

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

# GUJARAT TECHNOLOGICAL UNIVERSITY

B. E. V<sup>th</sup> Semester–Examination – Nov-Dec- 2011

Subject code: 152801

Subject Name: Chemistry of Intermediates & Dyes

Date: 22/11/2011

Time: 02:30 pm – 05:30 pm

Total Marks: 70

## Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

**Q.1** What is meant by “Coal Tar dyes”? Discuss the destructive distillation of coal tar along with different products. **14**

**Q.2 (a)** What are auxochromes and chromophores? List out various names. Explain their role in constitution of a dye and their functioning. **07**

**(b)** Discuss Alkylation reaction with suitable examples. **07**

**OR**

**(b)** Explain orientation rules in benzene series. **07**

**Q.3 (a)** Describe the synthesis, properties and application of following classes of dyes. **08**  
(i) Reactive dyes (ii) Disperse dyes

**(b)** What is desulphonation? Explain it with suitable examples. **06**

**OR**

**Q.3 (a)** Describe halogenation of benzene, naphthalene and anthraquinone with significance. **09**

**(b)** Write a note on nomenclature of dyes. **05**

**Q.4 (a)** Define nitration. Explain its mechanism and describe nitration of benzene and toluene. **09**

**(b)** Give preparations of H acid and J acid. **05**

**OR**

**Q.4** Describe the synthesis, properties and applications of following classes of dyes: **14**  
(i) Azoic colours (ii) Basic dyes and (iii) Metal complex dyes.

**Q.5 (a)** Discuss in detail the principle of functioning, chemistry and application of fluorescent brightening agents. **10**

**(b)** Describe chemistry and applications vat dyes. **04**

**OR**

**Q.5** What is sulphonation? Name various reagents used for sulphonation. Explain its mechanism. Describe sulphonation of benzene and naphthalene along with chemical reaction. **14**

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