

Indian Association for the Cultivation of Science
School of Biological Science
Examination 2020

Course Name: Elements of Photobiology
Class: BSMS

Course Code: BIS 2101
M.M.: 50

Note: Attempt all questions.

Time: 2:00 hr

Section: A (20 marks)

(Objective Questions)

Q1. (Fill in the blanks)

(02X05=10)

- i. Each chlorophyll molecule contains nucleus.
- ii. Chlorophyll a and b found in higher plant and found in some certain kind of algae and bacteria.
- iii. Carotenes are photosynthetic pigments important for
- iv. Xanthophylls have that make them polar.
- v. The mobile phase travels up the stationary phase due to

Q2. (True/False)

(02X50=10)

1. TLC depends on separation principle.
2. The separation relies on the relative affinity of compounds towards both the phases.
3. On completion of the separation process, the individual components from the mixture appear as spots at respective levels on the paper.
4. Anthocyanins are water soluble.
5. Porphyrin is tetrapyrrole ring with chelated magnesium atom at the centre.

Section B (20 marks)

Q3. Write short note

(05X04=20)

- | | | |
|---------------------------------|-----------------|--------------------------|
| A. Beta-carotene | B. Anthocyanine | C. Column Chromatography |
| D. Effect of pH on Anthocyanine | | |

Section C (10 marks)

Q4: Long answer

(10X01=10)

- Explain the extraction of Chlorophyll from spinach leaves through Chromatography.