

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086
(For Candidates admitted during the academic year 2008 – 09 & thereafter)

SUBJECT CODE: ZL/ME/EV54

B.Sc. DEGREE EXAMINATION NOVEMBER 2011
BRANCH VI A – ADVANCED ZOOLOGY & BIOTECHNOLOGY
FIFTH SEMESTER

COURSE : MAJOR ELECTIVE
PAPER : EVOLUTION
TIME : 3 HOURS

MAX. MARKS: 100

SECTION A

ANSWER ALL QUESTIONS

(10X3=30)

1. FILL IN THE BLANKS

- 'Origin of species by Natural selection' is a book written by _____
- _____ era was known as 'Golden age of reptiles'
- Experimental synthesis of organic compounds was demonstrated by _____

2. MATCH THE FOLLOWING

- | | |
|--------------------------------|-----------------------|
| a. Retrogressive metamorphosis | Axolotl larva |
| b. Neoteny | Ascidians |
| c. Coprolites | Vertical distribution |
| d. Bathymetric distribution | Fecal pellets |
| e. Protopterus | Australia |
| f. Duck billed platypus | Africa |

3. CHOOSE THE CORRECT ANSWER

- The mutations caused by addition or deletions of nitrogenous bases in the DNA or mRNA are known as _____ (transitions / frame shift mutations)
- Divergent evolution in which the parental population branches into several lineages is called _____ (cladogenesis/ anagenesis)
- Equus is the modern horse found during the _____ period (Pleistocene/ Pliocene)

4. STATE WHETHER TRUE OR FALSE

- A sudden change in gene is called mutation.
 - According to Oparin concept, the macromolecules aggregated in the hot dilute soup to form conacervates
 - Nictitating membrane is a vestigial organ in frog
- What is the significance of Biogenetic law in Evolution?
 - Differentiate between homology and analogy.
 - What is Founder's Principle?
 - Comment on C value paradox.
 - Define Hardy – Weinberg law and mention its significance.
 - Give the characteristic feature of Java man

SECTION B

ANSWER ANY FIVE QUESTIONS

(5X6=30)

11. Discuss the anatomical evidences in favour of organic evolution
12. Explain various methods of fossilization
13. What is genetic drift? Explain how genetic drift leads to evolution?
14. Differentiate allopatric and sympatric speciation with examples.
15. Write a note on the types of Mimicry with examples.
16. Describe briefly the different patterns of evolution with suitable examples.
17. What are the advantages of using molecular data over morphological data?

SECTION-C

ANSWER TWO QUESTIONS

(2X20=40)

18. Give an account on Modern synthetic theory of Natural selection.
19. What are the various isolating mechanisms in speciation?
20. Write an essay on Zoogeographical realms and the distribution of animals.
21. Describe the evolution of Horse in detail.
