

- (c) Micromolecules  
(d) Macromolecules  
(e) Polarity of water

2x5=10

2. Write short notes on the following :

- (a) Sphingosine  
(b) Cholesterol

5,5

3. Describe the structure of DNA. Differentiate between A, B and Z DNA.

5,5

4. Describe in detail the various factors which affect the enzyme action.

10

5. Write short notes on the following :

- (a) Classification of aminoacid  
(b) Classification of carbohydrates

5,5

6. Describe in details C<sub>3</sub> cycle and how it differ from C<sub>4</sub> cycle.

10

7. ✓ Describe in detail the process of glycolysis. How many molecules of ATP are formed during complete oxidation of a glucose molecule.

8,2

8. Write short notes on the following :

- (a) Lipids  
(b) Nitrogen fixation

5,5

(20519)

Roll No. 180654131030  
Sonu Kumar

Total Questions : 8 ]

[ Printed Pages : 2

**3488**

**B.Sc. (Micro.) Ist Year Examination,  
May-2019**

**BIOCHEMISTRY**

**(B-105)**

**[B.Sc. (Micro)]**

**Time : 3 Hrs. ]**

**[ M.M. : 50**

- Note :-**
- (i) Attempt any *five* questions. All questions carry equal marks.
  - (ii) Marks allocated to each part of a question are given.
  - (iii) Candidates are advised to read the question paper carefully and answer the questions accordingly.
  - (iv) Answers should be brief and to the point.

1. Explain the following terms :

- (a) pH
- (b) Buffer

**NA-319**

**( 1 )**

**Turn Over**

- (ii) Functions of glutathione
- (iii) Physical & chemical properties of water
- (iv) Buffer solutions with examples.
- 4. Discuss the different types of bond/linkages found in bimolecules. 10
- 5. Describe the structure & properties of fatty acids found in Lipids & also discuss the biological importance of lipids. 10
- 6. Write short notes on the following :

$$2 \times 5 = 10$$

- (i) Phospholipids.
- (ii) Optical isomerism in Glucose
- (iii) Peptide bond
- (iv) Potolysis of water
- (v) Nitrogenase

3488/2

3488/3

1. Write short notes on
  - (a) Peptide bond
  - (b) Buffer solution
  - (c) Neutral amino acid
  - (d) Enzyme inhibition
  - (e) Endocytosis
 2  $\times$  5 = 10
2. What is the composition of nucleic acid? Discuss the structure of DNA as stated by Watson and Crick. 4 + 6 = 10
3. Give the properties of Enzymes. Discuss Michaelis Menten constant in enzyme action. 4 + 6 = 10
4. Explain the structure and hydrolysis of ATP. 4 + 6 = 10
5. Give a detail account of biochemical transformations related to photosynthesis. 4 + 6 = 10

3488/2

6. Discuss the functions of proteins. Give the structures of proteins. 4 + 6 = 10
7. Write short notes on buffering against pH changes in biological cycle. 10
8. Give the structure and functions of biomembranes. 4 + 6 = 10

3488/3

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(20517)

Roll No. .... / 6.9.7.960/4.

B.Sc.(Micro.) -I Year.

**3488**

B.Sc. (Micro.) Examination, May 2017

### BIOCHEMISTRY

(B-105)

*Time: Three Hours / Maximum Marks : 50*

**Note :** Attempt any five questions. All questions

carry equal marks.

1. Define carbohydrates & classify them and also discuss important properties of each type with example.

10

2. Discuss the primary secondary, tertiary and quaternary structure of proteins giving suitable example.

10

3. Write short notes on the following :

2½×4=10

- (i) All types of nucleosides in Nucleic acid

P.T.O.

A

(20622)

Roll No. ....

B.Sc. (Micro.)-I Year

**3488**

B.Sc. (Micro) Examination, June-2022

### BIOCHEMISTRY

(B-105)

*Time : Three Hours / Maximum Marks : 50*

**Note :** (i) Attempt any five questions. All

questions carry equal marks.

- (ii) Marks allocated to each part of a question are given.

- (iii) Candidates are advised to read the question paper carefully and answer the questions accordingly.

- (iv) Answers should be brief and to the point.

P.T.O.

(Printed Pages 3)

- (iv) Thin-Layer chromatography  
(v) Role of nitrogenase enzymes.
2. Describe the structure of DNA, including its building blocks, and the physical structure. 10
3. Define the terms 'primary', 'secondary' and 'tertiary' structure in relation to protein. 10
4. What is water polarity, and what causes water to be polar molecule? 10
5. What is the primary function of carbohydrates in living organisms? 10
6. What are the major classes of lipids, and how do they contribute to cellular structure and function? 10
7. What is Michaelis - Menten equation and how does it describe enzyme kinetics?

10

3488/2

8. Explain the concept of ATP and its importance in cellular energy metabolism.

10

3488/3

2. What are different types of carbohydrates and what are their functions in living organisms? 10
3. What is the structure of DNA, and how does it facilitate genetic information storage and replication? 10
4. What are the building blocks of proteins, and how is their structure related to their function? 10
5. How do enzymes function as catalysts in biochemical reaction, and how is their structure related to their function? 10
6. How do competitive and non-competitive inhibitors affect enzyme activity? 10
7. What are the key steps and products of glycolysis, and how is ATP generated in this pathway? 10

10

3488/2

8. What is meant by a polar molecule, and how does water exhibit polarity? 10

3488/3

D (Printed Pages 3)  
(20524) Roll No. ....  
B.Sc. (Micro.)-I Year

D (Printed Pages 3)  
(21223) Roll No. ....  
B.Sc. (Micro.)-I year

3488

B.Sc. (Micro) Examination, May-2024  
(20524) Roll No. ....  
B.Sc. (Micro.)-I Year

D (Printed Pages 3)  
(21223) Roll No. ....  
B.Sc. (Micro.)-I year

3488

B.Sc. (Micro) Examination, May-2024  
**BIOCHEMISTRY**  
(B-105)

**BIOCHEMISTRY**  
(B-105)

*Time : Three Hours / Maximum Marks : 50*  
**Note :** Attempt any **five** questions. All  
questions carry equal marks.

*Time : Three Hours / Maximum Marks : 50*  
**Note :** Attempt any **five** questions. All  
questions carry equal marks.

1. Write short notes :  $2 \times 5 = 10$
- (i) Building blocks of protein
  - (ii) Acid-base equilibrium in biological system.
  - (iii) Glycogenolysis

- Note :** Attempt any **five** questions. All  
questions carry equal marks.
- (i) Saturated & unsaturated fatty acids
  - (ii) Buffering system in biological systems.
  - (iii) Gluconeogenesis.
  - (iv) Nitrogen-fixing bacteria.
  - (v) UV-visible spectroscopy.

1. Write short notes :  $2 \times 5 = 10$

- (i) Building blocks of protein
- (ii) Acid-base equilibrium in biological system.
- (iii) Glycogenolysis

P.T.O.

3488  
B.Sc. (Micro.) Back-Paper  
Examination, Dec.- 2023  
**BIOCHEMISTRY**  
(B-105)

B.Sc. (Micro.)  
P.T.O.

*Time : Three Hours / Maximum Marks : 50*

**Note :** Attempt any **five** questions. All  
questions carry equal marks.

1. Write short notes :  $2 \times 5 = 10$

- (i) Saturated & unsaturated fatty acids
- (ii) Buffering system in biological systems.

- (iii) Gluconeogenesis.
- (iv) Nitrogen-fixing bacteria.
- (v) UV-visible spectroscopy.

1. Write short notes :  $2 \times 5 = 10$

- (i) Building blocks of protein
- (ii) Acid-base equilibrium in biological system.
- (iii) Glycogenolysis

P.T.O.