

EASTERN UNIVERSITY, SRI LANKA

Final Year/First Semester Examination in Agriculture- 2005/2006

AGB: 4101 Biotechnology

Answer all questions

Time: Two hours

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1. a). Briefly describe the methods of DNA transformation.  
  
b). Describe how would you produce transgenic plants with important agronomic characters.
  
2. a). Beginning with the wild form of *Agrobacterium tumefaciens*, show how a binary vector is produced.  
  
b). Discuss the role of different *vir* genes in *Agrobacterium tumefaciens* infection.
  
3. a). "The presence of Antibiotic resistance marker genes in transgenic plants should be seen as a health hazard". Argue for or against this statement **giving scientific justifications**.  
  
b). What are the applications of gene transformation in Agriculture and briefly explain their advantages.
  
4. Write short notes on the followings
  - a). Selectable marker genes and their use in genetic transformation.
  - b). Polymerase Chain Reaction (PCR).
  - c). *in vitro* embryo transfer in animals.