AF-3517

M.Sc. (Final)
Term End Examination, 2017-18

CHEMISTRY

Paper - II

Bioinorganic, Bioorganic, Biophysical and Environmental Chemistry

Time : Three Hours] [*Maximum Marks* : 100
[*Minimum Pass Marks* : 36

Note : Answer **five** questions in all, selecting **one** question from each Section and Question No. 9 which is compulsory. The figures in the right-hand margin indicate marks.

Section-A

1. (*a*) Give a brief account of different roles of Na^+ and K^+ ion in biological process. 10

(*b*) Explain the following : 10

(*i*) Glucose storage

(*ii*) Biological nitrogen fixation

2. (*a*) Describe the structure and function of haemoglobin and myoglobin. 10

(*b*) What are essential and trace elements ? Discuss the role of trace elements in biological processes. 10

Section-B

3. (*a*) Explain the structure and biological function of co-enzyme. 10

(*b*) Write a short note on Crown ether cryptates. 10

4. Write notes on the following : 10×2

(*a*) Use of enzyme in food and drink industry

(*b*) Host-guest Chemistry

Section-C

5. (*a*) Giving suitable examples explain exergonic and endergonic biochemical reactions. 10

(*b*) Discuss the structure and function of DNA and RNA in living system in short. 10

6. Describe any experimental technique for evaluation of size and shape of biopolymer. 20

Section-D

7. Describe analytical methods for the measurement of DO, COD and BOD. 20

8. Discuss, how cement, sugar, distillary, paper and pulp, thermal power plants and nuclear power plants are polluting our environments. 20

Compulsory Section

9. Write short notes on any **two** of the following : 10×2

(*a*) DNA polymerisation

(*b*) Clinical uses of enzymes

(*c*) Nomenclature and classification of protein

(*d*) Mechanism of ion transport through cell membrane

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