

JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF BIOLOGICAL AND PHYSICAL SCIENCES

SPECIAL EXAMINATIONS FOR THE DEGREE OF BACHELOR OF EDUCATION

SCIENCE WITH IT

MAIN CAMPUS - REGULAR

COURSE CODE: SBI 3324/SZL 402

COURSE TITLE: HISTORY AND PHILOSOPHY OF BIOLOGY

EXAM VENUE: STREAM:

DATE: EXAM SESSION:

TIME: 2 HOURS

Instructions:

- 1. Answer ALL questions in Section A and any TWO questions in Section B.**
 - 2. Candidates are advised not to write on question paper.**
 - 3. Candidates must hand in their answer booklets to the invigilator while in the examination room**
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SECTION A: SHORT ANSWER QUESTIONS (30 MARKS)

1. Briefly describe the inductive method of science. (3 marks)
2. Hippocrates was wrong in alluding that Egyptian medicine was merely dietetics. Briefly explain. (3 marks)
3. Outline any three mistakes made by Galen (~131 AD). (3 marks)
4. Outline three special characteristics of living organism. (3 marks)
5. Explain the term 'preformation'. Outline the problems of preformation in the 17th century. (3 marks)
6. Explain how Plato (427-347BC) contributed to establishing the concept of essentialism in biology. (3 marks)
7. Comment on the historical nature of biology. (3 marks)
8. List three factors that influenced the formulation Darwin's theory of natural selection. (3 marks)
9. Outline the major contribution of Leonardo de Vinci (1452-) in reforming the study of anatomy during renaissance. (3 marks)
10. Briefly explain why Universities failed to serve as centers of biological research until the 18th century. (3 marks)

SECTION B: ESSAY QUESTIONS (40 MARKS)

11. Sumerians developed early eruditions and distinguished some modern areas of biology. Discuss. (20 marks)
12. Discuss the influence of pre-socratic Greek natural philosophers in the development of biology. (20 marks)
13. Discuss how the works of Immanuel Kant (1724-1804) fostered the development of biology. (20 marks)
14. Discuss the contribution of Francesco Redi (1626-1698), John Needham (1713-1781) and Lazzaro Spallanzani (1729-1799) in the spontaneous generation debate in the 18th century. (20 marks)