

St. Philomena's College (Autonomous), Mysore**PG Department of Biochemistry****Question Bank {Revised Curriculum (LOCF) - 2020-22 Batch }****Second Year- Third Semester****Course Title (Paper Title): Ecology and Evolution QP Code: 84332**

Sl. No	Unit	Questions	Marks
1	1	What is an ecosystem? Which are the components of the ecosystem?	2
2	1	What is the difference between an organism and a population?	2
3	1	What is population ecology? Give its characteristic features.	2
4	1	What is population size? Which are the factors that govern it?	2
5	1	Distinguish between immigration and emigration.	2
6	1	What is an organism?	2
7	1	What is a population?	2
8	1	What is a community?	2
9	1	What is a biosphere?	2
10	1	What are biotic and abiotic factors?	2
11	1	What is a habitat?	2
12	1	What is a niche?	2
13	1	What are producers?	2
14	1	What are predators?	2
15	1	What are parasites?	2
16	1	What are consumers?	2
17	1	What is commensalism? Give examples.	2
18	1	What is parasitism? Give its types.	2
19	1	What is mutualism? Give examples.	2
20	1	What is the difference between inter and Intraspecific competition?	2
21	1	What is exploitation and interference?	2
22	1	What are the results of competition?	2
23	1	What is ammensalism? Give example.	2
24	1	What is the relationship between coevolution and species interaction?	2
25	1	What is CBR?	2
26	1	What is CDR?	2
27	1	What is immigration? Give example.	2
28	1	What is emigration? Give example.	2
29	1	What is mortality and natality?	2
30	1	What is population change?	2
31	1	What is population density?	2
32	1	What is total count method?	2
33	1	What is sampling method?	2
34	1	What is clumped dispersion? Give example.	2
35	1	What is uniform dispersion? Give example.	2
36	1	What is random dispersion? Give example.	2
37	1	What are the factors which affect distribution?	2
38	1	Distinguish between local and meta population.	2
39	1	Give the types of metapopulation.	2
40	1	Which are the factors affecting metapopulation?	2

41	1	What is community ecology? What is an ectone?	2
42	1	What is species diversity?	2
43	1	What are dominance and succession?	2
44	1	What are trophic levels?	2
45	1	What are primary producers?	2
46	1	What are the different types of communities?	2
47	1	What are special species? Give examples.	2
48	1	What are temporal species? Give examples.	2
49	1	What is scale in community?	2
50	1	What is ecological succession? Give its types?	2
51	1	What is primary succession? Give example.	2
52	1	What is primary succession? Give example.	2
53	1	What is secondary succession? Give example.	2
54	1	What are the characteristic features of climax community?	2
55	2	What are artificial ecosystems?	2
56	2	What are primary consumers? Give an example.	2
57	2	What is food chain? Give an example.	2
58	2	What are pyramid numbers?	2
59	2	Mention the types of biogeography.	2
60	2	What do you mean by a biome?	2
61	2	Define mineral recycling.	2
62	2	Enlist any four biosphere reserves of India.	2
63	3	What is abiotic synthesis of organic monomers and polymers?	2
64	3	What is evolutionary time scale?	2
65	3	Distinguish between aerobic and anaerobic metabolism.	2
66	4	What happens to survival of the brood when the brood size is increased? Why?	2
67	4	Give an example of Semelparous species.	2
68	4	Define species.	2
69	4	What is Genetic drift?	2
70	4	What is "Bottleneck" effect?	2
71	4	What is "Gradualism"?	2
72	4	What is "punctuated Equilibrium"?	2
73	4	What is allopatric speciation?	2
74	4	What is parapatric speciation?	2
75	4	What is sympatric speciation?	2
76	4	What is the significance of operational species concept?	2
77	4	What are hybrid zones? Give its significance.	2
78	4	What is a life history? What is its significance?	2
79	4	What is trade off? What is its significance?	2
80	4	What are idealized survivorship curves?	2
81	4	What is r and K selection?	2
82	4	What are the goals of biogeography?	2
83	4	What are the central questions of biogeography?	2
84	4	What is phylogenetic species concept?	2
85	4	What are the key features of operational species concept	2
86	4	What are blue footed baby's?	2
87	4	What is Molecular evolution?	2
88	4	What are molecular clocks?	2

89	4	Distinguish between cladistics and phenetics?	2
90	4	What are molecular systematics?	2
91	5	What is meant by "Life History" of a species?	2
92	5	What is "Fitness" in evolution?	2
93	5	What does "Survival of fittest" mean?	2
94	5	Comment on Darwin's ideas of origin of species.	2
95	5	What is overproduction?	2
96	5	What is competition?	2
97	5	What is genetic variation?	2
98	5	What is adaptation?	2
99	5	What is natural selection?	2
1	1	Comment on the following with examples: Niche and habitat, community and species, biotic and abiotic factors	5
2	1	Briefly explain the feeding relationships.	5
3	1	Explain the methods used for measuring population density.	5
4	1	What is metapopulation? Comment on the different types of metapopulation and add a note on the factors affecting them.	5
5	1	What are the characteristic features of community? Explain.	5
6	1	Comment on the elements, size and structure of community.	5
7	1	What is ecological succession? Explain the different types of ecological succession.	5
8	1	Explain the concept of community climax and the process of succession.	5
9	2	Write a note on ecological pyramids.	5
10	2	Write a note on food chain, food webs and trophic levels.	5
11	2	Explain ecological energetics.	5
12	2	Write short notes on biogeography.	5
13	2	Explain project tiger.	5
14	2	Elaborate on biosphere reserves of India.	5
15	3	Comment on evolutionary time scale.	5
16	3	Comment on the Evolution of prokaryotes and Eukaryotes.	5
17	4	What is sympatric speciation? Explain	5
18	4	Differentiate between "Gradualism" and "punctuated Equilibrium"	5
19	4	How does a palaeontologist assign a species name to a fossil?	5
20	4	What is r and K selection? Comment on the reproductive strategies.	5
21	4	Comment on Logistic growth model.	5
22	4	Explain survivor ship curves.	5
23	4	Explain how and why new species originate	5
24	4	Comment on the evidence of natural selection	5
25	4	Comment on cladistics and phenetics.	5
26	5	Explain Hardy-Weinberg Law	5
27	5	What is Lamarck's contribution to the theory of evolution?	5
28	5	What is Industrial melanism? Explain.	5
29	5	Explain the concept of Adaptive radiation using Darwin's finches as example	5
30	5	What is sexual selection? How is it different from Natural selection.	5
31	5	Comment on genetic variations contribution for natural selection.	5

1	1	Give a detailed account on different types of species interaction with examples.	10
2	1	Give a detailed account on community ecology.	10
3	1	Give a detailed account on population ecology.	10
4	2	Why the tropics have more species than the poles of the earth? Justify with suitable explanations.	10
5	2	Give an account on biogeography.	10
6	2	Explain the biogeographical zones of India.	10
7	2	Explain project tiger & food chain.	10
8	3	Describe Millers Experiment and the conclusions drawn from it.	10
9	4	What is "speciation" What are the factors responsible for speciation?	10
10	4	Give a detailed account on the different modes of species isolation.	10
11	5	Explain Darwin's theory of evolution	10

Model Question Paper		
St. Philomena's College (Autonomous), Mysore		
III Semester M.Sc-Final Examination		
Subject: Biochemistry		
Title: Ecology and Evolution(SC)		
Time: 3 Hours		Max Marks: 70
PART-A		
Answer any TEN of the following:		10x2=20
1.	What is population size? Which are the factors that govern it?	2
2.	What is an ecosystem? Which are the components of the ecosystem?	2
3.	What is the difference between an organism and a population?	2
4.	What is "Fitness" in evolution?	2
5.	Distinguish between immigration and emigration.	2
6.	What does "Survival of fittest" mean?	2
7.	What is Genetic drift?	2
8.	What is "Bottleneck" effect?	2
9.	Define a species	2
10.	What is meant by "Biogeography"?	2
11.	What happens to survival of the brood when the brood size is increased? Why?	2
12.	Give an example of Semelparous species.	2
PART-B		
Answer any SIX questions:		6x5=30
13.	Explain the methods used for measuring population density.	5
14.	Briefly explain the feeding relationships.	5
15.	What is metapopulation? Comment on the different types of metapopulation and add a note on the factors affecting them.	5
16.	What is Industrial melanism? Explain	5
17.	Explain the concept of Adaptive radiation using Darwin's finches as example	5
18.	What is sexual selection? How is it different from Natural selection	5
19.	What is Lamarck's contribution to the theory of evolution?	5
20.	Comment on the following with examples: Niche and habitat, community and species, biotic and abiotic factors	5
PART-C		
Answer any TWO questions:		2x10=20
21.	Give a detailed account on different types of species interaction with examples.	10
22.	Explain Darwin's theory of evolution	10
23.	What is "speciation"? What are the factors responsible for speciation?	10
