

B PHARM
(SEM IV) THEORY EXAMINATION 2017-18
PHARMACEUTICAL CHEMISTRY-IV
(MOLECULAR BIOLOGY AND BIOCHEMISTRY)

Time: 3 Hours

Total Marks: 100

Note: Attempt all the Sections. Assume missing data suitably, if any.

SECTION A

1. Attempt all questions in brief. 2 x 10 = 20

- a) What is nucleotide?
- b) Brief about translation and transcription.
- c) Define membrane lipid or glycans.
- d) Write about conjugated protein.
- e) Define essential amino acid with example.
- f) Differentiate glycolysis and gluconeogenesis.
- g) Write in brief about cell cycle.
- h) Define enzyme inhibition.
- i) What is transamination?
- j) What is oxidative phosphorylation?

SECTION B

2. Attempt any three of the following: 10 x 3 = 30

- a) Discuss the kinetics of enzyme or derive Michaelis-Menton Equation.
- b) Write a note on protein conformation and cell signaling.
- c) What is gene regulation? Describe Lac Operon Model.
- d) Give a note on DNA repair mechanism.
- e) What are ketone bodies? Discuss its utilization.

SECTION C

3. Attempt any two parts of the following: 5 x 2 = 10

- a) What is enzyme? Discuss the effect of pH and temperature on enzyme.
- b) Discuss the synthesis of amino acid specialized product to Epinephrine and GABA.
- c) Write the biosynthesis of glutamine & glycine.

4. Attempt any one part of the following: 10 x 1 = 10

- a) What is macromolecule? Explain covalent bonding in macromolecules.
- b) Describe the reactions in the synthesis of urea.

5. Attempt any one part of the following: 10 x 1 = 10

- a) Give the description of biological membrane with their composition & function.
- b) Discuss salvage pathway for purine and pyrimidine biosynthesis.

6. Attempt any one part of the following: 10 x 1 = 10

- a) What is respiratory chain? Discuss the mechanism of oxidative phosphorylation.
- b) Write about components of protein synthesis along with Discuss the inhibitors.

7. Attempt any one part of the following: 10 x 1 = 10

- a) Discuss the steps involve in biosynthesis of cholesterol.
- b) Write a note on classification & nomenclature of enzyme.