Library B.Sc-VI 07/04/15

TYBSc.

Drugs & Dyes

Q.P. Code : 14498

(2½ Hours) [Total Marks : 75

N.B. : (1) All questions are compulsory.
(2) Figures to the right indicate full marks.

1. (a) (i) Discuss any three chemical transformations taking place inside the body during drug metabolism.
(ii) Write the structure and application of Chloroquin.

OR

(a) (i) Write a note on discovery of Lead compounds.
(ii) Write the structure and application of Niclosamide.

Answer ANY TWO of the following.

(b) (i) What are chemotherapeutic agents? Explain giving any two suitable examples.
(ii) How are anti-infective drugs developed from natural sources?

(c) (i) Write general structure of Benzodiazepines. Give its structure activity relationship.
(ii) What is drug absorption? Explain any one factor affecting the absorption process.

(d) (i) Give the synthesis of Paludrine.
(ii) Discuss drug distribution to various tissues of the body.

(e) (i) Give the synthesis of Ciprofloxacin.
(ii) What are anthelmintics. Explain its mode of action?

2. (a) Give the therapeutic use and synthesis of p-[2'-(5-chloro 2-methoxybenzamido) ethyl] benzene sulphonamide from methyl-5-chloro-2-methoxy benzoate.

OR

(a) (i) Discuss any three methods by which Tuberculosis is diagnosed.
(ii) Give the synthesis of Dapsone.

Attempt ANY TWO of the followjng.

(b) (i) What causes cancer? What is meant by Malignancy?
(ii) Give the synthesis of 5- Fluorouracil from urea.

(c) (i) Explain the following-
(1)Targeted drug delivery and its advantages.
(2)Use of carbon nanotubes in the treatment of cancer.
(ii) Give the synthesis of p-Acetyl amino benzenesulphonyl chloride from Aniline.

(d) Give a brief idea about the following- 5
(i) Pathogenicity of HIV
(ii) Use of Gold nano particles in the treatment of Alzheimer's disease. OR Parkinson's diseae.

(e) (i) Give the synthesis of (+) Ethambutol. 3
(ii) Write the structure and chemical class of Diloxamide furoate. 2

3. (a) (i) How will you prepare Resorcinol from Benzene? 3
(ii) Explain the dye fiber attachment due to Van der waal's force of attraction 2

OR

(a) Give preparation of the following 5
(i) 2-methylanthraquinone from Phthalic anhydride
(ii) 2-naphthol from Naphthalene

Answer ANY TWO of the following

(b) (i) What is nitration? Give one example of nitration. Explain the role of conc. H_2S0_4 in nitration. 3
(ii) Explain the term intermediates with examples. 2

(c) (i) How will you prepare Naphthol ASG from Benzene? 3
(ii) Write a note on halogenation with suitable example. 2

(d) (i) What is unit process? Explain sulphonation with suitable example 3
(ii) Write a note on direct dyeing of cotton 2

(e) (i) Give synthesis of Benzanthrone from Anthracene. 3
(ii) Write a note on mordant dyeing of cotton. 2

4. (a) Give the synthesis of Indigo starting from Aniline and write its uses. 5

OR

(a) (i) How will you prepare Orange IV using Sulphanilic acid? 3
(ii) Discuss the harmful effects of Benzidine dyes on human health. 2

Answer ANY TWO of the following

(b) How will you prepare Diamond Black F starting from N. W. acid? Give its uses 5

(c) (i) How is Bismark Brown synthesized from m-phenelynediamine? 3
(ii) Write the structure of silk and give the classes of dyes applied to it. 2

(d) How is Safranine T prepared from o-toluidine? Give its uses. 5

(e) (i) Write the synthesis of Eosine using Phthalic anhydride. 3
(ii) Write the harmful effects of textile dyes on human health. 2

5. Answer **ANY THREE** of the following.

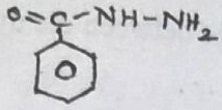
(a) Fill in the blanks by choosing the correct option. 5

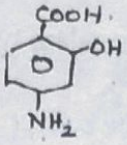
(i) Antibiotics are obtained from _____.

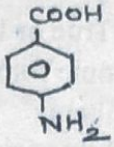
(1) living microorganism (2) synthetic chemical compound

(3) natural compound

(ii) Structure of PAS is _____.

(1) 

(2) 

(3) 

(iii) Nanoparticles are those particles which necessarily have

(1) all dimensions = 150 nm (2) all dimensions between 1-100 nm

(3) all dimensions > 100 nm

(iv) Antibiotics must be effective is _____ concentration.

(1) High (2) Low (3) Moderate

(v) _____ combination of drugs is used in the treatment of Tuberculosis.

(1) Ciprofloxacin + Tinidazole (2) Rifampin + Isoniazide + Pyrazinamide

(3) Rifampin + Clofazimine + Ethionamide.

(b) Match the following 5

A	B
(i) Increase in activity	(a) AIDS
(ii) Metronidazole	(b) Antimicrobial activity
(iii) Screening method	(c) Chain branching
(iv) Zidovudine	(d) Amoebiasis
(v) Silver nanoparticles	(e) Lead compounds
	(f) Antineoplastic

(c) State whether the following are True or False. 5

(i) With the help of CADD, activity of ligands binding with receptor can be easily determined.

(ii) PAS is the drug used to treat tuberculosis.

(iii) The finctional groups and other structural units responsible for pharmacological action of a drug are called as pharmacophores.

(iv) Tuberculosis is caused by Entamoeba histolytica.

(v) 2,4,5 - triamino - 6 hydroxypyrimidine is an intermediate used in the synthesis of Glibenclamide.

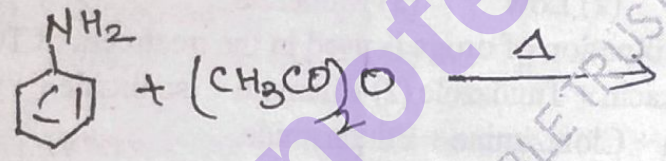
(d) Write the structure of following dyes. 5

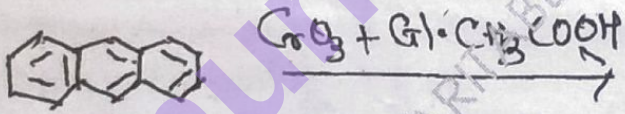
(i) Eriochrome Red B
(ii) Methylene Blue
(iii) Indanthrene Blue
(iv) Malachite Green
(v) Alizarine Cyanine Green G

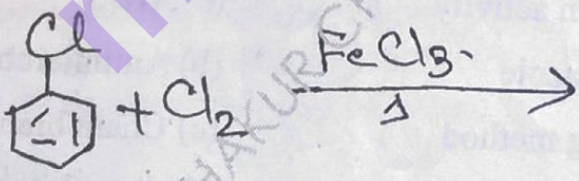
(e) State True or False 5

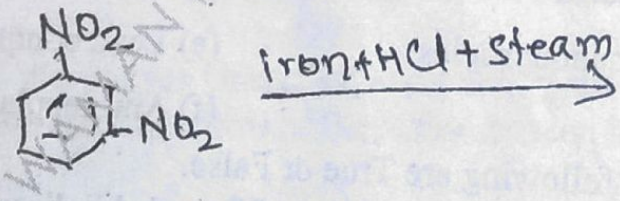
(i) Ionic forces results in covalent type of linkage between the dye and the fibers.
(ii) Primaries can directly be converted to dye.
(iii) Polyester is hydrophobic fiber.
(iv) Food colours have to be approved by the FDA.
(v) Diazotization is carried out at high temperature.

(f) Complete the following reaction and rewrite them: 5

i) 

ii. 

iii- 

iv. 

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