



**LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034**

**M.Sc. DEGREE EXAMINATION – ZOOLOGY**

**FIRST SEMESTER – NOVEMBER 2014**

**ZO 1821 - ADVANCED EVOLUTIONARY BIOLOGY**

Date : 06/11/2014

Dept. No.

Max. : 100 Marks

Time : 01:00-04:00

**SECTION A**

**Answer ALL questions:**

**(10 x 2 = 20 marks)**

1. Aristotle's work in the field of biology is much superior to that of his predecessors. Justify.
2. Big Bang theory is a tenable hypothesis. Substantiate.
3. List down any 8 vestigial organs in man.
4. Define the law of adaptive radiation.
5. Antibiotics exert a strong evolutionary force. Justify.
6. Differentiate living fossils from fossils of the living beings.
7. Categorize and define substitution mutation.
8. Distinguish Euthenics from Euphenics.
9. What are Batesian and Mullerian mimicry?
10. Comment on Cosmozoic theory.

**SECTION B**

**Answer any FOUR questions:**

**(4 x 10 = 40 marks)**

11. Explain the evolutionary origin of eukaryotes.
12. Write notes on pre-adaptation.
13. Elaborate dating of fossils.
14. Describe the impact of gene mutation upon survival and reproduction.
15. Explain biochemical recapitulation and biochemical metamorphosis.
16. Mention the contributions of any **four** Neo Lamarckians.

**SECTION C**

**Answer any TWO questions:**

**(2 x 20 = 40 marks)**

17. Discuss the modern concept of recapitulation theory.
18. Write an essay on speciation and isolating mechanisms.
19. With suitable examples elaborate the types of natural selection and polymorphism.
20. Describe the unique features of *Homo sapiens sapiens* and his evolutionary history through fossil records.

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