10830/N

M-64/2110

BIOLOGY FOR CHEMISTS- 104 (B)

SEMESTER-I (SYLLABUS DECEMBER-2019)

TIME ALLOWED 3 Hrs M.M 55

Note: Attempt five questions in all, selecting two questions each from Section A and Section B and the entire section C.

Section A

1. Define mitosis. Describe its process and significance. 8
2. Describe the structure and functions of Golgi complex. 8
3. Write short notes on:
   i. Gluconeogenesis
   ii. Biological energy currency 4, 4=8
4. What do you mean by beta oxidation? Give an account of beta oxidation process for even carbon fatty acids. 8

Section B

5. What is the secondary structure of protein? Discuss the forces responsible for holding it. 8.5
6. What are enzymes? Discuss the mechanism of their action. 8.5
7. Give an account of chemical composition of DNA. 8.5
8. How a message encoded in mRNA is translated into a protein? Discuss. 8.5

Section C

9. Attempt all the parts of this question. Each part carries 2 marks. 11x2=22

i. What are the unique properties of carbon?

ii. What is the significance of fertilization process?

iii. What are epimers?

iv. Write four important differences between a prokaryotic and a eukaryotic cell.

v. Write a note on liposomes.

vi. Enlist the bio-functions of chitin.

vii. What do you mean by degeneracy of genetic code? Write its significance.

viii. Give an account of base pairing in DNA.

ix. Write a note on reducing sugars.

x. What do you mean by passive and active transport?

xi. What is a peptide bond? Write its significance.