Registration No. : | | | | | | | | | | |

Total number of printed pages – 2

B. Tech

PCBT 4305

Sixth Semester Regular Examination – 2015

PLANT BIOTECHNOLOGY

BRANCH : BIOTECH

QUESTION CODE : J 199

Full Marks – 70

Time : 3 Hours

*Answer Question No. **1** which is compulsory and any **five** from the rest.*

The figures in the right-hand margin indicate marks.

1. Answer the following questions : 2 ×10

   (a) What is cybrids ? Write its importance ?

   (b) Name two commonly used plant tissue culture media.

   (c) Write the name of two secondary metabolites of plant origin that is having commercial importance.

   (d) What are growth regulators ?

   (e) What do you mean by suspension culture ? Difference between continuous and batch culture.

   (f) Write the name of different plant viruses used as vector for genetic transformation study.

   (g) What is biotransformation ? Give one example of biotransformation.

   (h) What is bt cotton ? Name the transgene used in the development of bt cotton.

   (i) What do you mean by Embryo rescue ?

   (j) Define Explant. Write the criteria for selecting suitable explants for tissue culture.

2. Give an account of direct or vectorless gene transfer methods in plants for the production of transgenic plants. 10

P.T.O.

3. What is somatic hybridization ? Write the procedure for screening and selection of somatic hybrid. 10

4. (a) Describe about the strategies employed for genetically engineered plants for herbicide resistance. 5

   (b) What do you mean by surface sterilization of explants ? Discuss the procedure for establishment of in vitro culture. 5

5. Write short notes on : 5×2

   (a) Disease resistance

   (b) Single cell culture.

6. (a) Write short notes on Ti plasmid derived vector system. 5

   (b) What do you understand by molecular farming, explain with few examples ? 5

7. (a) Bioreactor based production of secondary metabolites. 5

   (b) Terminator seed technology. 5

8. Briefly explain any **two** of the following : 5×2

   (a) Artificial seed

   (b) Flavr Savr tomato

   (c) Micropropagation

   (d) Totipotency.
