

[50]

SARDAR PATEL UNIVERSITY

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M.Sc. (3rd Semester) Surface Coating Technology Examination (CBCS), October 2016

PS03CSCT03: Technology of Architectural Coating, Industrial Coatings and Construction Chemicals

Time: 2:00 pm to 5:00 pm

Thursday, 27th October, 2016

Marks: 70

Q.1 Choose the correct Answer from the Followings:

1. What is ideal PVC for alkyd based semi glossy defense paint ? [01]
 - a) 20
 - b) 22
 - c) 25
 - d) 30
2. Dosage of W&D Agent on finish paint in exterior paint is [01]
 - a) 1.0 – 2.0 %
 - b) 0.01 – 0.02 %
 - c) 0.05 – 0.15 %
 - d) 4.0 – 5.0 %
3. Commercial latexes have Tg ° C [01]
 - a) 5 – 25
 - b) -15 to 5
 - c) 0 - 10
 - d) None of these
4. Among following which should not be a part of 'STIPPLE FINISH' [01]
 - a) NC ½ Sec
 - b) Xylene
 - c) DCO 60% in Xylene
 - d) Epoxy EEW 450
5. Etch Primer are used on which surface [01]
 - a) Cement
 - b) Copper
 - c) Aluminum
 - d) Iron
6. Stainless Steel Contains Cr % [01]
 - a) 8%
 - b) 18%
 - c) 28 %
 - d) 38%
7. _____ are used as pumping admixture [01]
 - a) Sugars
 - b) Lignin
 - c) Borax
 - d) Organic emulsion of paraffin
8. Pick the Odd one with respect to the admixture. [01]
 - a) Air entraining admixture
 - b) Corrosion inhibitors admixture
 - c) Coloring admixture
 - d) Water condensation admixture

Q.2 Answer Any Seven of the Followings:

[14]

1. Write a note on steel and plastic substrate on which paint applied.
2. What are different methods by which film formation is executed.
3. Explain thickeners and biocides as additives in water based emulsion paint.
4. Write formulation for flamboyant finish.
5. Explain behavior of Paint on wooden substrate.

6. Write formulation for NC Putty.
7. Discuss important properties of primer.
8. What is pumping admixture?
9. Write the note on gas forming admixture.

- Q.3 (a)** What should be the essential requirements of primer for ferrous substrate? Write formulation for Zinc Chrome Yellow Primer. [06]
- (b)** What is hammer tone finish, write its formulation explaining their important properties. [06]

OR

- (b1)** Write formulation for undercoat Olivegreen shade. [03]
- (b2)** Write formulation for Oleoresinous varnish. [03]
- Q.4 (a)** Explain in detail Powder Coating manufacturing in sequence. Write in detail about two types of resin used in thermoplast and thermoset powder coating system. [06]
- (b)** Discuss about NC polymer, Active, Inert and Diluent solvent in NC lacquers. Write formulation of NC primer. [06]

OR

- (b)** Distinguish between cement primer, wood primer and metal primer by giving suitable example of each. [06]
- Q.5 (a)** Write various categories of interior water based paint which are classified by %PVC and % emulsion. Formulate exterior emulsion paint. [06]
- (b)** Write and explain each properties of latex in detail. [06]

OR

- (b)** What is Oil bound distemper (OBD) ? Formulate Waterbased cement primer . Why PVC level is high in it. [06]
- Q.6 (a)** List all admixture used in construction chemical industries. Write about water reducing admixture and dampproofing admixtures. [06]
- (b)** Write the advantages and disadvantages of adhesives used in the building and construction industry. [06]

OR

- (b1)** Write in detail about plasticizers for flowing concrete. [03]
- (b2)** Write in detail about Corrosion inhibitors used as concrete admixture. [03]