

- (b) Write the important methods of preparation and reactions of sulphonic acid. **8**

Section C

- 6.** Describe :
- (a) Paal-Knorr synthesis for pyrroles
 - (b) Fischer-indole synthesis for indoles
 - (c) Bischler-Napieralski synthesis for isoquinolins. **5,5,5**
- 7.** (a) Describe the structure and aromaticity in 5-membered ring compounds with one heteroatom. **5**
- (b) Describe some important chemical reactions of pyrrole. **5**
 - (c) Explain the preparation of pyridine by Hantzsch Synthesis. **5**

M-D522

4

No. of Printed Pages : 05

Roll No.

D522

**Dual Degree B.Sc. (Hons.) Chemistry-
M.Sc. Chemistry EXAMINATION, May
2019**

(Fourth Semester)

(Main Only)

DCH204

CHEMISTRY

Organic Chemistry-IV

Time : 3 Hours]

[Maximum Marks : 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting *one* question from each Section. Q. No. **1** is compulsory.

(3-40/5) **M-D522**

P.T.O.

1. (a) Why *p*-nitroaniline is less basic than aniline ? 2
- (b) What is Nitrating Mixture ? 2
- (c) How anthracene reacts with maleic anhydride ? 2
- (d) Why sulphonic acids are stronger acid than carboxylic acids ? 2
- (e) Why pyridine is more basic than pyrrole ? 2
- (f) Define alkaloids. 2
- (g) Write the medicinal importance of cocaine. 2
- (h) Define heterocyclic compounds. 1

Section A

2. (a) Explain :
 - (i) Gabriel phthalimide synthesis
 - (ii) Carbylamine reaction. 8
- (b) Describe the relative basicity of primary, secondary and tertiary amines in water. 7

3. (a) How can you separate primary, secondary and tertiary amines by Hinsberg's method ? 7
- (b) Write important methods of preparation of :
 - (i) Nitro compounds
 - (ii) Nitriles. 8

Section B

4. (a) Describe briefly some importance chemical reactions of :
 - (i) Naphthalene 7
 - (ii) Anthracene.
- (b) Explain two importance preparations of :
 - (i) Thiols
 - (ii) Thioethers. 8
5. (a) Describe :
 - (i) Aromaticity of polynuclear hydrocarbons
 - (ii) Two important method of preparation of naphthalene. 7

Section D

8. (a) Describe the structural elucidation and synthesis of nicotine. **10**
- (b) Explain Hoffmann's exhaustive methylation in alkaloids. **5**
9. (a) What are Terpenes ? Explain isoprene rule in it. **5**
- (b) Describe the structural elucidation and synthesis of citral. **10**

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