



THE AMERICAN COLLEGE, MADURAI

(An Autonomous Institution Affiliated to Madurai Kamaraj University)

Re-accredited (2nd Cycle) by NAAC with Grade "A", CGPA – 3.46 on a 4-point scale

Backlog Arrear Examination, March 2021

CHS 1425/ CHS 1371 CHEMISTRY FOR BIOCHEMIST-I

Max: 75 Marks

Time: 3 Hrs

Answer any FIVE questions

5 x 15=75

1. With neat sketch explain the Born-Haber cycle for the formation of NaCl molecule.
2. Distinguish S_N^1 and S_N^2 reactions with suitable examples.
3. State Le Chatelier's principle. Using that explain the effect of temperature on the following equilibrium $N_2(g) + 3H_2(g) \leftrightarrow 2NH_3$ $\Delta H = -92.38 \text{ KJ}$
4. a) Write short note on the following terms
(i) Osmosis (ii) Osmotic pressure
b) Explain Reverse osmosis process with suitable diagram.
5. a) Differentiate nuclear fission and fusion reactions.
b) Write the applications of radioactivity.
6. Enumerate the applications of thermodynamics in biological systems.
7. Draw and explain the MO diagram for O_2 molecule.