

**PSG COLLEGE OF ARTS & SCIENCE**  
(AUTONOMOUS)  
**BSc DEGREE EXAMINATION MAY 2019**  
(Fifth Semester)

Branch - **BIOCHEMISTRY**

**TISSUE CULTURE & BIOTECHNOLOGY**

Time : Three Hours

Maximum : 75 Marks

**SECTION-A (20 Marks)**

Answer **ALL** questions

**ALL** questions carry **EQUAL** marks (10 x 2 = 20)

- 1 Define protoplast.
- 2 List out the 2 advantages of micro propagation.
- 3 What is a vector?
- 4 What are Ti Plasmids?
- 5 Give 2 functions of serum in animal cell culture media.
- 6 What are cell lines?
- 7 List out .2 examples of recombinant vaccines.
- 8 What is immunization?
- 9 Define gene therapy.
- 10 What is gene targeting?

**SECTION - B (25 Marks)**

Answer **ALL** Questions

**ALL** Questions Carry **EQUAL** Marks (5 x 5 = 25)

- 11 a Discuss the production of haploid plants by gynogenesis.  
OR  
b Write about meristem culture and its advantages.
- 12 a Explain the techniques involved in electroporation.  
OR  
b Comment on cytoplasmic male sterility.
- 13 a Discuss the importance of serum in animal cell culture media.  
OR  
b Write a short account on reporter gene.
- 14 a What are recombinant proteins? Comment on its applications.  
OR  
b Explain the production of monoclonal antibodies.
- 15 a Discuss the method of nuclear transfer in transgenic animals.  
OR  
b What is gene therapy? Comment on its advantages.

**SECTION - C (30 Marks)**

Answer any **THREE** Questions

**ALL** Questions Carry **EQUAL** Marks (3 x 10 = 30)

- 16 Describe the process of protoplast isolation, fusion and culture.
- 17 Agro bacterium tumifaciens is a natural genetic engineer - Discuss.
- 18 Elaborate the construction of Sv40 and retroviral vectors.
- 19 Explain the production of recombinant vaccine using vaccinia virus.
- 20 Describe the salient features of Human Genome project and its applications.