Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–V • EXAMINATION – WINTER • 2014

Subject Code: 153608 **Date: 03-12-2014**

Subject Name: Chemistry of Intermediates and Colorants - III

Time: 10.30 am - 01.00 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 **(a)** Define the term: **07**

i) Chromophore
ii) Auxochrome
iii) Fluorescent Brightening Agent
iv) Dyes
v) Azo Dyes
vi) Reactive dyes
vii) Disperse dyes

(b) Explain the basic concept of Fluorescence with help of Jablonski Diagram and define the terms Fluorescence, Phosphorescence and Luminescence. **07**

Q.2 **(a)** Write the synthesis of Reactive Red M_5B and Reactive Orange 13. **07**

(b) i) Write down the properties of Reactive dyes. **07**
ii) Explain the constitution of Reactive dyes

OR

(b) Write a note on: **07**

i) Current trends in reactive dyes & their application
ii) Future trends in reactive dyes.

Q.3 **(a)** Write down the properties of FBA and give the classification of FBA based on method of application. **07**

(b) Give the synthesis of Mikawhite AT and Blankophor WT **07**

OR

Q.3 **(a)** Write a note on Coumarin based fluorescent brightening agent. **07**

(b) Give the synthesis of C. I. Fluorescent Brightener-30 and C. I. Fluorescent Brightener-30 **07**

Q.4 **(a)** Write down the properties of Disperse dyes. Give the classification of disperse dyes with it's structural formula. **07**

(b) Write a note on HTHP method. **07**

OR

Q.4 **(a)** Explain high-tech application of dye for non-textile application. **07**

(b) Write a note on LASER dyes. **07**

Q.5 **(a)** Explain the term Diazotization with Mechanism. **07**

(b) Write a note on Direct and Indirect diazotization method. **07**

OR

Q.5 **(a)** Write a note on non-linear optical properties of dyes. **07**

(b) Write a note on development in color and chemical constitution. **07**

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