

PARUL UNIVERSITY
FACULTY OF APPLIED SCIENCE
B.Sc., Summer 2017-18 Examination

Semester: 5
Subject Code: 11102302
Subject Name: Tissue Culture Techniques

Date: 29/05/2018
Time: 02:00 pm to 04:30 pm
Total Marks: 60

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

- Q.1 A) Explain Agrobacterium mediated gene transfer in detail. (08)**
- B) Answer the following questions (Any two)**
- (a) Define: 1. Suspension culture 2. Micropropagation. (04)
- (b) Draw the pathway used to generate blue rose. (04)
- (c) Short note: Auxin. (04)
- Q.2 A) Answer the following questions.**
- (a) Short note: macro elements in MS media. (04)
- (b) Short note: insect resistant plants. (04)
- B) Answer the following questions (Any two)**
- (a) Explain the role of plant tissue culture in agriculture. (03)
- (b) Using examples explain the role of antibiotics in PTC media. (03)
- (c) Short note: Protoplast fusion and somatic hybridization in plants. (03)
- Q.3 A) Explain gene therapy in detail with examples. (08)**
- B) Answer the following questions (Any two)**
- (a) Short note: Production of Hepatitis vaccine (04)
- (b) Short note: List out the components in MEM. (04)
- (c) Short note: Applications of ATC. (04)
- Q.4 A) Answer the following questions.**
- (a) Discuss the role of CO₂ incubator in ATC. (04)
- (b) Define cell line and transgenic animals. (04)
- Q.4. B) Answer the following questions (Any two)**
- (a) Short note: Role of serum in ATC media. (03)
- (b) Define: 1) Contact inhibition 2) Cell senescence 3) Anchorage dependence (03)
- (c) Short note: First animal clone, Dolly. (03)