



# THE AMERICAN COLLEGE, MADURAI

(An Autonomous Institution Affiliated to Madurai Kamaraj University)

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

## Backlog Arrear Examination, March 2021

BCH 1526/1536 FUNDAMENTALS OF CHEMISTRY -II

Time : 3 Hours

Max Marks: 75

Answer any FIVE questions

5 x 15=75

1. Define enzyme catalysis? Explain using Michaelis-Menten equation.
2. How will you measure the enthalpy of combustion using Bomb calorimeter.
3. What are the basic principles of IR spectroscopy? and write a note on vibrations in IR spectroscopy
4. Define chiral centre? Briefly explain the rules of to assign E-Z notation and R-S notation.
5. A) What is meant by Ligand? List out the types of ligand. Give example on each type. [7]  
B) Describe the splitting of d-orbital in an octahedral crystal field [8]
6. Write a short notes on A) HSAB principle [5+5+5]  
B) Lowry Bronsted theory  
C) Arrhenius Theory.
7. a) How is a polarimeter used in determining the optical activity of a molecule [10]  
b) Differentiate enantiomer and diastereomer with examples [5]