

Uva Wellassa University, Sri Lanka  
 Btech. Science and Technology  
 BSc. Mineral Resources Technology  
 BSc. Computer Science and Technology  
 End Semester Examination- Semester 1  
 January -2009

SCT 112-2 General Biology



Answer 5 (Five) questions

Time: 2 Hours

1. Describe the chemical properties of carbon atoms that enable them to form biological polymers. (20 marks)
2. Describe the major components of a plasma membrane, and explain why we say that the membrane has a fluid dynamic nature (20 marks)
3. Explain how the meiosis, unlike mitosis, gives rise to genetic differences between parent cell and their daughter cells? (20 marks)
4. Alleles for a gene (C) that determines the color of rabbits show incomplete dominance. Black rabbits have genotype  $C^{BC^B}$ , brown rabbits have genotype  $C^{BC^W}$  and white rabbits have genotype  $C^WC^W$ . If a black rabbit and a white rabbit mate, what proportions of black, brown and white rabbits would you expect to find in a litter of their offsprings? Explain the results using a punnett square test. (20 marks)
5. Write short notes on the followings, (20 marks)
  - (a) Environmental impact on gene expression
  - (b) Dominantly inherited disorders
  - (c) Food chain and food web
6. Compare sexual and asexual reproduction. Discuss advantages and disadvantages for each? (20 marks)