



JAZ-003-1133005

Seat No. _____

**M. Sc. (Biotechnology) (Sem. III) (CBCS)
(W.E.F. 2019) Examination**

December - 2019

BT - 315 : Cell Culture

(Elective - II)

Faculty Code : 003

Subject Code : 1133005

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70]

1 Answer any **seven** of the following : (each of 02 marks) **14**

- (1) What is totipotency ?
- (2) Differentiate callus and protoplast ?
- (3) What is the cell line ?
- (4) What is gene therapy ?
- (5) What are the stages of the cell cycle ?
- (6) What are the steps of erythropoiesis ?
- (7) What are reticulocytes ?
- (8) What are synthetic seeds ? Exemplify.
- (9) What are the benefits of transgenic animals ?
- (10) Enlist methods of gene transfer.

2 Answer any **two** of the following : (each of 07 marks) **14**

- (a) Write a detailed note on anther and pollen culture.
- (b) Describe the culture media of PTC
- (c) Describe how you would conserve Germplasm.

3 Answer the following : (each of 07 marks) **14**

- (a) Write a note on cryopreservation of animal tissues.
- (b) Write applications of animal cell culture.

OR

3 Answer the following : (each of 07 marks) **14**

- (a) Briefly describe techniques of mammalian cell culture.
- (b) Write a note on various types of cell lines.

4 Answer the following : (each of 07 marks) 14

- (a) Write a note on events happening during different stages of cell cycle.
- (b) Write a note on gene therapy and its applications

5 Answer any **two of the following : (each of 07 marks) 14**

- (a) What are edible vaccines? Discuss.
- (b) In humans which cell has totipotency ? Discuss in detail.
- (c) What are the objectives of transgenic ? Briefly discuss.
- (d) Describe in detail any one method for gene transfer in the plant.
