LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – **PLANT BIOLOGY AND PLANT BIOTECHNOLOGY**

SECOND SEMESTER – **APRIL 2024**

UPB 2501 – ALGAE AND BRYOPHYTES

Date: 12-04-2024 Dept. No. Max. : 100 Marks

Time: 09:00 AM - 12:00 NOON

	SECTION A - K1 (CO1)
	Answer ALL the Questions **(10 x 1 = 10)**
1.	**Fill in the blanks**
a)	Asexual reproduction in algae occurs by ---------- .
b)	Storage bodies that are located in the chloroplast of Chlorophyceae are known as ----------
c)	Phaeophyceae members are commonly known as ---------- .
d)	---------- are the pioneers of land plants.
e)	The *Nostoc* colonies are present on the lower ventral surface of the thallus in ----------
2.	**State whether the following statements are TRUE or FALSE**
a)	There are two main patterns of life in Algae.
b)	The cell wall of diatoms is called a pustule.
c)	Algal fuel is an increasingly viable alternative to traditional fossil fuels..
d)	*Marchantia* belongs to class Bryopsida.
e)	*Anthoceros* is commonly known as Hornwort.
	SECTION A - K2 (CO1)
	Answer ALL the Questions **(10 x 1 = 10)**
3.	**Choose the correct answer**
a)	The reserve food product in Red Algae is a) Fucoxanthin b) Floridean starch c) Laminarin d) Leucosine
b)	Which one of the following is a colonial algae? a) *Chara* b) *Volvox* c) *Chlorella* d) *Ectocarpus*
c)	Agar is obtained from a) *Laminaria* b) *Chondrus* c) *Sargassum* d) *Gracilaria*
d)	Moss sporophyte does not possess a) foot b) seta c) elaters d) columella
e)	Which among the following moss is used as a packing material? a) *Funaria* b) *Polytrichum* c) *Sphagnum* d) *Marchantia*
4.	**Answer the following, each in about 50 words**
a)	Define diplontic life cycle.
b)	What is Sargasso sea?
c)	Identify the source of carrageenan.
d)	How do elaters help in spore dispersal?
e)	Recall the significance of gemma cup.
	SECTION B - K3 (CO2)
	Answer any TWO of the following in 500 words **(2 x 10 = 20)** **Draw diagrams / flowcharts wherever necessary**
5.	Explain asexual reproduction in *Ectocarpus*.
6.	Outline the classification of Bryophytes by Rothmaler.
7.	Illustrate vegetative reproduction in *Marchantia*.
8.	Analyze the industrial applications of Algae.

	SECTION C – K4 (CO3)
	Answer any TWO of the following in 500 words (2 x 10 = 20) **Draw diagrams / flowcharts wherever necessary**
9.	Discuss the life cycle patterns in Algae.
10.	Summarise the salient features of the classes of algae according to Fritsch's classification.
11.	Inspect the morphology and anatomy of *Anthoceros* thallus.
12.	Identify the economic importance of Bryophytes.
	SECTION D – K5 (CO4)
	Answer any ONE of the following in 1000 words (1 x 20 = 20) **Draw diagrams / flowcharts wherever necessary**
13.	Interpret the range of thallus organization seen in algae.
14.	Compare the spore producing structures of *Anthoceros* and *Funaria.*
	SECTION E – K6 (CO5)
	Answer any ONE of the following in 1000 words (1 x 20 = 20) **Draw diagrams / flowcharts wherever necessary**
15.	Discuss the process of seaweed cultivation.
16.	Elaborate on the characteristic features of Hepaticopsida, Anthocerotopsida and Bryopsida.

##########

&&&&&&&&&&