

11.06.18

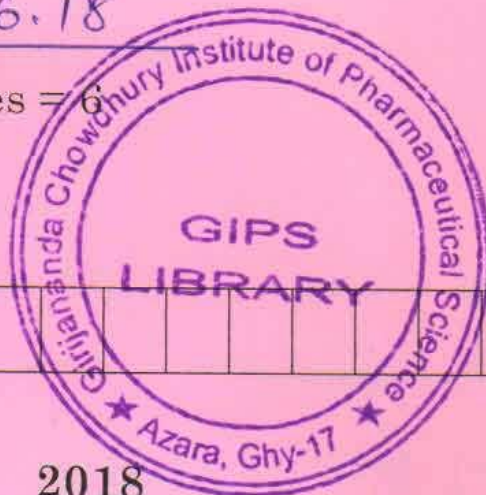
Total No. of printed pages = 6

PY 132409

Roll No. of candidate

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2018



B.Pharm. 4th Semester End-Term Examination

PHARMACEUTICAL CHEMISTRY -IV
ORGANIC CHEMISTRY-III

Full Marks – 100

Time – Three hours

The figures in the end margin indicate full marks
for the questions.

Answer question No. 1 and any *six* from the rest.

1. Choose the appropriate alternative for the following
questions: (10 × 1 = 10)

(a) Which of the following is five membered
heterocyclic compound?

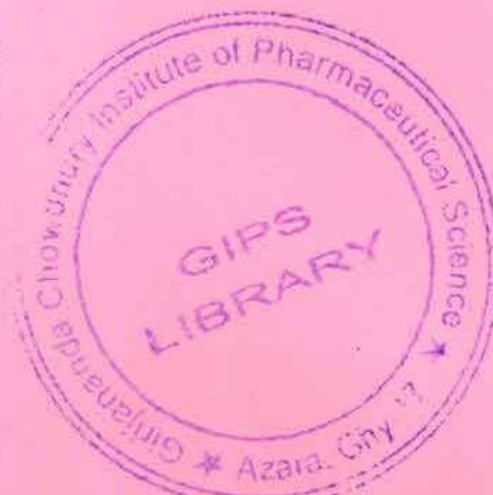
(i) Pyridine

(ii) Thiophene

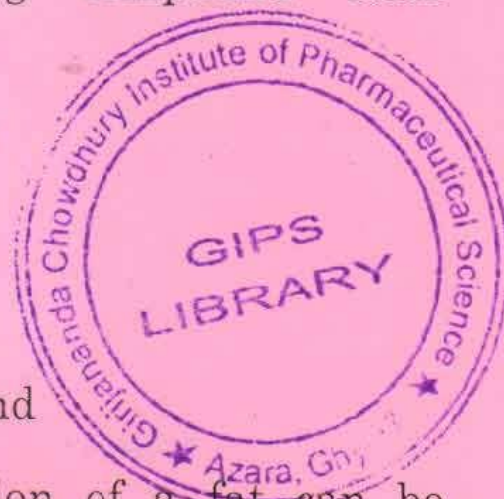
(iii) Quinoline

(iv) Isoquinoline

Turn over

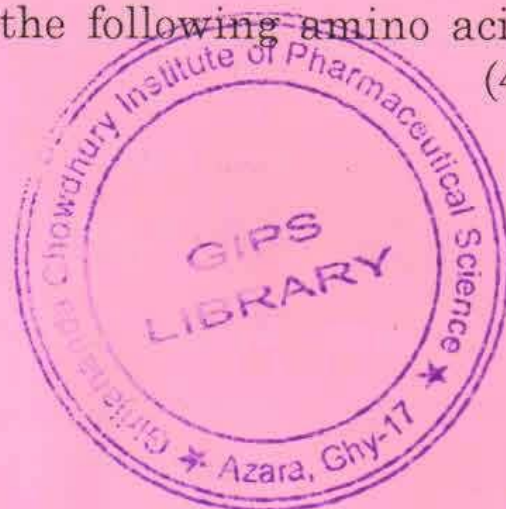
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- (b) Common table sugar is
- (i) Glucose
 - (ii) Sucrose
 - (iii) Fructose
 - (iv) Maltose
- (c) Which of the following compounds reduces Tollens reagent?
- (i) Methanol
 - (ii) Ethanol
 - (iii) Acetic Acid
 - (iv) Glucose
- (d) The reaction in which aniline is treated with glycerol to form quinoline is known as
- (i) Skraup Synthesis
 - (ii) Killiani fischer Synthesis
 - (iii) Bisehler-Napieralski Synthesis
 - (iv) Noneofthese
- (e) Liquid Oils can be converted to solid fats by
- (i) Hydrogenation
 - (ii) Saponification
 - (iii) Hydrolysis
 - (iv) Oxidation of double bonds

- (f) Which of the following compound form zwitterions
- Carbonyl Compounds
 - Amino acid
 - Phenols
 - Heterocyclic Compound
- (g) The degree of unsaturation of a fat can be determined by means of its
- Iodine Number
 - Octane Number
 - Saponification Number
 - Melting Point
- (h) Furan reacts with ammonia in the presence of alumina at 400°C to give
- Pyridine
 - Furfural
 - Pyrrrole
 - Furoic Acid
- (i) Upon hydrolysis, protein gives
- Fatty Acid
 - Amino acid
 - Hydroxy Acid
 - Alcohol



- (j) The sugar that yields only glucose on hydrolysis is
- Lactose
 - Sucrose
 - Maltose
 - Fructose
2. (a) Explain Why: any three (3×4)
- Pyridine does not undergo Friedel Craft Reactions.
 - Pyridine is less basic than aliphatic amine.
 - Pyrrole undergoes electrophilic substitution at 2 position
 - Pyridine undergoes nucleophilic substitution at 2 position
- (b) How industrially pyrrole can be obtained? (3)
3. (a) What are carbohydrates? How are they classified? (5)
- (b) Why non-reducing sugar do not exhibit mutarotation? (3)
- (c) How do you differentiate between glucose and sucrose? (4)
- (d) What are industrially important derivatives of cellulose? (3)
4. (a) What are oils and fats and how they differ from each other? (5)
- (b) How analysis of fats and oils are done? (5)
- (c) Write short notes on mutarotation. (5)

5. (a) Write down Gabriel Phthalimide Synthesis for the preparation of glycine. (4)
- (b) Classify protein on the basis of their chemical classification and their molecular shapes. (4)
- (c) Give the structure of the following amino acid (any four) (4)
- (i) Glycine
 - (ii) Alanine
 - (iii) Valine
 - (iv) Phenylalanine
 - (v) Tyrosine
- (d) What do you mean by isoelectric point? Explain. (3)
6. Write short notes on the following reactions and its mechanism (any three) (3 × 5 = 15)
- (a) Oppenaur Oxidation
 - (b) Claisen Condensation
 - (c) Reformatsky Reaction
 - (d) Diels Alder Reaction
7. Briefly Describe about (any three) the following. (3 × 5 = 15)
- (a) Skraup's Synthesis
 - (b) Paal -Knor Synthesis
 - (c) Bischler–Napieralski Synthesis
 - (d) Fischer Indole Synthesis
 - (e) Pyridine Synthesis



8. (a) How furan is synthesized from polysaccharides? (3)
- (b) Give the following proper reactions of furan : (3+4 = 12)
- (i) Halogenation
 - (ii) Nitration
 - (iii) Sulphonation
 - (iv) Friedel Craft Acylation
9. (a) Write a note on Ruff degradation. (5)
- (b) What do you mean by reducing and non-reducing sugar? Give one chemical test by which you can differentiate them? (5)
- (c) What do you mean by epimerisation? Give one example of ketohexose. (4+1)
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