

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2018
(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 callus.
- 2 What are haploids?
- 3 What is antisense RNA?
- 4 Give two examples of plant based vaccines.
- 5 Define passage number.
- 6 List out two selectable marker genes.
- 7 What are interferons?
- 8 Define a monoclonal antibody.
- 9 What is meant by human genome project?
- 10 Mention two genetically inherited disorders.

SECTION - B (25 Marks)

Answer **ALL** Questions

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

- 11 a Write about suspension culture and its importance.
OR
b Explain the methods involved in the production of somatic hybrids.
- 12 a Discuss how Gemini virus is used as vectors for cloning.
OR
b Comment on golden rice and its uses.
- 13 a What is primary culture? Add a note on it.
OR
b Explain the strategies involved in the production of vaccinia viral vectors.
- 14 a Discuss the production of recombinant interferons.
OR
b Write an account on antibody engineering.
- 15 a What is gene targeting? Explain its uses.
OR
b Explain the steps involved in the production of transgenic animals.

SECTION - C (30 Marks)

Answer any **THREE** Questions

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

- 16 What is somatic embryogenesis? Discuss the techniques involved and its applications.
- 17 Describe the production of herbicide and pest resistant transgenic plants.
- 18 Explain how selectable markers are used in cell transformation with example.
- 19 Discuss the production and applications of monoclonal antibodies.