

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086
(For Candidates admitted during the academic year 2019 – 2020 & thereafter)

SUBJECT CODE: 19ZL/MC/EV33

B.Sc. DEGREE EXAMINATION - NOVEMBER 2022
BRANCH VI.A. ADVANCED ZOOLOGY AND BIOTECHNOLOGY
THIRD SEMESTER

COURSE : MAJOR CORE
PAPER : EVOLUTION
TIME : 3 HOURS

MAX. MARKS: 100

SECTION A

ANSWER ALL QUESTIONS:

(10 X 3 =30)

1. Name the evolutionists with the following respected titles: a. Father of evolution idea
b. Father of evolutionary tree c. Father of vertebrate palaeontology
2. State germplasm theory and theory of pangenesis.
3. Mention the important events of Mesozoic era.
4. Differentiate 'fossils' from 'fossils of the living beings'.
5. Write a brief note on mutation theory with reference to *Oenothera gigas*.
6. Comment on Directional selection with an example.
7. What are allopatric species?
8. Comment on co- evolution.
9. Mention any THREE methods of dispersal of animals.
10. How is molecular evolution important? Give reasons.

SECTION B

ANSWER ANY FIVE QUESTIONS:

(5 x 6 = 30)

11. Discuss homologous structures as a source for morphological evidence of the theory of organic evolution.
12. Explain the theory of inheritance of acquired characters by Lamarck with suitable examples.
13. List the different eras on the Geological time scale and add a note on the significance of any three eras.
14. Categorise the modes of speciation.
15. Evaluate the impact of point mutations upon survival and reproduction.
16. Explain evolutionary convergence and parallelism.
17. Enumerate the changes occurred in the evolution of horse.

SECTION C

ANSWER ANY TWO QUESTIONS:

(2 x 20 = 40)

18. Discuss the concept of Darwinism and the Modern Synthetic theory of natural selection.
19. Elaborate the nature of fossils, conditions for fossilization and dating of fossils.
20. With examples explain how mimicry and colouration is an adaptive device in animals for a better chance of survival.
21. Describe the unique features of Homo sapiens and his evolutionary history through fossil records.
