STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086
(For candidates admitted during the academic year 2023 – 2024)

B. Sc. DEGREE EXAMINATION, NOVEMBER 2023
BRANCH V (a) – PLANT BIOLOGY AND PLANT BIOTECHNOLOGY
FIRST SEMESTER

COURSE : MAJOR – CORE
PAPER : ALGAE, FUNGI AND LICHENS
SUBJECT CODE : 23BT/MC/AF14
TIME : 3 HOURS MAX.MARKS:100

Q. No.	SECTION A - Objective (20 x 1 = 20)	CO	KL
I	**Fill in the blanks (5 x 1 = 5 marks)**		
1	The fungi that grow on dead and decaying matter are called _____.	CO1	K1
2	Vegetative reproduction in *Navicula* takes place through _____.	CO2	K1
3	The algal component of lichen is called _____.	CO3	K1
4	The female sex organ of *Chara* is called _____.	CO4	K1
5	An example of coprophilous fungus is _____.	CO5	K1
II	**State whether True or False (5 x 1 = 5 marks)**		
6	All algae are aquatic in their habitat.	CO1	K1
7	Lichens are bioindicators of pollution.	CO2	K1
8	*Sargassum* is commonly called as gulf weed.	CO3	K1
9	*Synchytrium* causes the black wart disease in potato.	CO4	K1
10	A single basidium bears eight basidiospores.	CO5	K1
III	**Choose the correct answer (5 x 1 = 5 marks)**		
11	The algae that shows reticulate chloroplast with pyrenoids is _____. (a) *Cladophora* (b) *Volvox* (c) *Navicula* (d) *Chlorella*	CO1	K1
12	In lichens, vegetative reproduction takes place by _____. (a) Oospores (b) Ascospores (c) Soredia (d) Basidiospores	CO2	K1
13	The antibiotic derived from *Chlorella* is _____. (a) Amphicillin (b) Penicilin (c) Chlorellin (d) Cyclocin	CO3	K1
14	The fungus *Puccinia* has _____ plant as its secondary host. (a) barberry (b) wheat (c) paddy (d) groundnut	CO4	K1
15	The tetrasporophyte of *Gracilaria* produces _____. (a) carpospores (b) gametes (c) zoospores (d) tetraspores	CO5	K1
IV	**Match the following (5 x 1 = 5 marks)**		
16	*Usnea* - Toothpaste	CO1	K1
17	Ascomycetes - Edible gilled fungus	CO2	K1
18	Diatomaceous earth - Ascospores	CO3	K1
19	*Agaricus* - Motile Coenobium	CO4	K1
20	*Volvox* - Fruticose Lichen	CO5	K1

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Q. No.	SECTION B Answer the following in two or three sentences. (10 x 2 = 20)	CO 1-5	K2
21	Outline the cell wall structure of diatoms.	CO1	K2
22	Specify the significance of bulbils in *Chara*.	CO2	K2
23	Explain the function of haustoria in parasitic fungi.	CO3	K2
24	List the control measures for *Plasmodiophora*.	CO4	K2
25	Trace the role of heterocyst in soil fertility.	CO5	K2
26	Summarize how isidia helps in the propagation of lichen thallus.	CO1	K2
27	Trace the significance of trabeculae in *Caulerpa*.	CO2	K2
28	List the characteristic features of foliose lichen.	CO3	K2
29	Outline the structure of hymenium of *Peziza* apothecium.	CO4	K2
30	Summarize the mycelial structure of *Aspergillus*.	CO5	K2
Q. No.	**SECTION C** **Answer the following in about 500 words (4 x 10 = 40)**		
31	Classify the various thallus organization seen in algae citing examples. **(OR)**	CO1	K3
32	Describe sexual reproduction in *Sargassum*.	CO1	K3
33	Predict the life cycle of *Albugo* within the host plant. **(OR)**	CO2	K3
34	Discuss the life cycle of *Puccinia* on wheat plant only.	CO2	K3
35	Explicate the general characteristic and ecological importance of lichens. **(OR)**	CO3	K4
36	Analyse the various economic importance of fungi.	CO3	K4
37	Compare the haplophase and diplophase in the life cycle of *Plamidiophora*. **(OR)**	CO5	K4
38	Decipher the various stages of sexual reproduction in *Volvox*.	CO5	K4
Q. No.	**SECTION D** **Answer the following in about 300 words (4 x 5 = 20)**		
39	Critically comment on the characteristic features of Bacillariophyceae. **(OR)**	CO1	K5
40	Deduce the cellular structure of *Chlorella.*	CO1	K5
41	Assess the significance of algae in food & food industry. **(OR)**	CO3	K5
42	Critically comment on the structure of *Gracilaria* cystocarp.	CO3	K5
43	Discuss the structure of *Usnea* apothecium**.** **(OR)**	CO2	K6
44	Elaborate on the asexual reproduction of *Aspergillus*.	CO2	K6
45	Discuss the structure of the basidiocarp of *Agaricus*. **(OR)**	CO4	K6
46	Elaborate the sexual phase of *Synchytrium* during unfavourable conditions.	CO4	K6

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