

**STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086**  
(For candidates admitted during the academic year 2015– 2016 & thereafter)

**SUBJECT CODE: 15ZL/MC/EE64**

**B. Sc. DEGREE EXAMINATION APRIL 2019**  
**BRANCH VI.A. ADVANCED ZOOLOGY & BIOTECHNOLOGY**  
**SIXTH SEMESTER**

**COURSE : MAJOR CORE**  
**PAPER : ECOLOGY AND EVOLUTION**  
**TIME : 3 HOURS**

**MAX. MARKS: 100**

**SECTION – A**

**ANSWER ALL QUESTIONS :**

**(10 X 3 = 30)**

1. What is dysphotic zone?
2. Comment on Tundra.
3. Write a brief note on use and disuse theory.

**4. STATE WHETHER THE FOLLOWING ARE TRUE OR FALSE:**

- a) Allen's rule is shortening in length of extremities.
- b) Lotic habitat means stagnant habitat.
- c) Mesozoic era is the golden age of reptiles.
- d) Evolution of species occurring in different area is known as sympatric specification.
- e) Evolution of horses is a very good example of straight evolution.
- f) The bell – shaped pyramid shows that the population is unstable.

**5. FILL IN THE BLANKS:**

- a) The ratio between the birth rate and the death rate is called \_\_\_\_\_.
- b) Pulikat lake is located at \_\_\_\_\_.
- c) Jurassic period is coming under \_\_\_\_\_ era.
- d) Genetic drift is one of the factors affecting the genetic variation in a population.
- e) \_\_\_\_\_ is a fossil man.
- f) Locomotory movements towards the source of light is known as \_\_\_\_\_.

**6. DISTINGUISH BETWEEN**

- a) Temperate and tropical forest
- b) Oligotrophic and Eutrophic lake

7. Comment on convergent evolution
8. What is sibling species?
9. Write a short note on co – evolution.

**10. MATCH THE FOLLOWING:**

- |                      |   |                                    |
|----------------------|---|------------------------------------|
| a) Batesian mimicry  | - | Top organic layer of the soil      |
| b) Lentic habitat    | - | Isotopes                           |
| c) Ecotone           | - | Coral snake                        |
| d) Dating of fossils | - | Holotype map of human genome       |
| e) Hap map Project   | - | Pond                               |
| f) O Horizon         | - | Transition area between two biomes |

**SECTION – B****ANSWER ANY FIVE QUESTIONS :****(5 X 6 = 30)**

11. Explain the biological effects of light on aquatic organisms.
12. Briefly explain thermal stratification.
13. List out the adaptations of desert fauna.
14. Comment on mutation theory of De Vries.
15. Write a brief note on living fossils.
16. Write short notes on species concept.
17. Describe the zoogeographical realms of the world.

**SECTION – C****ANSWER ANY TWO QUESTIONS :****(2 X 20 = 40)**

18. What is estuary? Explain the physico – chemical characters and biotic communities of estuary.
19. Give an account on Darwinism.
20. Write a detailed account on molecular evolution.
21. Write an essay on evolution of man.

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