

**Scheme – I**  
**Sample Question Paper**

**Program Name** : Diploma in Plastic Engineering

**Program Code** : PS

**Semester** : Fourth

**Course Title** : Plastic Packaging

**Marks** : 70

22454

**Time: 3 Hrs.**

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**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 packaging.
- b) State any two functions of packaging.
- c) State any two advantages of flexible packaging.
- d) State the selection criteria of polystyrene for packaging medical tablets.
- e) Draw a neat sketch for extrusion coating.
- f) State any two hazards of plastics packaging.
- g) State the controls of packaging hazards.

**Q.2) Attempt any three of the following.**

**12 Marks**

- a) State any four important packaging properties of PET resin.
- b) Describe the special requirements of food packaging.
- c) State any four applications and two important packaging properties of EVA.
- d) State any four industrially important properties of plastic packaging of polypropylene.

**Q.3) Attempt any three of the following.**

**12 Marks**

- a) Describe the cast film extrusion process with sketch.
- b) Describe the blown film extrusion process with neat sketch.
- c) Describe the aseptic packaging method.
- d) Describe the extrusion blow moulding process to manufacture a plastic packaging product.

**Q.4) Attempt any three of the following.**

**12 Marks**

- a) Describe the process of skin packaging with sketch.
- b) State the process of sealing a plastic bag. Justify your answer with sketch.
- c) Explain the process of shrink wrapping with sketch.
- d) State the process for paper to paper lamination. Justify your answer with sketch.
- e) Suggest a thermoforming method to form an automobile dashboard. Justify your answer with sketch.

**Q.5) Attempt any two of the following.**

**12 Marks**

- a) Explain the test of product loss and stress crack resistance of a plastic packaging.
- b) Explain the migration test and stack load test of plastic packaging.
- c) State the process for testing 1litre polyethylene oil bag and describe its procedure. Justify your answer.

**Q.6) Attempt any three of the following.**

**12 Marks**

- a) Explain the test for compatibility of plastic package in detail.
- b) State any three important properties of the following,-
  - i) Polyvinyl chloride
  - ii) Polycarbonate.
- c) Explain plug assist forming and matched mould forming methods with sketches.

**Scheme – I**  
**Sample Test Paper - I**

**Program Name** : Diploma in Plastic Engineering  
**Program Code** : PS  
**Semester** : Fourth  
**Course Title** : Plastic Packaging  
**Marks** : 20

**22454**

**Time: 1 Hour**

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**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 Four of the following.**

**08 Marks**

- a) Define plastic packaging.
- b) State any two important advantages of plastics packaging.
- c) State any four important applications of polyamide as a plastic for packaging.
- d) State any two advantages of flexible packaging.
- e) Draw a neat labeled diagram of wet adhesive lamination.

**Q.2) Attempt any Three of the following.**

**12 Marks**

- a) Explain the selection criteria for packaging materials.
- b) State any four important properties of fluoropolymers in packaging.
- c) Explain the modified atmospheric packaging.
- d) Explain the blown film extrusion process with sketch.

**Scheme – I**  
**Sample Test Paper - II**

**Program Name** : Diploma in Plastic Engineering  
**Program Code** : PS  
**Semester** : Fourth  
**Course Title** : Plastic Packaging  
**Marks** : 20

**22454**

**Time: 1 Hour**

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**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 four of the following.**

**08 Marks**

- a) Define extrusion blow moulding.
- b) Draw a neat labeled diagram of dual sheet forming method.
- c) Explain the screen printing method.
- d) Draw a neat diagram of vacuum metallization.
- e) Explain drop test for plastics packaging.

**Q.2) Attempt any three of the following.**

**12 Marks**

- a) Explain the method of thermoform fill seal machine.
- b) Explain the pad printing method with sketch.
- c) Describe the flexographic printing method with sketch.
- d) Explain vibration test method with sketch.