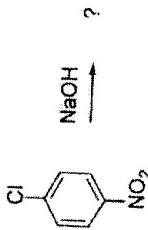


7. (a) Explain the product with mechanism : 4



- (b) Compare the products formed when reduction of nitrobenzene is carried out in acidic and neutral medium. 4

#### SECTION - D

- (i) Give the mechanism of : 4 × 2 = 8
- (ii) Meerwein-Ponndorf-Verley reduction
- (iii) Wolf-Kishner reduction
- (iv) How will you distinguish between aliphatic and aromatic aldehydes? Explain with reasons. 4
- (v) Illustrate with suitable example of Aldol condensation. 4

Roll No. ....

41263

### B. Sc. (Hons.) Chemistry 4th Semester Examination – May, 2019

ORGANIC CHEMISTRY

Paper : CH(H)-403

Time : Three hours / Maximum Marks : 40

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

Note : Attempt five questions in all, selecting one question from each Section. Question Number 1 is compulsory. All questions carry equal marks.

1. Compulsory Question : 8 × 1 = 8

- (a) Write down the wavelength range of IR radiation in  $\mu$ .
- (b) Write an expression to determine the basic strength of amine and correlate it with  $pK_b$  value.

(4)

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- (c) Explain why ammonia is less basic than primary aliphatic amine ?
- (d) Reduce the nitro methane in neutral medium.
- (e) Explain how two isomers are produced when phenyl nitro methane is treated with base ?
- (f) Why temperatures in diazotization reactions keep low ?
- (g) What are  $\alpha$ ,  $\beta$ -unsaturated carbonyl compounds ?
- (h) Write a very short note on unpoolung.

### SECTION - A

2. (a) How will you prepare a solid sample for IR ? 4
- (b) Discuss about the fundamental stretching vibration frequencies. 4
3. (a) Write a short notes on : 4
- (i) Functional group region
- (ii) Finger print region
- (iii) Aromatic region
- (iv) % Transmittance

( 2 )

- (b) Discuss the IR spectrum of 2-methyl-2-propanol

### SECTION - B

4. (a) Discuss about the stereochemistry of tertiary amines. Why tertiary amine isomers have not been isolated so far ?
- (b) How would you explain the property of quaternary ammonium salts as phase transfer catalyst ?
5. (a) Why primary amines give obnoxious smell when heated with chloroform and alcoholic potash ? Explain.
- (b) Why electrophilic reactions are not given by aliphatic amines but aromatic amines do ? Explain with examples.

### SECTION - C

6. (a) How will you replace aza group by  $\text{NO}_2$  group ? Starting with aromatic amine, explain all the steps involved. 4
- (b) Convert aniline into hydrazine. 4

( 3 )