BIOCHEMISTRY

PAPER – IV

BCHEM/D/14/03/IV

Time : 3 hours
Max. Marks : 100

Important instructions:

- *Attempt all questions in order.*
- *Each question carries 10 marks.*
- *Read the question carefully and answer to the point neatly and legibly.*
- *Do not leave any blank pages between two answers.*
- *Indicate the question number correctly for the answer in the margin space.*
- *Answer all the parts of a single question together.*
- *Start the answer to a question on a fresh page or leave adequate space between two answers.*
- *Draw table/diagrams/flowcharts wherever appropriate.*

1. Discuss artificial membranes and their significance. 6+4

2. Describe the principle, uses, advantages and limitations of Radio-immune assays. 2+2+3+3

3. Define RF value. Give the principle, procedure and applications of gel filtration chromatography. 1+(3+3+3)

4. a) Subcellular cell fractionation. 5+5
   b) Immuno-electrophoresis.

5. Describe the principle of ELISA. Differentiate between competitive and non-competitive ELISA. Mention its applications. 2+6+2

6. Name the pathways of protein sorting and targeting. Explain the transport of proteins into the endoplasmic reticulum. 2+8

7. Discuss the principles and application of ion selective electrodes. 6+4

8. Explain the features of various theories of ageing with recent advances. 10

9. Discuss the principles and applications of ultracentrifuge. 6+4

10. Describe the various cellular damages caused by free radicals. Add a note on antioxidants. 6+4

****