

**M. Sc. DEGREE EXAMINATION, APRIL 2023**  
**BIOTECHNOLOGY**  
**FOURTH SEMESTER**

**COURSE : ELECTIVE**  
**PAPER : IPR, BIOSAFETY, BIOETHICS AND ENTREPRENEURSHIP**  
**TIME : 3 HOURS** **MAX. MARKS: 100**

**SECTION – A**

**ANSWER ALL THE QUESTIONS** **(10 x 2 = 20)**

1. What are Intellectual Property Rights?
2. Expand GATT.
3. What is GMP?
4. Define LMOs.
5. What is biopiracy?
6. What is prenatal diagnosis?
7. What are the types of entrepreneurs?
8. Write about Business Model Canvas.
9. Define Startup.
10. Expand BIRAC.

**SECTION – B**

**ANSWER ALL THE QUESTIONS** **(5 x 8 = 40)**

11. a) Write TRIPS and its significance.  
(or)  
b) What is PCT and its benefits?
12. a) Write about the guidelines for rDNA research.  
(or)  
b) Write briefly on Cartagena Protocol.
13. a) Write the ethical issues in clinical trials.  
(or)  
b) Explain Human Genome Project.
14. a) What are the methods of Project Appraisals?  
(or)  
b) Briefly explain Business Road Map.
15. a) Write about the structure of a biotechnological company.  
(or)  
b) What is the current scenario of funding opportunities for Biotech Business?

**SECTION – C**

**ANSWER ANY TWO QUESTIONS IN ABOUT 1500 WORDS** **(2 x 20 = 40)**

16. Explain the types of Intellectual Property Rights.
17. Write in detail about the different types of containment in biosafety cabinet.
18. Elaborate on the principles of research ethics and ethical issues in clinical trials.
19. Write an essay on the biotechnology industries in India.