K22P 1371

Reg. No. : .....

Name : .....

III Semester M.Sc. Degree (CBSS – Reg./Sup./Imp.) Examination, October 2022
(2019 Admission Onwards)
BOTANY
BOT 3 C11 : Biochemistry and Biophysics

Time : 3 Hours Max. Marks : 60

***Instruction** : Draw diagrams **wherever** necessary.*

SECTION – A

1. a) Explain in detail the structure, function, properties and classification of amino acids.

   OR

   b) Describe the Mechanisms of immune responses, its genetic control and applications of immunological techniques.

2. a) Explain the principle and various techniques of Chromatography.

   OR

   b) Give an account of various techniques of biophysics with reference to the applications of Light. **(2×8=16)**

SECTION – B

Answer **any two**. **(2×6=12)**

3. a) What is Michaelis Menton equation ?
   b) Give its derivation ?
   c) What is Lineweaver Burk Plot ? **(1+2+3)**

4. a) What is immunodeficiency ?
   b) How is it classified ?
   c) What is the role of Vaccines ? **(1+2+3)**

5. a) What is agarose gel electrophoresis ?
   b) Explain the advantages of agarose gel electrophoresis.
   c) Briefly explain the procedure. **(1+2+3)**

P.T.O.

SECTION – C

Answer **any six**.

6. What are Monosaccharides? Briefly describe their classes.
7. What is hybridoma technology ?
8. Describe the activation of B and T cells.
9. Describe the structure of immunoglobulins with a diagram.
10. Explain the role of buffers in biological systems.
11. What is ultra centrifugation? Give its principle.
12. What is Lyophilisation ? Give its applications.
13. Differentiate colorimetry and spectrophotometry. **(6×3=18)**

SECTION – D

Answer **any seven**.

14. Radioactive isotopes.
15. Atomic absorption spectroscopy.
16. Tracer techniques.
17. What is Cerenkov Radiation ?
18. Safety guidelines for Radioactivity experiments.
19. Unsaturated fatty acids.
20. Biosynthesis of Purines.
21. Ramachandran Plot.
22. Peptidoglycan.
23. Lectins and their importance. **(7×2=14)**