

## **SEMESTER-II (Pool-A)**

### **COURSE NAME : APPLIED PHYCOLOGY (CHOI-A34)**

**Number of Credit: - 02**

**Maximum marks: 50**

#### **Unit-I**

Marine environment: Introduction, Culture medium and methods, Cultivation of macro and microalgae, Seaweed farming for potential application in food industries.

#### **Unit-II**

Seaweeds used as a source of agar, carrageenan, Alginate, Seaweeds used as Human food, Fertilizers and soil conditioners, Animal feed, Fish feed.

#### **Unit-III**

Bioactive phenolic compounds in seaweed, seaweed as a source of bioactive proteins, peptides and amino acids, Lipid and fatty acid profile of major seaweeds, Minerals in edible seaweeds.

#### **Unit-IV**

Biomass for fuel, Cosmetics, Integrated aquaculture, Wastewater treatment, treatment of wastewater to reduce nitrogen and phosphorus-containing compounds, Removal of toxic metals from industrial wastewater

#### **Unit-V**

Algae and human affairs: Edible algae, algae in single cell protein production, Algal biofertilisers, Phycocolloids, phycocolloids and other useful products of algae, biotechnological application of algae.

#### **Reference Books:**

1. Fritsch F.E. (1935 The Structure & Reproduction of Algae 1945): Cambridge University Press  
Cambridge, U.K. Vol. I, Vol. II.
2. Smith, G.M (1955) :Cryptogamic Botany (Vol. I Algae, Fungi, & Lichens) McGraw-Hill Book Co.,  
New York .
3. Ian Morris (1967): An Introduction to the Algae, Hutchinson, London.
4. An introduction to Algae – Morris, Cambridge Univ. Press, U.K
5. Introductory Phycology – H.D. Kumar, Affiliated East West Press Ltd., New Delhi
6. Phycotalk Vol. I and II - H. D. Kumar Rastogi Publ., Meerut.
7. Recent Advances in Phycology - H.D. Kumar Rastogi Publ., Meerut.

8. Aquatic Biology in India - Kachroo P. S. MahendraPal Singh, Dehradun
9. The structure and reproduction in the Algae –Vol. I & II, F.E. Fritsch, Cambridge, Uni. Press.
10. Cryptogamic Botany –Vol. I, G.M. Smith, Tata Mac Graw Hill Publication, New Delhi.
11. Advances in Phycology— edited by B.N. Verma, APC Publication India.