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Sixth Semester B.Sc. Degree Examination, Sept./Oct. 2022
(CBCS Scheme)
BIOCHEMISTRY
Paper – VIII : Biochemistry

Time : 3 Hours

Max. Marks : 70

- Instructions :** 1) The question paper has **two** Part : Part – A and Part – B.
2) Answer **any eight** questions from Part – A and **any nine** questions from Part – B.

PART – A

Answer **any eight** of the following questions. **Each** question carries **2** marks :

(8×2=16)

1. How does dry heat bring about sterilization ?
2. What is solid state fermentation ?
3. Give the principle of immunoelectrophoresis.
4. Write the principle of FISH.
5. Mention any two applications of autoradiography.
6. Define antigenicity.
7. What is meant by complement system ?
8. What are attenuated vaccines ? Give an example.
9. Mention any two advantages of cosmids.
10. Write any two characteristics of P^{BR322}.
11. Name any two DNA modifying enzymes.
12. What are single cell proteins ?



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PART – B

Answer **any nine** of the following questions. **Each** question carries **6** marks : **(9×6=54)**

13. a) Explain any two methods for preservation of microbes.
b) What is fed-batch fermentation ? (4+2)
14. a) Describe the industrial production of biofuels.
b) How are microorganisms isolated by streak plate method ? (4+2)
15. a) What is lyophilization ? Mention its advantages and disadvantages.
b) What is enrichment media ? (4+2)
16. a) Write the principle and any two applications of Northern-blotting technique.
b) Give the principle of RIA. (4+2)
17. a) Explain the steps involved in immunoelectrophoresis.
b) Mention any two applications of ELISA. (4+2)
18. a) Write the principle and applications of autoradiography.
b) Name any two types of PCR. (4+2)
19. a) Explain the structure of IgG with a neat labelled diagram.
b) What is allergic reaction ? (4+2)
20. a) Explain the mechanism of humoral immune response.
b) Differentiate between primary and secondary immune response. (4+2)
21. a) Explain the physiological role of MHC proteins.
b) What are natural killer cells ? (4+2)
22. a) Write any four applications of gene library.
b) Give the role of DNA polymerase in RDT. (4+2)
23. a) Describe the selection of transformants by colony hybridization.
b) What is insertional inactivation ? (4+2)
24. a) Mention any two features and advantages of yeast artificial chromosome.
b) What are restriction endonucleases ? (4+2)
25. a) Define gene cloning. List out the tools required for gene cloning.
b) What are monoclonal antibodies ? (4+2)