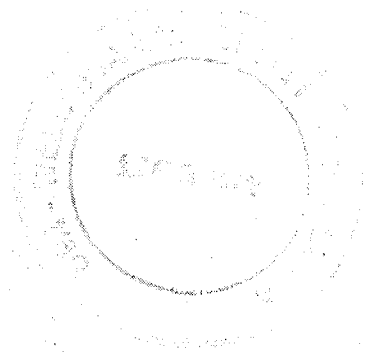




Uva Wellassa University  
End Semester Examination 2007/2008  
BIO 101- 2 Introductory Biology



Answer **five(5)** questions **only**.

Index No.:

Time: 2hrs

1. Hydrogen bonds play an important role in stabilizing and organizing biological macromolecules. Describe **three** examples where hydrogen bond formation affects the form or function of the macromolecules? **(20 marks)**
2. Explain how the meiosis, rather than mitosis, give rise to genetic differences between parent cell and their daughter cell? **(20 marks)**
3. In tomato (*Lycopersicon esculentum*), true breeding plants with round shaped fruits were crossed with true breeding plants with elongate fruits. The  $F_1$  plants all had round shaped fruits. When the  $F_1$  plants were crossed, the  $F_2$  plants had fruits in the ratio of **9 round: 6 ovals: 1 elongate shaped**.
  - (a) What genetic mechanisms of inheritance are most likely demonstrated by these tomato plants?
  - (b) Using the symbols 'A' or 'a' and 'B' or 'b' for the genes indicate the genotypes for round shaped fruits, oval shaped fruits and elongate fruits. **(20 marks)**
4. Write short note on followings;
  - (a) CBD (Convention on Biological Diversity)
  - (b) Hotspots
  - (c) Genetically transmitted disease **(20 marks)**
5. What is sustainability? Discuss ecosystem services with relevant examples. **(20 marks)**
6. Discuss several benefits, both scientific and nonscientific of botanical gardens and zoological gardens. **(20 marks)**

EXAMINATIONS UNIT  
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