



# 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

**PGB 5408**

**Photobiology**

**Time: 3hrs**

**Marks: 75**

**I. Answer any FIVE of the following each not exceeding four pages. (5X15=75)**

1. List the theories proposed to explain the properties of light and elucidate the mechanism and functions of fluorescence.
2. How solar energy is trapped, transferred and transduced in photosynthesis of a bacterium and a green plant.
3. What are phytochromes? How do they intercede the germination and flowering behaviour in plants?
4. How do plants cope with UV- B radiations in protecting themselves?
5. Study the functions of rods and cones in the physiology of vision.
6. What are photosensitizers, sunscreen and melanising agents? How do they help protecting oneself from the hazardous effects of harmful radiation?
7. Comprehensively review the circadian and circa-annual rhythms and show how well the land plants are adapted to it.