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RF-53177

M. Sc. (Part - II) (SF) Examination

April / May – 2010

Industrial Chemistry : Paper - II

(Dyes & Drugs)

Time : **3** Hours] [Total Marks : **70**

Instructions :

(1)

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :

☛ **M. SC. (PART - 2) (SF)**

Name of the Subject :

☛ **INDUSTRIAL CHEMISTRY - 2**

☛ Subject Code No. : **5 3 7 7** ☛ Section No. (1, 2,.....) : **1&2**

Seat No. :

Student's Signature

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

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

SECTION - I

1 (a) Discuss the theories of Nietzki's and Resonance 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.

OR

1 (a) Discuss the theories of Armstrong's and Witt's regarding the colour and chemical constitution. **12**

(b) Explain Bathochromic and Hypsochromic effect.

(c) Discuss the classification of dyes based on chemical constitution.

2 (a) What are azo dyes? Discuss the mechanism of diazotization and coupling. **12**

(b) Give detail classification of bisazo dyes with examples.

(c) Give the synthesis of :

(i) Celliton Fast Blue FFG

(ii) Indanthrene Orange 7RK

(iii) Indanthrene Khakhi 2G

OR

2 (a) What are anthraquinone vat dyes? How are they classified? Discuss the chemistry of acylamino and carbazole derivatives. **12**

(b) Discuss the different methods of diazotization.

(c) Give the synthesis of :

(i) Fast Orange GGD

(ii) Acid Blue-92

(iii) Direct Violet-1

3 What are reactive dyes? How are they classified? Discuss in detail the chemistry and synthesis of reactive dyes. How are they differentiated from disperse dyes? **11**

OR

3 What are TPM dyes? How are they classified? Discuss in brief the chemistry and synthesis of TPM dyes. **11**

SECTION - II

4 (a) What is QSAR? Explain any one important theory of QSAR. **12**

(b) Define the term "Drug Biotransformation." Give an account of biological factors affecting drug metabolism.

(c) What is lead ? Discuss lead modification with suitable examples.

OR

4 (a) What is drug metablism ? Give a brief account of Phase-I.

(b) What is drug design ? Give an account of drug design.

(c) Discuss giving suitable examples, Phase-II metabolic process.

5 (a) What are analgesics and antipyretics? How are they classified? Discuss the structural variations among pyrazolone and p-amino phenol derivatives in analgesics. **12**

(b) What are antimalarials? Classify antimalarial drugs on the basis of chemical structures. Give a account of 4-amino and 8-amino quinoline as antimalarial drugs.

(c) Give the synthesis of :

(i) Furesamide

(ii) Atenolol

(iii) Paracetamol.

OR

5 (a) What are diuretics? Discuss the classification and structural variations among diuretics. Give a brief account of organomercurial compounds. **12**

(b) Classify sulphonamides according to the duration of action. Discuss structural variations and antibacerials activities of sulphonamides.

(c) Give the synthesis of :

(i) Novalgin

(ii) Sulfathiazole

(iii) Procaine.

6 (a) What is pro-drug concept? Which factors should be considered in the design of pro-drug? **11**

(b) Discuss mode of action of antipyretics and analgesics.

(c) Discuss SAR of Local anaesthetics.

OR

6 (a) Discuss bioprecursor and carrier prodrug with suitable illustrations. **11**

(b) Discuss mode of action of antimalarials.

(c) Discuss SAR of Penicillins.
