

C.U.SHAH UNIVERSITY

Summer Examination-2016

Subject Name: Plant Biotechnology

Subject Code: 4LS03BOT1

Branch: B.Sc.(Microbiology)

Semester: 3

Date: 22/04/2016

Time: 2:30 To 5:30

Marks: 70

Instructions:

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
- (2) Instructions written on main answer book are strictly to be obeyed.
- (3) Draw neat diagrams and figures (if necessary) at right places.
- (4) Assume suitable data if needed.

- Q-1 Attempt the following questions: (14)**
- | | | |
|-----------|---|---|
| a) | Which enzymes are used to develop protoplasts? | 1 |
| b) | Which are the ideal parameters for plant tissue culture in PTC lab? | 1 |
| c) | What is electroporation? | 1 |
| d) | Which type of micro elements are used in PTC? | 1 |
| e) | Write down stages of micropropagation | 1 |
| f) | Define somatic embryogenesis | 1 |
| g) | What are transgenic plants? | 1 |
| h) | Which is commonly used media for PTC? | 1 |
| i) | Which is the first transgenic plant developed? | 1 |
| j) | Which is gene responsible for resistance with <i>Bacillus Thurenginesis</i> ? | 1 |
| k) | What are liposomes? | 1 |
| l) | What is sterilization? | 1 |
| m) | Which bacterium causes crown gall in plants? | 1 |
| n) | Which types of embryos are developed during somatic embryogenesis? | 1 |
- Attempt any four questions from Q-2 to Q-8**
- Q-2 Attempt all questions (14)**
- | | | |
|----------|--|---|
| a | Write process of Induction of Callus in Plant Tissue culture | 7 |
| b | Write a note on laboratory organization in PTC | 7 |
- Q-3 Attempt all questions (14)**
- | | | |
|----------|--|---|
| a | Explain micropropagation & its applications | 7 |
| b | Describe various methods of sterilizations of media for large scale. | 7 |
- Q-4 Attempt all questions (14)**
- | | | |
|----------|---|---|
| a | Explain different applications of Tissue culture | 7 |
| b | Explain major elements and growth regulators essential in PTC | 7 |



Q-5	Attempt all questions	(14)
a	Write a note on in vivo genetic transformation in plants	7
b	Draw diagram of green house & explain its components & uses of it.	7
Q-6	Attempt all questions	(14)
a	Explain methods to develop transgenic plants.	7
b	Explain applications of transgenic plants	7
Q-7	Attempt all questions	(14)
a	Physical sterilization is more useful. Justify this statement graphically	7
b	Write a detailed note on history of PTC	7
Q-8	Attempt all questions	(14)
a	Explain protoplast fusion and its preparation	7
b	Enlist at least 3 differences between callus formation, micropropagation & protoplast fusion	7

