

Seat No. : \_\_\_\_\_

**AC-140**

**April -2018**

**B.Sc., Sem.-VI**

**308 : Biotechnology  
(Agriculture Biotechnology)**

**Time : 3 Hours]**

**[Max. Marks : 70**

1. Answer any **two** : **14**
  - (A) Describe the strategies of artificial insemination in cattles.
  - (B) Explain various methods for cultivation of aquatic organisms and maintenance of health in aquaculture.
  - (C) Describe the importance and methods for producing transgenic animals.
  - (D) Explain the mechanism and advantages of producing knock-out mice.
  
2. Answer any **two** : **14**
  - (A) Describe various strategies for the production of GM crops BT-cotton and golden rice.
  - (B) Describe the method of producing secondary metabolites from plant by suspended culture.
  - (C) Describe the transformation method of gene transfer in the plants through *Agrobacterium* genes
  - (D) Explain the mechanism of transposon and its applications.
  
3. Answer any **two** : **14**
  - (A) Describe various certifications and approval steps of seed bank.
  - (B) Explain single cell protein and its production process.
  - (C) Discuss various parameters involved for the improvement of genetically modified foods.
  - (D) Describe the various characteristics used for the production of Biofertilizer.
  
4. Answer any **two** : **14**
  - (A) Explain genetic structure and life cycle of HIV.
  - (B) Write a note on structure, pathogenesis and types of plant viruses.
  - (C) Describe the mechanism and types of oncogenic viruses.
  - (D) Describe the genetic system, replication and pathogenesis of SARS.

5. Answer the following questions in brief :

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- (1) What are viroids ?
  - (2) List two advantages of probiotics.
  - (3) Define animal cloning.
  - (4) What is an antisense technology ?
  - (5) Name any two fermented foods.
  - (6) What causes the porosity of plant cells during transformation ?
  - (7) Write the importance of gene bank.
  - (8) Define biolistic.
  - (9) What is pearl culture ?
  - (10) Define apiculture.
  - (11) Explain in brief the microinjection technique.
  - (12) Define the effects of prion protein.
  - (13) What is improvement in BT- maize ?
  - (14) What is the RNA gene silencing ?
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