



Name :

Roll No. :

Invigilator's Signature :

**CS/B.PHARM (Old)/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

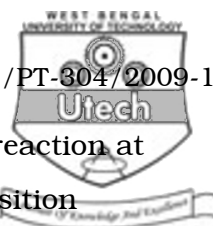
- i) Ninhydrin test is given by
- a) carbohydrate b) protein
- c) lipid d) none of these.
- ii) Identify the following reaction :

dia

-
- iii) In pericyclic reactions orbital overlap occurs by
- a) HOMO and LUMO b) HOMO and HOMO
- c) LUMO and LUMO d) All of these.

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- x) Pyridine gives electrophilic substitution reaction at
- a) 1, 4 position b) 2, 6 position
- c) 3, 5 position d) all of these.
- xi) The name of the ring is

dia

- a) Indoline b) Oxyindole
- c) Indoxyl d) Isatin.

GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following. 3 × 5 = 15

2. What are conrotatory and disrotatory movements seen in electrocyclic reactions ? What are sigmatropic and cycloaddition reactions ? Define with examples. 1 + 2 + 2
3. Write short notes on 2 $\frac{1}{2}$ + 2 $\frac{1}{2}$
- i) Hantzsch Pyridine synthesis
- ii) Knorr Pyrrole synthesis.
4. What is Killiani-Fisher synthesis ? Explain with example. There are two test tubes - one containing carbohydrate and the other containing protein. How will you identify them ?
- 3 + 2
5. Write short notes on 3 + 2
- i) Skraup synthesis
- ii) Reissert indole synthesis.



GROUP – C

(Long Answer Type Questions)

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

6. Differentiate between stereospecific and stereoselective synthesis. What is Wilkinson's catalyst ? With the help of Wilkinson's catalyst explain the mechanism of

- i) Conversion of alkene to alkane
- ii) Enantioselective synthesis.

What is regiochemical synthesis ? $2 + 1 + 5 + 5 + 2$

7. Write short notes on $4 + 3 + 4 + 4$

- i) Mutarotation
- ii) Anomerization in carbohydrate chemistry
- iii) Chemical synthesis of proteins
- iv) Composition of DNA and RNA in eukaryotic cell.

8. What is ($\pi^4 + \pi^2$) type of cycloaddition reaction ? With the help of orbital symmetry explain any electrocyclic reaction. Write short notes on

- i) Anchimeric assistance in neighbouring group effect
- ii) Suprafacial and antarafacial shift in sigmatropic reaction. $2 + 5 + 5 + 3$

9. What are Saponification number and iodine number of a fat or oil ? What is the difference between vegetable oil and vegetable ghee ? Explain with example. Write in details on

- i) Rancidification of oil
- ii) Biosynthesis of lipids. $1 + 1 + 2 + 4 + 7$