytic plating.
 - (e) What is induction welding ? Write the principle for which type of plastic product induction welding process is used.
 - (f) What is flexographic printing ? Name the products on which it is carried out.
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