



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 1372/CHE 1426

CHEMISTRY FOR BIOCHEMIST -II

Marks: 75

Time: 3 Hrs

Answer any FIVE questions

5 x 15=75

1. a) What is enzyme catalysis? [2]
b) Derive Michaelis Menton equation for enzyme catalysed reactions [13]
2. How will you measure the enthalpy of combustion using Bomb calorimeter.
3. Write the chemistry for the following indicators
i) Phenolphthalein ii) Diphenylamine iii) EBT [5+5+5]
4. a) Describe the splitting of d-orbital in an octahedral crystal field [8]
b) Apply EAN rule to the following and comment. [4]
i) $[\text{Co}(\text{NH}_3)_6]^{3+}$ ii) $\text{Ni}(\text{CO})_5$
c) Differentiate bidentate and amphidentate ligands with suitable examples [3]
5. a) How is a polarimeter used in determining the optical activity of a molecule [10]
b) Differentiate enantiomer and diastereomer with examples [5]
6. a) What is the reason for using TMS as a reference compound in ^1H NMR spectroscopy [7]
b) Write a note on vibrations in IR spectroscopy [8]
7. Discuss the instrumentation method, principle and applications of UV spectroscopy with neat diagram.