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25BOP101/22BOP101N

PSG COLLEGE OF ARTS & SCIENCE

(AUTONOMOUS)

MSc DEGREE EXAMINATION DECEMBER 2025

(First Semester)

Branch – **BOTANY**

PLANT DIVERSITY-I

Time: Three Hours Maximum: 75 Marks

SECTION-A (10 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks (10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	Which of the following is a chlorophycean alga showing multicellular thallus organization? a) *Chlamydomonas* b) *Chara* c) *Volvox* d) *Spirogyra*	K1	CO1
	2	Who proposed the classification of algae? a) Fritsch b) Smith c) Bold d) Prescott	K2	CO1
2	3	*Spirulina* is commercially cultivated for its high content of _____. a) Carbohydrate b) Protein c) Lipids d) Pigments	K1	CO2
	4	Which method is used for preservation of algal samples for microscopic study? a) Glycerine mount b) Acetone c) Acid alcohol d) Chromic acid	K2	CO2
3	5	*Puccinia* is an example of which class of Fungi? a) Ascomycetes b) Basidiomycetes c) Deuteromycetes d) Oomycetes	K1	CO3
	6	Who classified Fungi in 1962 based on structure and reproduction? a) Alexopoulos b) Ainsworth c) Barnett d) Whittaker	K2	CO3
4	7	Homothallism and heterothallism are types of _____. a) Nutritional modes b) Sexual compatibility c) Spore types d) Lichen growth	K1	CO4
	8	Which type of lichen acts as a bio-indicator of air pollution? a) Foliose b) Crustose c) Fruticose d) Fruticose and Foliose	K2	CO4
5	9	The sporophyte of *Funaria* is dependent on the gametophyte for _____. a) Water b) Nutrients c) Vitamins d) Minerals	K1	CO5
	10	Which bryophyte is commonly called peat moss? a) *Polytrichum* b) *Sphagnum* c) *Anthoceros* d) *Marchantia*	K2	CO5

Cont...

SECTION - B (35 Marks)

Answer **ALL** questions
ALL questions carry **EQUAL** Marks (5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Describe the general characteristics and reproduction in Chlorophyceae with reference to *Chara*.	K2	CO1
		(OR)		
	11.b.	Discuss the structure and reproduction in *Polysiphonia*.		
2	12.a.	Explain the process and advantages of mass cultivation of *Spirulina*.	K3	CO2
		(OR)		
	12.b.	Evaluate the economic importance of algae in industry and ecology.		
3	13.a.	Describe the life cycle of *Puccinia* with labelled diagram.	K3	CO3
		(OR)		
	13.b.	Explain parasexual cycle in Fungi and its significance.		
4	14.a.	Analyze the structure and reproduction of Ascolichens and Basidiolichens.	K4	CO4
		(OR)		
	14.b.	Discuss the economic importance of lichens and their role as air pollution indicators.		
5	15.a.	Compare the gametophyte and sporophyte of *Funaria* with those of *Polytrichum*.	K5	CO5
		(OR)		
	15.b.	Assess the ecological and economic roles of Bryophytes.		

SECTION -C (30 Marks)

Answer **ANY THREE** questions
ALL questions carry **EQUAL** Marks (3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Explain the classification of algae by F.E. Fritsch and discuss thallus variations among major classes of algae.	K6	CO1
2	17	Describe the different life-cycle patterns found in algae with suitable examples.	K4	CO2
3	18	Discuss the Alexopoulos classification of Fungi and explain the nutritional modes with examples.	K3	CO3
4	19	Analyze the genetic mechanisms in Fungi and the process of spore dispersal with examples.	K4	CO4
5	20	Evaluate the evolution of gametophyte and sporophyte among Bryophytes with reference to *Sphagnum* and *Anthoceros*.	K5	CO5

Z-Z-Z END