

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2025  
(Sixth Semester)

Branch - BIOTECHNOLOGY

**APPLIED BIOTECHNOLOGY, IPR AND BIOETHICS**

Time: Three Hours

Maximum: 50 Marks

**SECTION-A (5 Marks)**

Answer ALL questions

ALL questions carry EQUAL marks

(5 x 1 = 5)

1. Identify the national flower of India.  
(i) Lotus (ii) Lilly  
(iii) Rose (iv) Sunflower
2. Which of the following is defined as food, or parts of food, that provide medical or health benefits, including the prevention and treatment of disease?  
(i) Nutraceuticals (ii) Pharmaceuticals  
(iii) Functional Foods (iv) Dietary supplements
3. \_\_\_\_\_ are a unique kind of primitive, immature cells that have a remarkable capacity to develop into different kinds of cells.  
(i) Epithelial cells (ii) Ectodermal cells  
(iii) Mesenchymal cells (iv) Stem cells
4. Basmati rice is distinct for its unique \_\_\_\_\_ and flavor.  
i) Shape ii) Taste  
iii) Aroma iv) Vitamins
5. Prof. Chakrabarty genetically engineered a new species of ----- ("the oil-eating bacteria") in 1971  
(i) *Pseudomonas* (ii) *Staphylococcus*  
(iii) *Bacillus* (iv) *E.Coli*

**SECTION - B (15 Marks)**

Answer ALL Questions

ALL Questions Carry EQUAL Marks

(5 x 3 = 15)

- 6 a Outline the basic concept of floriculture.  
OR  
b How cut flower production is done.
- 7 a Enlist and write about genetically manipulated food products.  
OR  
b Describe about the honey production.
- 8 a Classify the types of skin grafting.  
OR  
b Categorise the types of stem cells.
- 9 a Explain briefly about the ethical conflicts in biotechnology.  
OR  
b Outline the biosafety process in laboratories.
- 10 a Write about geographical indicators.  
OR  
b Explain the challenges faced in approval of GMOs.

Cont....

**SECTION -C (30 Marks)**  
Answer ALL questions  
ALL questions carry EQUAL Marks

(5 x 6 = 30)

- 11 a Highlight the export standards for commercial flowers.  
OR  
b Describe the procedures in establishing agro based industries.
- 12 a Outline the biotechnology of shrimps.  
OR  
b Discuss in detail about the artificial sweeteners.
- 13 a Summarize the applications of stem cells in treating neurodegenerative diseases.  
OR  
b Explain in detail about artificial organs.
- 14 a Analyse the social and ethical issues in biotechnology.  
OR  
b Explain the details of handling of recombinant DNA products.
- 15 a Pointout the recent trends about Patents.  
OR  
b Elaborate the contribution of Environmental activist Vandana Shiva.

Z-Z-Z

END