DF-1525
M. Sc. (Sem. III) Examination
March / April – 2016
Paper - IV : Dyes & Intermediates-I

Time : 3 Hours] [Total Marks : 70

Instructions :

(1)

Fill up strictly the details of signs on your answer book.

Name of the Examination : M. SC. (SEM. III)

Name of the Subject : PAPER - IV : DYES & INTERMEDIATES-I

Subject Code No. : 1 5 2 5

(2) Figures to the right indicate full marks of the questions.

1. Answer any THREE of the following: [18]
   
   (a) What are azoic dyes? Write notes on ‘Fast bases’ and ‘Fast Salts’. Give the synthesis of Naphthol AS-BR.

   (b) What are azo dyes? Give the mechanism of diazotization and coupling. Describe the chemistry of monoazo dyes.

   (c) Assign the position at which the coupling reactions take place:

      (i) H-Acid

      (ii) β- Naphthol

      (iii) Chromotropic acid

      (iv) Gamma acid

      (v) Chicago acid

      (vi) 2-amino naphthalene-5-sulphonic acid

   (d) Give the synthesis of:

      (i) Mordant Black 11

      (ii) Direct Violet 1

      (iii) Fast Orange GGD.

DF-1525] 1 [Contd...
2. Answer any THREE of the following: [18]
   (a) Classify fluorescent whitening agents giving at least one example of each class. Discuss the chemistry of fluorescent whitening agents derived from stilbene derivatives.
   (b) Give broad classification of textile fibres.
   (c) Discuss basic operations involved in dyeing process.
   (d) Give the synthesis of following:
       (i) Tinopol-3525  (ii) Leukophor EFG
       (iii) 4-acylamino-N-butynaphthalimide

3. Answer any THREE of the following: [18]
   (a) Write a note on organic pigments.
   (b) Discuss the chemistry of azine and oxazine.
   (c) Give an account of thiazole dyes.
   (d) Give the synthesis of:
       (i) Basic Yellow 11
       (ii) Safranine B
       (iii) Copper Phthalocyanine

4. Answer any THREE of the following: [16]
   (a) Describe different methods of diazotization.
   (b) What are white dyes? What are the characteristic properties of white dyes? Give the synthesis of Tinopol RBS.
   (c) Describe the fastness properties of dyes.
   (d) Explain with structures, synthesis and applications of different cyanine dyes.