

B TECH
(SEM-III) THEORY EXAMINATION 2020-21
BIOCHEMISTRY

Time: 3 Hours

Total Marks: 100

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt all questions in brief.

2 x 10 = 20

Qno.	Question	Marks
a.	What do you mean by molal solution?	2
b.	What is the pH of a solution containing 0.4 M acetic acid (pKa=4.7) and 0.2 M sodium acetate?	2
c.	Enlist the name of Essential fatty acids.	2
d.	Name any five essential amino acids.	2
e.	What do you understand by ketone bodies?	2
f.	What is the difference between ribose and deoxyribose sugar?	2
g.	What is the precursor for the synthesis of fatty acid?	2
h.	Enlist the name of amino acids having aromatic side chain.	2
i.	What do you understand by phi angle?	2
j.	What do you mean by stereo isomers?	2

SECTION B

2. Attempt any three of the following:

Qno.	Question	Marks
a.	What is the difference between strong and weak acids? Briefly explain strong acid.	10
b.	Explain the ring structure formation of glucose.	10
c.	Describe the process of activation & transport of fatty acid from cytosol to mitochondria for oxidation.	10
d.	Discuss the formation of peptide bond. What is the application of Ramachandran plot?	10
e.	Write a brief note on disorder of pyrimidines metabolism.	10

SECTION C

3. Attempt any one part of the following:

Qno.	Question	Marks
a.	Derive Henderson Hasselbalch equation for acidic buffer solution.	10
b.	Describe the structure and function of water molecule.	10

4. Attempt any one part of the following: <https://www.aktuonline.com>

Qno.	Question	Marks
a.	What do you understand by disaccharides? Discuss the structure and functions of monosaccharides.	10
b.	What do you understand by Oxidative phosphorylation? Describe TCA cycle with neat and clean diagram.	10

5. Attempt any one part of the following:

Qno.	Question	Marks
a.	Briefly explain the diseases associated with lipid metabolism.	10
b.	What do you mean by β oxidation? Explain the β oxidation of any saturated fatty acid.	10

6. Attempt any one part of the following:

Qno.	Question	Marks
a.	What is the difference between deamination and transamination? Describe Urea Cycle.	10
b.	What are the various levels of protein structure? Explain the tertiary level of protein structure.	10

7. Attempt any one part of the following:

Qno.	Question	Marks
a.	What do you understand with de Novo & salvage pathway? Explain the salvage pathway for the synthesis of purine.	10
b.	Describe the Structure and properties of nucleoside triphosphates.	10