EMBU UNIVERSITY COLLEGE

(A Constituent College of the University of Nairobi)

2015/2016 ACADEMIC YEAR

SECOND SEMESTER EXAMINATION

THIRD YEAR EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE (MICROBIOLOGY AND BIOTECHNOLOGY)

SZL 302/301: EVOLUTIONARY BIOLOGY

DATE: APRIL 6, 2016 **TIME: 11:00-01:00**

INSTRUCTIONS: Answer any ten (10) questions (7 marks each)

1. Outline the propositions of the steady-state theory on the origin of life.
2. Describe the potassium/argon fossil dating method.
3. Discuss Lamark's evolutionary theory.
4. Explain the main processes constituting the modern synthetic theory of evolution.
5. Discuss briefly why the dinosaurs suddenly became extinct during the Mesozoic era.
6. Using a well-labelled cladogram, explain the evolutionary relationships between a cat, lion, seal and human.
7. State the Handy-Weinberg Law and outline the conditions that may upset it.
8. Rabbits have a high reproductive potential but they don't cover the entire world. Explain,
9. In the early 20th Century, the dark (carbonaria) moth population in Britain was largely insignificant. Over the next 100 years, however, the dark form became increasingly common until it became predominant. Explain the causes of this evolutionary trend.
10. Distinguish between random genetic drift and the founder effect.
11. Discuss any two evidences for mass migration followed by independent evolution.
12. Discuss the Peckhamnian mimicry.

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