



hmName : .....

Roll No. : .....

Invigilator's Signature : .....

**CS/B.PHARM (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. Choose the correct alternatives for any *ten* of the following :

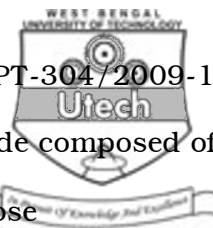
10 × 1 = 10

- i) Aryl halides are compounds containing
- |             |                 |
|-------------|-----------------|
| a) carbon   | b) 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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[ Turn over





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 × 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.                       $2\frac{1}{2} + 2\frac{1}{2}$

CS/B.PHARM (NEW)/SEM-3/PT-304/2009-10



5. Arrange according to acidity order of the followings with proper justification.

*p*-nitrophenol, *p*-chlorophenol, phenol, *p*-cresol. 5

6. Explain mutarotation with example. 5

### GROUP – C

( Long Answer Type Questions )

Answer any *three* of the following. 3 × 15 = 45

7. What do you mean by aryl halide ? Explain the structure of aryl and vinyl halides. Discuss in brief the reactivity of nucleophilic 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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