

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2022
(Sixth Semester)

Branch – BIOTECHNOLOGY

APPLIED BIOTECHNOLOGY AND IPR, BIOETHICS

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (10 x 1 = 10)

- 1 Which of the following is not used for preserving flowers?
(i) H₂SO₄ (ii) KCL (iii) Sugars (iv) Polyols
- 2 India is known as home of _____.
(i) Spices and Medicinal plants (ii) Vegetables
(iii) Fruits (iv) Flowers
- 3 Which of the following is Probiotic?
(i) Bifidobacterium species (ii) Lactobacillus species
(iii) Yogurt (iv) All of the above
- 4 Agar, which is the solidifying agent in many bacterial culture media, is part of the cell wall of
(i) Rhodophyta (ii) Chrysophyta
(iii) Pyrrophyta (iv) Chlorophyta
- 5 A blastocyst is...
(i) A very early-stage embryo (ii) An early stage of zygote
(iii) A late stage of blastocoel (iv) A late-stage embryo
- 6 In a heart, what is most commonly replaced?
(i) Valves (ii) Artery
(iii) Ventricles (iv) Vein
- 7 _____ includes rules of conduct that may be used to regulate our activities concerning the biological world.
(i) Biopiracy (ii) Bio-patents
(iii) Biosafety (iv) Bioethics
- 8 The patents granted for biological entities and products derived from them are called _____.
(i) patents (ii) bio-patents
(iii) biosafety (iv) ethics
- 9 Right of the author or creator is known as
(i) Copyright (ii) Intellectual property right
(iii) Author right (iv) All of the above
- 10 Which of the following is (are) included in Geographical Indications of Goods.
(i) Foodstuff (ii) Manufactured
(iii) Handicraft (iv) All of the above

Cont...

SECTION - B (25 Marks)

Answer ALL questions
ALL questions carry EQUAL Marks (5 x 5 = 25)

- 11 a Elaborate in detail about horticulture and their scope.
OR
b Describe how the climatic condition influences on flower production.
- 12 a What are artificial sweetener? List some artificial sweeteners that are commercially available with its properties.
OR
b State the role of biotechnology in shrimp cultivation.
- 13 a What are stem cells? Mention their origin and types.
OR
b Write a short note on bioreactors used in hepatocyte culture.
- 14 a What are ethical conflicts in biotechnology?
OR
b Write a note on biosafety regulation in laboratory.
- 15 a Explain the process of applying for a patent in India. What are all the basic rules to be followed for applying?
OR
b What is Intellectual Property Rights (IPR)? What are the different types of IPR, explain who is benefitted from each type of IPR and how?

SECTION -C (40 Marks)

Answer ALL questions
ALL questions carry EQUAL Marks (5 x 8 = 40)

- 16 a Describe packaging, grading and bunching of cut flowers?
OR
b Give an account on procedure and constraints in establishing agro based industries?
- 17 a Explain how artificial sweeteners help in health management.
OR
b Give a detailed account of the importance of agar.
- 18 a Mention the importance of stem cells in medicine. Explain any one of stem cell-based technology with respect to their applications.
OR
b What are the basic criteria of a scaffold used for tissue reconstruction? Give two common examples of scaffolds constructed from natural sources and artificially synthesized.
- 19 a Discuss bioethical issues related to GMOs.
OR
b Discuss the classification of organisms based on risks for laboratory workers and the environment. Outline the risk groups and biosafety level.
- 20 a What is a Geographical Indication (GI) and explain its function.
OR
b Enumerate the salient features of Copyright Act.