22389

24225

3 Hours / 70 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.

Marks

1. Attempt any FIVE of the following : **10**

a) List any four materials used in extrusion process.

b) Define coextrusion.

c) State function of thrust bearing in extrusion process.

d) Define parison.

e) State types of blow moulding process.

f) Enlist the welding techniques used for polymers.

g) State the need of surface pretreatment.

Marks

2. Attempt any FOUR of the following : **12**

a) Draw pipe extrusion plant layout. State function of each part.

b) State any four advantages of twin screw extruder.

c) With neat sketch explain sheet Extrusion process layout.

d) Explain the following decorating Techniques –

i) Dip coating

ii) Laser marking

e) With neat sketch explain manufacturing of PU foam.

3. Attempt any FOUR of the following : **12**

a) Describe with neat sketch blown film manufacturing process.

b) State any four defects with their causes and remedies observed in pipe extrusion process.

c) Compare corotating twin screw extruder with counter rotating twin screw extruder.

d) Describe Hot plate welding Techniques.

e) List properties and applications of structural foam.

4. Attempt any THREE of the following : **12**

a) Describe wire and cable coating process.

b) Describe (continuous) Extrusion Blow moulding process with neat sketch.

c) Explain in brief parison wall thickness control.

d) Explain spin welding technique.

e) Explain solvent cementing technique for joining of polymers.

Marks

5. Attempt any THREE of the following : **12**

a) Draw neat sketch of single screw extruder. State function of each part of extrunder.

b) State the effect of any four process parameter on quality of blow moulded article.

c) Suggest and explain the process to manufacture (1 litre) mineral water bottle.

d) Describe Induction welding and state its two applications.

e) Identify and explain surface treatment method for polyethylene film before printing.

6. Attempt any TWO of the following : **12**

a) Suggest and explain the sealing technique for milk pouches.

b) With neat sketch explain vacuum metallization process and state its two applications.

c) State any six properties and applications of polystyrene foam.