

MAHARASHTRA ANIMAL AND FISHERY SCIENCES UNIVERSITY, NAGPUR
SEMESTER END THEORY EXAMINATION, B.TECH. (D.T.) DEGREE COURSE 2018-19

Semester	: I (V Dean)	Academic Year	: 2018-2019
Course No.	: DC-101	Course Title	: Biochemistry
Credits	: 1+1 2	Total Marks	: 50
Day & Date	: Monday, 14/01/2019	Time	: 11.00 to 13.00 Hrs.

- Note :**
- 1) All questions from **Section 'A'** are compulsory.
 - 2) Solve **Any Three** questions from **Section 'B'**.
 - 3) Draw neat and well labelled diagram wherever necessary.

SECTION - 'A'

Q. 1. A) Choose the most appropriate answer from the options given below. (05)

- i) is not a positively charged amino acid.
 - a) Arginine
 - b) Lysine
 - c) Histidine
 - d) Phenylalanine
- ii) The nitrogenous bases not present in RNA structure
 - a) Cytosine
 - b) Thymine
 - c) Adenine
 - d) Guanine
- iii) What type of interaction would you predict in a tertiary structure of protein?
 - a) Salt bridges
 - b) Van der Waals interactions
 - c) Hydrogen bonding
 - d) All of these
- iv) The enzymes are
 - a) Lipids
 - b) Carbohydrates
 - c) Proteins
 - d) Nucleic acids
- v) binds to an active site of an enzyme.
 - a) Substrates
 - b) Catalyst
 - c) Products
 - d) Acids

B) Define the following. (05)

- i) Wax
- ii) Essential amino acids
- iii) Apoenzyme
- iv) Gluconeogenesis
- v) Nucleosides

Q. 2 A) Do as directed (05)

- i) Glycine is a simplest amino acid. Justify.
- ii) Elaborate EMP
- iii) What do you understand by the term regulatory enzymes?
- iv) Name the enzyme whose deficiency is responsible for lactose intolerance in human.
- v) Why should fat be fuel reserve of the body?

- B) State whether True or False. If false, rewrite the statement after making necessary corrections. (05)
- i) Cephalin is also called phosphatidylinositol.
 - ii) According to the lock and key model, both enzymes and substrates do not possess specific complementary geometric shape that fit exactly into one another.
 - iii) Universal function of RNA is protein synthesis.
 - iv) A protein is made up of amino acids linked together by glycosidic linkages.
 - v) Double helical structure of DNA was proposed by Watson and Crick.

SECTION –‘B’

- Q. 3 A) Describe with diagram how ammonia is eliminated by urea cycle. (05)
B) Explain in details the structure of proteins. (05)
- Q. 4 A) Describe and explain citric acid cycle with diagram. (05)
B) Write the silent features of Watson and Crick DNA model. (05)
- Q. 5 A) What are simple, conjugated and derived lipids? Give example. (03)
B) Write a short note on enzyme inhibition. (03)
C) Discuss in detail the hexose mono phosphate (EMP) pathway. (04)
- Q. 6 A) Discuss the different types of RNA and their functions. (03)
B) Write the structures of purines and pyrimidines. (03)
C) Define the term amino acids. Explain in details why glycine and proline is unique amino acids along with structure. (04)
- Q. 7 What are enzymes? Explain in details classification of enzymes on the basis of reaction they catalyzed. (10)
