

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086
(For Candidates admitted during the academic year 2010 – 11)

SUBJECT CODE: ZL/ME/EV54

B.Sc. DEGREE EXAMINATION NOVEMBER 2012
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

- Use and Disuse theory was proposed by_____.
- Geographical isolation leads to _____ speciation.
- A DNA sequence that can change its relative position within the genome of a single cell is called_____.

2. MATCH THE FOLLOWING

- | | |
|--|--|
| a. C – value | – sympatric species |
| b. Living Fossil | – genome content in haploidy |
| c. New species that evolve from a single ancestral | – modern horse species the same geographic region. |
| d. Genetic drift | – Protopterus |
| e. Orohippus | – Sewall Wright effect |
| f. Equus | – ancestor of modern horse |

3. CHOOSE THE CORRECT ANSWER

- The zoogeographical realm the covers south America is
i) Neotropical ii) Oriental iii) Nearctic
- Camouflage is a form of
i) speciation ii) mutation` iii) mimicry
- The phrase ‘The modern synthetic theory of evolution’ was coined by
i) Haldane ii) Julian Huxley iii) Ernst Mayr

4. STATE WHETHER TRUE OR FALSE

- Archaeopteryx fossil was discovered in Australia.
 - Bottle neck effect is referred to as adaptive radiation.
 - Mutation theory was proposed by De Vries.
5. List out any Three anatomical evidences of evolution.
6. What are connecting links? Give their evolutionary significance.
7. How does migration affect allelic frequency equilibrium in a population?
8. Write a short note on Co-evolution.
9. What are molecular markers? How are they useful in evolutionary studies?
10. List out any three advantages of molecular data over morphological data.

SECTION B**ANSWER ANY FIVE QUESTIONS****(5X6=30)**

11. Write a note on the primitive earth and the conditions which lead to the origin of life.
12. Define 'Geological Time Scale'. Describe any two periods in the scale.
13. Give the role and effect of Genetic Drift on speciation.
14. Discuss the role of geographical and reproductive isolation in speciation.
15. Differentiate Convergent from Divergent evolution with suitable examples.
16. What is C-value paradox? What is its significance?
17. Give a detailed account of any two ancestors of modern man.

SECTION-C**ANSWER TWO QUESTIONS****(2X20=40)**

18. Write an essay on the evolution of horse. Mention about straight line evolution.
19. Give a detailed account of Darwinism, its shortfalls, and Neodarwinism.
20. Discuss the evolutionary significance of mimicry & colouration.
21. Enumerate the different evidences of evolution & describe the paleontological, evidence of evolution.
