

M. SC. (MICROBIOLOGY) SEM-IV (C.B.C.S.) (2012 COURSE) :
SUMMER - 2018

SUBJECT: ELECTIVE-I: ADVANCED BIOTECHNOLOGY

Day: **Monday**
Date: **30/04/2018**

S-2018-0914

Time: **03.00 PM TO 06.00 PM**
Max Marks: 60

N.B:

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Draw neat diagrams **WHEREVER** necessary.
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Q.1 Describe gene transfer methods in plants & give its applications. **(15)**

OR

Q.1 Write an essay on cell culture types in ATC. **(15)**

Q.2 Answer the following:

- a) What are GMO's? Comment on - Biological concern on release of GMO's. **(07)**
- b) What are transgenic fish? Give its importance. **(08)**

Q.3 Answer any **THREE** of the following: **(15)**

- a) What are somaclonal variants? Give their significance.
- b) Explain the cryopreservation method for preserving valuable germplasm.
- c) Give the role of regulatory authorities in release of biotech products in the market.
- d) Explain in brief subculturing steps in ATC.

Q.4 Write short notes on any **THREE** of the following: **(15)**

- a) Fruit vaccine
- b) Cytotoxicity assay
- c) Aquaculture
- d) Clinical trials

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