

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 M₅B 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**
