



RF-3555-56

M. Sc. (Part-II) Examination  
April / May – 2010  
Organic Chemistry : Paper - III  
(Dyes & Intermediates)

Time : 3 Hours]

[Total Marks : 70

RF-3555

Instructions :

(1)

नीचे दशांश के निशानीवाणी विगतो उत्तरवही पर अवश्य लખवी. Fillup strictly the details of signs on your answer book.	Seat No. :
Name of the Examination :	<input type="text"/>
<input type="text" value="M. Sc. (Part-2)"/>	<input type="text"/>
Name of the Subject :	<input type="text"/>
<input type="text" value="Organic Chemistry - 3"/>	<input type="text"/>
Subject Code No. : <input type="text" value="3"/> <input type="text" value="5"/> <input type="text" value="5"/> <input type="text" value="5"/>	Section No. (1, 2,.....) : <input type="text" value="1"/>
Student's Signature	

(2) Answers to the **two** sections should be written in **separate** answer books.

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

- 1 (a) Discuss the theories of Nietzki's and M.O regarding the colour and chemical constitution. **12**
- (b) Explain Bathochromic and Hypsochromic effect.
- (c) Discuss the classification of dyes based on methods of application.

OR

- 1 (a) Discuss the theories of Witt's and Armstrong's regarding the colour and chemical constitution. **12**
- (b) Explain Hyperchromic and Hypochromic effect.
- (c) What are fluorescent whitening agents? Classify them. Give the synthesis of any **two** industrially important FWAs.

- 2 (a) What are azo dyes? Discuss the mechanism of diazotization and coupling. 12  
(b) Give an account of azoic dyes.  
(c) Give the synthesis of:-  
(i) Fast Orange GGD  
(ii) Direct Red-28

OR

- 2 (a) Give detailed classification of bisazo dyess with examples. 12  
(b) Assign the position at which the coupling reactions take place:-  
(i) Gamma acid  
(ii) H-acid  
(iii) G-salt  
(iv) 1-phenyl-3-methyl-5-pyrazolone.  
(v) Resorcinol  
(vi) Quinoline-2,4-diol  
(c) Give the synthesis of:-  
(i) Mordant Black-11  
(ii) Direct Violet-1

- 3 (a) What are anthraquinone dyes? How are they classified? Discuss the chemistry of anthraquinone mordant dyes. 11  
(b) Give the synthesis of:-  
(i) Cellition fast blue FFG  
(ii) Indanthrene Brilliant Orange GR  
(iii) Caledon Jade Green XBN.

OR

- 3 (a) How are anthraquinone vat days classified? Discuss the chemistry of acylamino, cyanuric acid and carbazole derivatives.  
(b) Give the synthesis of:  
(i) Indanthrene Orange 7RK  
(ii) Indanthrene Yellow 4GK  
(iii) Indanthrene Khakhi 2G

**Instructions :**

(1)

<p>नीचे दृष्टावेक निशानीवाणी विगतो उत्तरवडी पर अवश्य कभवी.  <b>Fillup strictly the details of signs on your answer book.</b></p> <p>Name of the Examination :  <b>M. Sc. (Part-2)</b></p> <p>Name of the Subject :  <b>Organic Chemistry - 3</b></p> <p>Subject Code No. : <b>3 5 5 6</b> Section No. (1, 2,.....) : <b>2</b></p>	<p>Seat No. :</p> <table border="1" style="width: 100%; height: 20px;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table> <div style="border: 1px solid black; border-radius: 15px; padding: 10px; width: 100%; height: 80px; margin-top: 10px;"> <p style="text-align: center;">Student's Signature</p> </div>						

(2) Answers to the **two** sections should be written in **separate** answer books.

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

4 (a) Give the chemistry of cyanine and thiazole dyes. 12

(b) Give the synthesis of:-

(i) Copper phthalocyanine

(ii) Rosinduline GG

(iii) Brilliant Alizarin Blue-3R

**OR**

4 (a) What are heterocyclic dyes? Give the chemistry of pyrazolone dyes. 12

(b) Differentiate the term dyes and pigments. Give an account of monoazo and diazo pigments.

(c) Give the synthesis of:-

(i) Basic Orange-21

(ii) Safranin B

5 (a) Give an account of:- 12

(i) Acid dyes

(ii) Cationic dyes

- (b) Give the synthesis of:-  
(i) Procion Brilliant Blue MR  
(ii) Malachite Green  
(iii) Procion Brilliant Red H-3B

**OR**

- 5** (a) What are reactive dyes? Classify them. Discuss the chemistry and synthesis of Procion and Remazol dyes.  
(b) What are TPM dyes? Give classification and discuss the chemistry and synthesis of one dye from each class.  
(c) Give the synthesis of:-  
(i) Acid Yellow-73  
(ii) Methylene Blue.
- 6** (a) What are disperse dyes? Give classification and discuss the chemistry of disperse dyes belonging to different groups. **11**  
(b) Give the synthesis of:-  
(i) Ciba Blue 2B  
(ii) Sunset Yellow FCF

**OR**

- 6** (a) Give a full account of:- **11**  
(i) Indigoid and Thio-indigoid dyes  
(ii) Dyes for Non- textile uses.  
(b) Give the synthesis of:-  
(i) Celliton Fast Yellow 7G  
(ii) Disperse Blue-14.