

Scheme – I
Sample Question Paper

Program Name : Diploma in Plastic Engineering
Program Code : PS
Semester : Third
Course Title : Plastic Moulding Techniques
Marks : 70

22351

Time: 3 Hrs.

Instructions:

- (1) All questions are compulsory.
- (2) Illustrate your answers with neat sketches wherever necessary.
- (3) Figures to the right indicate full marks.
- (4) Assume suitable data if necessary.
- (5) Preferably, write the answers in sequential order.

Q.1) Attempt any FIVE of the following.

10 Marks

- a) Define 'injection moulding process'.
- b) List any four moulding compounds used in compression moulding process.
- c) List the types of transfer moulding machines.
- d) Name any four types of rotomoulding machines.
- e) State any two advantages of rotomoulding process.
- f) Define the principle of thermoforming.
- g) List out any four industrially important products that have been manufactured by thermoforming

Q.2) Attempt any THREE of the following.

12 Marks

- a) Describe the construction of screw type injection moulding machine with sketch.
- b) Distinguish between upstroking and downstroking type of compression moulding process. (Any four points)
- c) Sketch a screw type transfer moulding machine with labels.
- d) State any four disadvantages of thermoforming process.

Q.3) Attempt any THREE of the following.

12 Marks

- a) Explain the concept of preheating of the plastic material.
- b) Select the process for manufacturing one piece chair with filled polypropylene. Justify your answer.
- c) Describe the steps involved in compression moulding process with sketch.
- d) Describe the construction of pot type transfer moulding machine with sketch.

Q.4) Attempt any THREE of the following.

12 Marks

- a) Explain the procedure to select suitable injection moulding process, process parameters, and safety measures to produce nylon gear.
- b) Explain the plastic moulding compounds selection procedure and required material properties for production of skate board with justification.
- c) Select the material and process for manufacture of a safety goggle with labeled sketch and justification.
- d) Select the material, processing parameters and process for the electrical plug with justification and labeled sketch.
- e) Explain the plastic moulding compounds selection procedure and required material properties for production of car body shell with their relevant properties for these application with justification.

Q.5) Attempt any TWO of the following.

12 Marks

- a) State any six advantages of rotomoulding process.
- b) Select the processing parameters used in the production of water tank and justify it with sketch.
- c) Select the process for the production of automotive exterior body panel. Suggest the material for the production of same. Justify your answer with sketch.

Q.6) Attempt any TWO of the following.

12 Marks

- a) Select the suitable process for the production of a water tank of 1000 litre capacity. Explain how that process is suitable over other processes.
- b) Select the process for the production of bezel. Suggest the material for the production of same. Justify your answer with sketch.
- c) Suggest a method for the production of deep drawn thinner disposable cup. Also suggest a plastic material for the production for the same application. Justify with sketch.

Scheme – I
Sample Test Paper - I

Program Name : Diploma in Plastic Engineering
Program Code : PS
Semester : Third
Course Title : Plastic Moulding Techniques
Marks : 20

22351

Time: 1 Hour

Instructions:

- (1) All questions are compulsory.
- (2) Illustrate your answers with neat sketches wherever necessary.
- (3) Figures to the right indicate full marks.
- (4) Assume suitable data if necessary.
- (5) Preferably, write the answers in sequential order.

Q.1 Attempt any FOUR.

08 Marks

- a) State any two advantages of injection moulding process.
- b) State the significance of preheating.
- (c) List out any four important products that have been manufactured by the injection moulding process.
- (d) State any two disadvantages of compression moulding process.
- (e) Define outgassing.
- f) State the full forms of SMC and BMC.

Q.2 Attempt any THREE.

12 Marks

- a) Describe the working of screw type injection moulding machine.
- b) Describe the working of ram injection moulding machine.
- c) Describe the zones of injection screw.
- d) State the full form of following plastic material, i) UF, ii) MF, iii) SMC, iv) BMC,
- e) List out any two defects observed in compression moulding process. Suggest their causes and remedies.
- f) Select the material and process for manufacture of a modular bathroom with justification and labeled sketch.

Scheme – I
Sample Test Paper - II

Program Name : Diploma in Plastic Engineering
Program Code : PS
Semester : Third
Course Title : Plastic Moulding Techniques
Marks : 20

22351

Time: 1 Hour

Instructions:

- (1) All questions are compulsory.
- (2) Illustrate your answers with neat sketches wherever necessary.
- (3) Figures to the right indicate full marks.
- (4) Assume suitable data if necessary.
- (5) Preferably, write the answers in sequential order.

Q.1 Attempt any FOUR.

08 Marks

- a) State the principle of transfer moulding.
- b) State the functions of transfer pot and transfer ram.
- c) State any two advantages of rotomoulding process.
- d) Describe the heating step in rotomoulding process.
- e) State any two advantages of thermoforming process.
- f) State the types of machines used in thermoforming.

Q.2 Attempt any THREE.

12 Marks

- a) Describe the construction of screw type transfer moulding machine with sketch.
- b) Explain the construction and working of plunger type transfer moulding machine with sketch.
- c) State any four advantages of rotomoulding process.
- d) Describe the heating systems used in rotomoulding process.
- e) Explain the effect of air temperature and mould temperature on thermoformed product.
- f) Select the thermoforming method for the production of a product with excellent dimensional accuracy. Justify your answer with sketch.