

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI-86
(For candidates admitted during the academic year 2011 – 12 & thereafter)

SUBJECT CODE: 11CH/MC/OC54

B.Sc. DEGREE EXAMINATION, NOVEMBER 2016
BRANCH IV- CHEMISTRY
FIFTH SEMESTER

REG.NO

COURSE : MAJOR CORE

PAPER : ORGANIC CHEMISTRY-II

TIME : 30 MINUTES

MAX.MARKS : 30

SECTION – A

(30x1=30)

ANSWER ON THE QUESTION PAPER ITSELF.

Answer all the questions.

I Choose the correct Answer:

(10x1=10)

1. The reduction of nitrobenzene in neutral medium gives _____
a) Aniline b) Phenylhydroxylamine c) Hydrazobenzene d) Benzidine
2. Which one of the following is the correct order of basic strength ?
a) $(\text{CH}_3)_2\text{NH} > (\text{CH}_3)_3\text{N} > \text{CH}_3\text{NH}_2 > \text{NH}_3$
b) $(\text{CH}_3)_2\text{NH} > \text{CH}_3\text{NH}_2 > (\text{CH}_3)_3\text{N} > \text{NH}_3$
c) $\text{NH}_3 > (\text{CH}_3)_2\text{NH} > (\text{CH}_3)_3\text{N} > \text{CH}_3\text{NH}_2$
d) $(\text{CH}_3)_3\text{N} > (\text{CH}_3)_2\text{NH} > \text{CH}_3\text{NH}_2 > \text{NH}_3$
3. When benzene diazonium fluoroborate is heated with aqueous sodium nitrite solution in the presence of copper, the product formed is
a) Fluorobenzene b) Nitrobenzene c) Phenol d) Borobenzene
4. In _____ rearrangement, amide is treated with $\text{Br}_2 / \text{NaOH}$ to form amine with one carbon atom less
a) Beckmann b) Wolff c) Benzidine d) Hoffmann
5. Methyl orange is an example of _____ dye.
a) Phthalein b) Triphenylmethane c) Azo d) Natural
6. Aniline condenses with benzaldehyde to form
a) Acetanilide b) Schiff's base c) Benzylamine d) Benzoquinone
7. Quinoline on treatment with alkaline KMnO_4 gives
a) Phthalic acid b) Cinchomeric acid
c) Isoquinolinic acid d) Quinolinic acid and oxalic acid
8. Isoquinoline on treatment with sodium and liquid ammonia gives
a) Octahydroisoquinoline b) Tetrahydroisoquinoline
c) Dihydroisoquinoline d) Decahydroisoquinoline
9. Which one of the following is not a pharmacodynamic agent?
a) Antihypertensive agents b) Antiulcer agents
c) Antiviral agents d) Antiallergic agents

10. Furan undergoes electrophilic substitution reaction at
a) C-2 or C-3 b) C-3 or C-5 c) C-3 or C-4 d) C-2 or C-5

II Fill in the blanks: **(10x1=10)**

11. Hinsberg's reagent is _____ .
12. The drugs used to kill or remove parasite worms are called _____.
13. Aromatic amine is identified by _____ test.
14. Thiophene reacts with n-butyl lithium in ether and gives _____.
15. Indole undergoes Reimer Tieman reaction to form _____.
16. The drugs used in the treatment of malignant diseases are called _____.
17. _____ is used as an antimalarial drug
18. Aniline when heated with chloroform and alcoholic KOH gives _____.
19. An example for natural dye is _____.
20. The drugs producing depersonalization, changes in mood and learned behaviour are called _____ drugs.

III State whether true or false: **(5x1=5)**

21. Para rosaniline is an example for triphenyl methane dye
22. In LSD indole ring is in fusion with reduced isoquinoline ring
23. Sedatives are the drugs which reduce excitement.
24. In aromatic electrophilic substitution reaction, nitro group is para director.
25. Sulpha guanidine is used for sterilization of colon.

IV Answer in a line or two: **(5x1=5)**

26. Give the tautomer of nitroalkane

27. What is diazotisation?

28. Give the structure of chlorophyll.

29. What are antibiotics?

30. What are hypnotics?

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MAX.MARKS : 70

SECTION – B

(5x6=30)

ANSWER ANY FIVE QUESTIONS

1. Explain the classification of dyes based on application.
2. Describe the preparation and therapeutic uses of sulphadiazine.
3. Explain the preparation of Malachite green and Phenolphthalein
4. Give the preparation and therapeutic uses of aspirin and paracetamol.
5. How will you effect the following transformation?
 - a) Methylamine to ethylamine
 - b) Ethylamine to Methylamine
6. Describe the preparation of quinoline by Skraup's synthesis and isoquinoline by Bischler Napieralsky synthesis
7. Give the structures of penicillin, Streptomycin, Chloromycetin and Tetracycline.

SECTION – C

(2x20=40)

ANSWER ANY TWO QUESTIONS

8.
 - a) Give one method of preparation of aniline. How does it undergo nitration reaction?
 - b) How will you distinguish primary, secondary and tertiary amines? (8+12)
9.
 - a) Discuss the biological classification of drugs with examples for each. (10+10)
 - b) Give the products
 - i) Furan + Maleic anhydride →
 - ii) Thiophene + NBS →
 - iii) Pyridine + NaNH₂ in liquid NH₃ →
 - iv) Pyrrole + CHCl₃ + 3NaOH →
 - v) Furan + Ni →
10. a) Explain the following rearrangement reactions with mechanism (15+5)
 - i) Beckmann rearrangement
 - ii) Benzidine rearrangement
 - iii) Wolff rearrangement
 - b) Give the products
 - i) Benzene diazonium chloride + Phenol →
 - ii) Aniline + Br₂/H₂O →
 - iii) Benzene diazonium chloride + CuCN/KCN →
