PC-7266/N

J-13/2110

BIOLOGY FOR CHEMISTS

Paper–104(B)

(Semester–I)

Time : Three Hours] [Maximum Marks : 55

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

SECTION–A

I. Define meiosis. Describe prophase I and discuss significance of meiosis. 8

II. Describe Kreb's cycle and discuss its energetics. 8

III. Write short notes on the following :

(a) Bio-functions of cellulose.

(b) Chemical evolution. (4+4=8)

IV. Give an account of fluid mosaic model of membrane structure. 8

SECTION–B

V. What are amino acids? Discuss their classification. 8½

VI. Describe double helix structure of DNA. Discuss forces responsible for holding it. 8½

VII. Define Genetic Code. Discuss important characteristics of genetic code. 8½

VIII. Write short notes on the following :

(a) tRNA.

(b) Mode of enzyme action. (4+4½=8½)

SECTION–C

IX. Attempt all the parts of this question. Each part carries 2 marks.

(a) What are coacervates? Write their significance.

(b) How is starch different from glycogen?

(c) What are enantiomers?

(d) Differentiate a plant cell from an animal cell.

(e) What are essential fatty acids? Give examples.

(f) Write a note on glycosidic bond.

(g) Define osmosis. How is it different from diffusion?

(h) Write a note on Zwitter ions.

(i) What are primidines? Write primidine bases of RNA.

(j) What do you mean by transcription?

(k) Why is mitochondrion referred to as power house of the cell? (11×2=22)