



BRAINWARE UNIVERSITY

Term End Examination 2024-2025

Programme – B.Sc.(BT)-Hons-2024

Course Name – Bioethics and Biosafety

Course Code - BBT20203

(Semester II)

Full Marks : 60

Time : 2:30 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 15=15

1. Choose the correct alternative from the following :

- (i) Public health ethics is a branch of _____
 - a) Medical ethics
 - b) Bioethics
 - c) Abortion
 - d) None of these
- (ii) Yersinia pestis(plague) can be studied in _____
 - a) BSL I laboratory
 - b) BSL II laboratory
 - c) BSL III laboratory
 - d) BSL IV laboratory
- (iii) SBCC stands for _____
 - a) State Biotechnology Coordination Council
 - b) State Biotechnology Coordination Committee
 - c) State Biotechnology Coordination Corporation
 - d) Soil Biotechnology Coordination Committee
- (iv) One of the concerns in genetic engineering is the risk of _____
 - a) Eliminating climate change
 - b) Reducing agricultural productivity
 - c) Improving human intelligence
 - d) Changing or harming ecosystems
- (v) Why did India establish the Traditional Knowledge Digital Library (TKDL)?
 - a) To document traditional medicine and prevent bio-piracy
 - b) To commercialize traditional knowledge globally
 - c) To replace traditional knowledge with modern science
 - d) To store all patents related to modern medicines
- (vi) _____ is the concept of "Agrobioethics" primarily focus on.
 - a) Promoting GMOs without ethical considerations
 - b) Resolving ethical conflicts in agricultural biotechnology

- c) Increasing market profits for biotech companies d) Completely banning biotechnology in agriculture
- (vii) What was the significance of the "Bowman v. Monsanto Co." case?
- a) It promoted free use of genetically modified seeds b) It reinforced patent rights on genetically modified seeds
- c) It banned the use of genetically modified organisms d) It allowed farmers to reuse patented seeds without restrictions
- (viii) A pharmaceutical company develops a revolutionary gene therapy for a rare disease, but the prices are so high that only wealthy individuals can afford treatment. This represents: _____
- a) Equitable healthcare distribution b) Economic sustainability of biotechnology
- c) The ethical dilemma of affordability in medical biotechnology d) The elimination of rare diseases worldwide
- (ix) The European Patent Office (EPO) is responsible for _____
- a) Issuing patents valid in all EU countries b) Regulating global trade in biotechnology
- c) Granting patents in European countries based on a centralized system d) Monitoring compliance with WTO agreements
- (x) Patent holder must bring infringement action within _____ years as per the Indian Patents Act, 1970.
- a) 6 yrs b) 5 yrs
- c) 2 yrs d) 3 yrs
- (xi) The committee responsible for implementing biosafety guidelines in institutions handling hazardous microorganisms and genetically engineered (GE) organisms is _____.
- a) Genetic Engineering Appraisal Committee (GEAC) b) Institutional Biosafety Committee (IBSC)
- c) District Level Committee (DLC) d) State Biotechnology Co-ordination Committee (SBCC)
- (xii) _____ is NOT a step in the patent application process.
- a) Filing a patent application b) Examination of the application
- c) Publishing the patent in newspapers d) Grant or rejection of the patent
- (xiii) Choose the key factor that led to the development of bioethics as a field.
- a) Advancements in transplantation and gene therapy b) Human cloning research
- c) Animal cloning and xenotransplantation d) Extracorporeal fertilization
- (xiv) Define the role of intellectual property rights in traditional knowledge protection.
- a) They ensure private corporations control traditional knowledge b) They help prevent bio-piracy and protect indigenous rights
- c) They eliminate the need for documenting traditional knowledge d) They make traditional knowledge more expensive
- (xv) Identify the primary emphasis of the passage regarding integrating modern and traditional agricultural practices.
- a) Economic profitability b) Environmental sustainability
- c) Technological advancement d) Social equality

Group-B

(Short Answer Type Questions)

3 x 5=15

2. Explain the role of bioethics in guiding medical and biotechnological advancements. (3)

3. State different social and bioethical issues in biotechnology. (3)
4. Define effects of Patent Amendment Act 2005. (3)
5. Explain adoption and implications of GM crops for food security in different countries. (3)
6. State the conditions of patent litigation. (3)

OR

Estimate salient Features of WIPO for invention. (3)

Group-C

(Long Answer Type Questions)

5 x 6=30

7. Explain the process of biohazard remediation. (5)
8. What are the main features of TRIPs agreement? (5)
9. Write about the content of patent document. (5)
10. Write down the drawbacks of patent. (5)
11. Infer the patentability of Micro-organism by a suitable example. (5)
12. Select the benefits of genetically modified crops (5)

OR

Evaluate the role of Institutional Biosafety Committee (IBC) in India. (5)

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