

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

M.Sc. DEGREE EXAMINATION – ZOOLOGY

FIRST SEMESTER – NOVEMBER 2009

**ZO 1815 - ADVANCED EVOLUTIONARY BIOLOGY**

Date & Time: 09/11/2009 / 1:00 - 4:00 Dept. No.

Max. : 100 Marks

**PART A**

**Answer ALL questions.**

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

1. Name the authors of the following:
  - a. Systema naturae
  - b. Philosophie Zoologique
  - c. On the origin of Species
  - d. Contributions to theory of natural selection
2. Comment on theory of germplasm and theory of pangenesis.
3. What is altruism?
4. Define Founder's principles.
5. What are semispecies?
6. Comment on Hardy-Wienberg equilibrium.
7. Mention the major events in the period of reaction.
8. What are gamma gardens?
9. With a suitable example explain evolutionary constancy.
10. Define biochemical metamorphosis.

**PART B**

**Answer any FOUR**

**(4×10=40 marks)**

11. Enumerate Darwinian principles.
12. Explain the origin of Eukaryotes.
13. Write notes on dating of fossils.
14. Categorize animal colouration.
15. With one suitable example explain natural selection in man.
16. Elaborate point mutations and their impact on survival and reproduction.

**PART C**

**Answer any TWO**

**(2×20=40 marks)**

17. Discuss recapitulation theory.
18. Categorize natural selection and discuss their role in establishing polymorphism.
19. Write an essay on speciation and isolating mechanisms.
20. Write notes on any two:
  - a. Sexual selection
  - b. Convergence and parallelism
  - c. Origin of mitosis and sex.

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