



The Open University of Sri Lanka
Faculty of Engineering Technology
Final Examination- 2005
AEI 3234 Agricultural Biology 1
AED1208 Biology for Engineers

Date : 21-04-2006
Time : 0930 -1230 hrs

SECTION 2: Answer only four (04) questions. All questions carry equal marks.

1.
 - a) Differentiate between prokaryotic cells and eukaryotic cells.
 - b) Draw a line diagram of the structure of an idealized plant cell and label all the parts.
 - c) Describe the structure and function of the following cell organelles.
 - i. Mitochondria
 - ii. Chloroplast
2.
 - a) Explain how does a peptide bond formed between two amino acids.
 - b) Describe the double helix structure of DNA.
 - c) Name three types of RNA molecules and indicate their major functions.
3.
 - a) What do you understand by dominant and recessive alleles?
 - b) With the help of a suitable example, explain how 9:3:3:1 ratio is obtained in a dihybrid F_2 generation.
 - c) Do the following crosses and find the genotypic ratios.
 - i) $AaBb \times aaBB$
 - ii) $AaBB \times AaBB$
4.
 - a) What is photosynthesis?
 - b) Discuss the importance of light reaction in photosynthesis.
 - c) Explain briefly the dark reaction involved in photosynthesis.

5. a) What is meant by aerobic respiration?
b) Explain the pathway of glycolysis.
c) Briefly explain the external factors that affect the respiration.
6. Write short notes on **any three** of the followings.
- i. Types of consumers in an ecosystem.
 - ii. Nitrogen cycle
 - iii. Ecological pyramids
 - iv. Set theory model of fundamental niche