

### SECTION-C

**Note:** Long answer type questions. Attempt any three questions. 3x10=30

- Q.3 Describe the determination of light fastness and tinting strength of pigments and also state their significance in the dye industry.
- Q.4 Write a detailed note on Prussian and Ultramarine blue pigments.
- Q.5 Describe the main properties, applications and advantages of Copper Alloys.
- Q.6 With reactions and conditions, describe in detail the process of diazotization and coupling.
- Q.7 Describe in detail:
- Vat colour pigments and
  - Fugitive type of dyes and pigments.

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**4th Sem. / Chem. Engg. / (Spl. Paint Tech.)**

**Subject : Pigment Technology**

Time : 3 Hrs.

M.M. : 100

### SECTION-A

**Note:** Very Short Answer type questions. Attempt any 15 parts. (15x2=30)

- Q.1
- Define pigment.
  - Define refractive index.
  - Define oil absorption in pigments.
  - Define dispersibility of pigments.
  - Write formulae of basic lead carbonate.
  - State the colour imparted by iron oxides.
  - Name two natural colour pigments.
  - Write down the formulae of red lead.
  - Name four metallic pigments.
  - Define flushed pigments.

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- k) With one example, define Auxochrome group.
- l) Name two amino compounds used in diazotisation.
- m) Write down the structure of one diazo compound.
- n) Define basic dyes.
- o) What are anthenes?
- p) Write down the structure of Alizarin.
- q) Give one example of nitro dyes.
- r) Define extenders.
- iii) Describe the role of titanium dioxide in dye industry.
- iv) What is lithopane? Explain its preparation.
- v) State the properties of basic lead carbonate.
- vi) State the properties and uses of zinc oxide.
- vii) Write a note on carbon black pigment.
- viii) Write down the formulae of calcium plumbate and state its properties.
- ix) Explain the role of azo dyes in the dye industry.
- x) Write a note on Azo pigments.
- xi) State the advantages of acid dyes.
- xii) Write down the application of basic dyes.
- xiii) Explain testing and identification of organic pigments.
- xiv) Write a short note on carbonates as intenders.
- xv) Explain the significance of sulphate as extenders in the dye industry and also name two sulphate extenders.

### SECTION-B

**Note:** Short answer type questions. Attempt any ten parts 10x4=40

- Q.2 i) Explain determination of particle size and shape of pigments.
- ii) Describe the evaluation of Hiding power of pigments and its significance.

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