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**Printed Pages: 02** **Sub Code: RPH301**

**Paper ID:** | 5 | 0 | 1 | 3 | **Roll No.** | | | | | | | | | | |

**B. PHARM.**
**(SEM. III) THEORY EXAMINATION 2017-18**
**PHARMACEUTICAL CHEMISTRY-IV/ HETEROCYCLIC & BIOORGANIC CHEMISTRY**

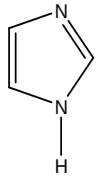
***Time: 3 Hours*** ***Total Marks: 70***

**Note: 1.** Attempt all Sections. If require any missing data; then choose suitably.
**2.** Any special paper specific instruction.

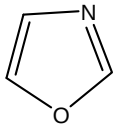
## SECTION A

**1. Attempt *all* questions in brief.** **2 x 7 = 14**

a. Give the pharmaceutical importance of indole.
b. Give the name of following heterocyclic compounds:



(i)



(ii)

c. Give any one identification test of carbohydrates.
d. Define iodine value.
e. Define isoelectric point.
f. Give the examples of fat soluble vitamins.
g. Define reducing sugar with example.

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## SECTION B

**2. Attempt any *three* of the following:** **7 x 3 = 21**

a. Write method of synthesis, chemical properties and pharmaceutical applications of thiophene.
b. What are the hydrolytic products of starch? Discuss in detail about structure elucidation of hydrolytic products of starch.
c. Enumerate primary, secondary, tertiary and quaternary structures of protein.
d. Write a note on genetic code.
e. Elucidate structure of ascorbic acid.

## ECTION C

**3. Attempt any *one* part of the following:** **7 x 1 = 7**

(a) Write down chemical reactions of phenothiazine.

(b) Give the preparation, properties and pharmaceutical importance of (any two):

i. Furan
ii. Benzimidazole
iii. Thiazole

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**4. Attempt any *one* part of the following: 7 x 1 = 7**

(a) Establish the structure of glucose.

(b) Give a detailed description on Disaccharides.

**5. Attempt any *one* part of the following: 7 x 1 = 7**

(a) Classify Amino acids. Describe Gabriels phthalimide and Strecker synthesis method for synthesis of Amino acids.

(b) Describe N-terminal determination of amino-acids.

**6. Attempt any *one* part of the following: 7 x 1 = 7**

(a) Differentiate between oil, fats and waxes. Discuss in detail about acid value of oils and fats with its significance.

(b) Explain the functions of DNA and RNA.

**7. Attempt any *one* part of the following: 7 x 1 = 7**

(a) Write a note on structure elucidation of retinol.

(b) Describe free radical and ionic mechanism of chain polymerization reaction.

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