	Utech
hmName :	
Roll No.:	To distribute (1/ Exemple) and Exemple
Invigilator's Signature :	
CS/B.PHA	RM (NEW)/SEM-3/PT-304/2009-10

2009

PHARMACEUTICAL CHEMISTRY (ORGANIC)

Time Allotted: 3 Hours Full Marks: 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

GROUP – A (Multiple Choice Type Questions)

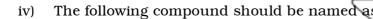
 $1. \quad \hbox{Choose the correct alternatives for any $\it ten$ of the following:}$

 $10 \times 1 = 10$

- i) Aryl halides are compounds containinga) carbonb) halogen
 - c) nitrogen d) iodine only.
- ii) Nylon 6, 6 may be prepared from which of the following heterocyclic compound?
 - a) furan b) pyrrole
 - c) thiophene d) thiazole
- iii) Identify the base component from the fused heterocycle :
 - a) indole d) quinoline
 - c) pyrimidine d) purine.

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v) In case of nomenclature of heterocyclic compounds the preference is made on which of the following basis?

a) P > P > S > N > Si b) O > N > S > P > Si

c) O > S > N > P > Si d) O > Si > P > N > S.

vi) Pall-Knorr synthesis is done for

a) pyridine b) piperidine

c) pyrazine d) pyrrole.

vii) Which one is corret for SN $_2$ reation?

a) Unimolecular two step reaction

b) Unimolecular one step reaction

c) Bimolecular one step reaction

d) Bimolecular two step reaction.

viii) Which one is stronger acid?

a) phenol b) *p*-nitrophenol

c) *p*-cresol d) *p*-chlorophenol.

ix) Reducing sugar gives negative test with

a) Tollen's test b) Benedict's test

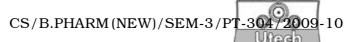
c) Fehling's test d) None of these.

x) α -*D* and β -*D* glucose are known as

a) isomers b) anomers

c) polymers d) tautomers.

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- xi) Amylose is a straight chain polysaccharide composed of
 - a) L-glucose
- b) D-glucose
- c) D-fructose
- d) L-fructose.

- xii) Indole is
 - a) 6, 5 conjugated system
 - b) 6, 4 conjugated system
 - c) 6, 3 conjugated system
 - d) 6, 7 conjugated system.

GROUP – B (Short Answer Type Questions)

Answer any three of the following.

 $3 \times 5 = 15$

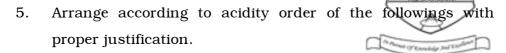
2. Write the Killiani-Fischer synthesis.

- 5
- 3. Draw the structures of the following with proper numbering
 - : 5 ∞ 1
 - a) Pyrrole
 - b) Pyrazole
 - c) Pyridine
 - d) Pyrimidine
 - e) Pyridazine.
- 4. Explain with proper justification :

p-nitrophenal is having more boiling point and solubility in water than O-nitrophenol. $2\frac{1}{2}+2\frac{1}{2}$

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p-nitrophenal, *p*-chlorophenol, phenol, *p*-cresol.

5

6. Explain mutarotation with example.

5

$\begin{aligned} & & & & GROUP-C \\ (& & & Long & Answer & Type & Questions) \end{aligned}$

Answer any *three* of the following. $3 \times 15 = 45$

- 7. What do you mean by aryl halide? Explain the structure of aryl and vinyl halides. Discuss in brief the reactivity of nucleophillic substitution reaction of aryl halide. 1 + 5 + 9
- 8. Write a descriptive note on the chemistry of furans. 15
- 9. a) Explain why pyrrole is less basic than pyridine.
 - b) Write a short note on the chemistry of naphthalene.
 - c) Discuss about the nomenclature of fused ring heterocyclic systems. 4 + 7 + 4
- 10. Define *D*-and *L*-configuration of glucose. Explain with reaction about the glucosazone formation. Write the chain lengthening and chain shortening reaction of aldopentoses.

4 + 4 + 7

11. What is nucleophilic substitution reaction. Differentiate between SN $_1$ and SN $_2$ reaction. Write down the mechanism for SN $_1$ and SN $_2$ reaction. 2+3+10

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