

Scheme – I
Sample Question Paper

Program Name : Diploma in Plastic Engineering

Program Code : PS

Semester : Fifth

Course Title : Advanced Plastics Processing Techniques (Elective-I)

Marks : 70

22552

Time: 3 Hours

Instructions:

- 1) All questions are compulsory
- 2) Illustrate your answers with neat sketches where 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) State any two merits of microinjection moulding process.
- c) Define blow moulding process.
- d) Suggest a method for the production of a door handle.
- e) Draw a neat diagram of injection blow moulding process.
- f) State any four important applications of radiation processing.
- g) Draw a neat diagram of crosslinking of thermoplastics for a wire and cable.

Q.2) Attempt any three of the following.

12 Marks

- a) Describe a liquid injection moulding process.
- b) Describe injection moulding process for thermosets.
- c) Explain the tie bar less injection moulding process.
- d) Describe the lost core moulding process with neat sketch.

Q.3) Attempt any three of the following

12 Marks

- a) Suggest and explain the method for the production of a polypropylene barrel for the storage of an industrial chemical.
- b) Compare extrusion blow moulding and injection stretch blow moulding processes.
- c) Explain the multilayer blow moulding process.

d) Suggest and explain the method for the production of corrugated pipe.

Q.4) Attempt any three of the following.

12 Marks

- a) Describe with a neat sketch the working of the given compression moulding process for the production of PTFE product.
- b) Justify the operational setting and mechanism for carrying out processing of the PTFE sheet.
- c) Explain with sketch the finishing process applied for the PTFE product.
- d) Suggest and explain the method for the production of 10 liter container with two layers of plastic.
- e) Suggest a method for the production of ribbed pipe and explain with sketch.

Q.5) Attempt any two of the following.

12 Marks

- a) Describe the radiation process for the production of concrete plastic composite. Explain the ultraviolet radiation process.
- b) Explain the crosslinking of wire and crosslinking of packaging film in detail.
- c) Suggest a method for the crosslinking of foamed resin and explain it.

Q.6) Attempt any two of the following.

12 Marks

- a) Explain the dielectric energy method and infrared radiation process.
- b) State the two types of fluid assisted injection moulding processes and explain them with neat sketches.
- c) Describe with sketches the production of multilayer films and also explain the downstream equipments for extrusion process and state their applications.

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Marks : 20

Time: 1 Hour

22552

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- 4) Assume suitable data if necessary.
- 5) Preferably, write the answers in sequential order.

Q.1) Attempt any four of the following.

08 Marks

- a) Define injection moulding.
- b) Draw a neat sketch of gas assisted injection moulding.
- c) State any two merits of microinjection moulding.
- d) State any two demerits of microinjection moulding.
- e) Draw a neat sketch of injection stretch blow moulding.

Q.2) Attempt any three of the following.

12 Marks

- a) Explain the water assisted injection moulding process with neat sketch.
- b) Describe low pressure structural foam moulding process.
- c) Describe multilayer blow moulding process.
- d) Explain the process of manufacture of 1 liter bottle.

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Instructions:

- 1) All questions are compulsory
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- 4) Assume suitable data if necessary.
- 5) Preferably, write the answers in sequential order.

Q.1) Attempt any four of the following.

08 Marks

- a) Define radiation processing.
- b) Draw a neat sketch of corrugated pipe.
- c) State any four applications of downstream equipment of extruder.
- d) Define compression moulding of PTFE.
- e) Draw a neat sketch of crosslinking of polymer molecules with the help of radiation process.

Q.2) Attempt any three of the following

12 Marks

- a) Explain the significance of the sintering process in the production of PTFE rod.
- b) Describe the manufacture of co-extruded sheet process.
- c) Explain the ultraviolet radiation process.
- d) Describe the infrared radiation process with neat sketch.