



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

PGC 4428

BIOLOGICAL CHEMISTRY

75 MARKS

Time: 3 Hrs

(Answer any FIVE questions)

5X15 =75

1. Illustrate the importance of the following in biological reactions.
 - i) Proximity effect
 - ii) molecular adaptation(9+6)
2. Give an account on
 - i) Antibodies as enzymes
 - ii) Molecular recognition and drug design(6+9)
3. a) Explain the role of vitamins as coenzymes
b) Outline the sequence of steps in protein synthesis initiated by RNA from DNA (6+9)
4. a) Discuss the uses of enzymes in food and drinks industry.
b) Illustrate that $\Delta G=0$ in biochemical processes. (10+5)
5. Describe the chemistry involved in muscular movement.
6. Write notes on a) biomineralisation of metals.
b) Redox reactions of copper proteins. (7+8)
7. Discuss in detail the chemistry of nitrogen fixation.