

Scheme – I
Sample Question Paper

Program Name : Plastic Engineering Program Group
Program Code : PS
Semester : Fifth
Course Title : Surface Coatings (Elective II)
Marks : 70

22555

Time: 3 Hrs.

Instructions:

- 1) All questions are compulsory.
 - 2) Illustrate your answers with neat sketches where necessary.
 - 3) Figures to the right indicate full marks.
 - 4) Preferably, write the answers in sequential order.
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Q. 1) Attempt any FIVE of the following.

10 Marks

- a) State the necessities of surface coatings.
- b) Enlist four different factors affecting coating properties.
- c) List down various four applications of decorative coatings.
- d) Name two coating methods for coating papers.
- e) Define i) Adhesives ii) Adherent
- f) State two properties of pressure sensitive adhesives.
- g) why surface treatment is necessary for low energy surfaces.

Q.2) Attempt any THREE of the following.

12 Marks

- a) Differentiate between premetered and postmetered coating.
- b) Relate wettability with spreading.
- c) State four important properties and applications each of hot melt adhesive.
- d) Describe Diffusion theory of adhesion.

Q.3) Attempt any THREE of the following.

12 Marks

- a. State four properties and applications each of emulsion paints.
- b. Draw a neat labelled sketch of following.
 - i. Brush Coating
 - ii. Dip Coating
- c. Suggest suitable adhesive for following substrate joint.
 - i Rubber - Rubber

- ii Glass - Glass
 - iii Wood - Wood
 - iv Plastic - Plastic
- d. Explain High Energy surfaces in detail.

Q.4) Attempt any THREE of the following.

12 Marks

- a) Describe solvent containing system.
- b) Differentiate between architectural paint and chemical resistant paint on the basis of their properties.
- c) Explain Gravure roll coatings in detail.
- d) Select suitable adhesive for following application.
 - i. Ship building.
 - ii. Shoe Industry.
 - iii. Cosmetic Packaging.
 - iv. Sealant for potting.
- e) Explain chemical treatment on high energy surfaces.

Q.5) Attempt any TWO of the following.

12 Marks

- a) State the paint applies on to following substrate.
 - i. Wood
 - ii. Metal
 - iii. Walls
 - iv. Masonry
- b) Explain Curtain Coater in detail with its properties and applications.
- c) State on which surface corona discharge treatment is done, explain it in detail.

Q.6) Attempt any TWO of the following.

12 Marks

- a) State four basic materials used in surface coating with their functions and examples of each.
- b) Prepare the formulation of following paints
 - i. Architectural paint
 - ii. Exterior Latex
 - iii. Water Paint.
- c) Enlist six different ingredients in composition of adhesives with the function of each.

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Scheme – I
Sample Test Paper - I

Program Name : Plastic Engineering Program Group
Program Code : PS
Semester : Fifth
Course Title : Surface Coatings (Elective II)
Marks : 20

22555

Time: 1 Hour

Instructions:

- 1) All questions are compulsory.
 - 2) Illustrate your answers with neat sketches where necessary.
 - 3) Figures to the right indicate full marks.
 - 4) Preferably, write the answers in sequential order.
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Q.1) Attempt any FOUR of the following.

08 Marks

- a) Define Surface coating.
- b) State the effect of low VOC in coating material.
- c) Enlist four different applications of emulsion paints.
- d) State four important properties of exterior latex.
- e) Draw a neat labelled sketch of air knife coating.

Q.2) Attempt any THREE of the following.

12 Marks

- a) Enlist four factors affecting coating properties.
 - b) State the selection criteria of the paint.
 - c) State the formulation of emulsion paint.
 - d) Explain brush coating method in detail
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Scheme – I
Sample Test Paper - II

Program Name : Plastic Engineering Program Group
Program Code : PS
Semester : Fifth
Course Title : Surface Coatings (Elective II)
Marks : 20

22555

Time: 1 Hour

Instructions:

- 1) All questions are compulsory.
 - 2) Illustrate your answers with neat sketches where necessary.
 - 3) Figures to the right indicate full marks.
 - 4) Preferably, write the answers in sequential order.
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Q.1) Attempt any FOUR of the following.

08 Marks

- a) State four different thickness controlling parameters in brush coating.
- b) Interpret interfacial contact.
- c) State four different properties of hot melt adhesive.
- d) Enlist different mechanism of adhesion.
- e) Enlist various surface treatments for high energy surfaces for bonding.

Q.2) Attempt any THREE of the following.

12 Marks

- a) State different types of powder in powder coating.
 - b) Explain pressure sensitive adhesive.
 - c) State the function of each of following in adhesive.
 - i. Catalyst
 - ii. Hardener
 - iii. Plasticizer
 - iv. Backbone polymer
 - d) Explain degreasing of surfaces before bonding.
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