

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION DECEMBER 2024
(Third Semester)

Branch - **BOTANY**

ECOLOGY AND PHYTOGEOGRAPHY

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 considered a topographic factor in ecology? (a) Soil composition (b) Altitude (c) Humidity (d) Wind speed	K1	CO1
	2	Infer, which of one the following is producer in a food chain? (a) Herbivores (b) Carnivores (c) Plants (d) Decomposers	K2	CO2
2	3	Which of the following is a functional attribute of an ecosystem? (a) Community structure (b) Ecological succession (c) Trophic structure (d) Species richness	K1	CO1
	4	Show the component that is responsible for energy fixation in an ecosystem (a) Primary consumers (b) Producers (c) Decomposers (d) Secondary consumers	K2	CO2
3	5	Which of the following describes an "r-selected" species? (a) Long lifespan and stable population size (b) High reproductive rate and low parental care (c) Late maturity and few offspring (d) Strong competition for limited resources	K1	CO1
	6	Show the difference between a fundamental niche and a realized niche (a) A fundamental niche is broader than a realized niche (b) A realized niche is the full range of environmental conditions an organism can tolerate (c) A fundamental niche is determined by competition (d) Realized niche occurs only when there is no competition	K2	CO2
4	7	What is the primary goal of environmental education? (a) Promote scientific research (b) Encourage industrial development (c) Raise awareness about environmental issues (d) Focus on economic growth	K1	CO1
	8	Infer the program that is associated with the conservation of ecosystems while promoting sustainable use. (a) UNDP Programme (b) Man and Biosphere (MAB) Programme (c) WHO Health Programme (d) Global Water Partnership	K2	CO2

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5	9	Which of the following vegetation types is dominant in the Western Ghats of India? (a) Tropical Rainforest (b) Alpine Forest (c) Desert Vegetation (d) Mangroves	K1	CO1
	10	Infer the term for species that are native to a particular region and found nowhere else (a) Cosmopolitan species (b) Endemic species (c) Migrant species (d) Invasive species	K2	CO2

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.	Analyze the concepts and principles of ecology.	K4	CO4
	(OR)			
	11.b.	List the importance of the physical environment in determining the structure of ecosystems.		
2	12.a.	Analyze the concept of an ecosystem. Describe its components.	K4	CO4
	(OR)			
	12.b.	Distinguish between a food chain and a food web.		
3	13.a.	Compare the fundamental and realized niches.	K5	CO5
	(OR)			
	13.b.	Explain the types of ecological succession.		
4	14.a.	Evaluate the relationship between human health and environmental change.	K5	CO5
	(OR)			
	14.b.	Explain the objectives and scope of the Man and Biosphere programme and highlighting its impact on biodiversity conservation.		
5	15.a.	Elaborate the major vegetation types of India.	K6	CO6
	(OR)			
	15.b.	Discuss the concept of continuous, discontinuous, and endemic distribution with examples.		

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	Discuss the divisions of ecology and their significance.	K6	CO6
2	17	Examine the characteristics and functions of ecological pyramids with examples.	K4	CO4
3	18	Explain the concept of species interactions and provide examples of the different types.	K5	CO5
4	19	Analyze the role of governmental and non-governmental organizations (NGOs) in promoting environmental conservation in India.	K4	CO4
5	20	Explain the principles of Geographic Information System (GIS) and remote sensing and their applications in environmental studies.	K5	CO5

Z-Z-Z END