

# KAMARAJ COLLEGE (Autonomous)

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(Affiliated to Manonmaniam Sundaranar University, Tirunelveli)

(3 Pages)

Reg. No:.....

Question Code: 26E01620

Course Code : 25PEMB24

PG Degree - End Semester Examinations, April 2026

Second Semester

M.Sc. MICROBIOLOGY

Biosafety, Bioethics and IPR

(For those who joined in June 2025 onwards)

Time : 3Hours

Maximum : 75 Marks

## PART - A (10 × 1 = 10 Marks)

Answer ALL Questions

Choose the correct answer :

- CO:1  
K:1
1. What is the range of Biosafety levels in the classification system?  
(a) I-IV (b) V-VIII  
(c) I-X (d) I-VII
- CO:1  
K:2
2. Which is called as primary purpose of containment?  
(a) Risk accumulation (b) Entertainment  
(c) Marketing (d) Risk prevention
- CO:2  
K:1
3. Select the Biohazardous waste management method from the following.  
(a) Disposal methods (b) Ignoring  
(c) Reuse directly (d) Treatment and disposal methods
- CO:2  
K:2
4. Which emergency response is included in the laboratory?  
(a) First aid measures (b) Cooking food  
(c) Sleeping (d) Resting
- CO:3  
K:1
5. Find RCGM and GEAC are related to:  
(a) Biosafety Committee (b) Banking system  
(c) Institutional Biosafety Committee (d) Tourism
- CO:3  
K:2
6. What kind of ethical issues is involved in biotechnology?  
(a) Prenatal diagnosis (b) Human cloning and prenatal diagnosis  
(c) Postnatal diagnosis (d) Cloning
- CO:4  
K:1
7. IPR includes:  
(a) Trademarks and copyrights (b) Weather forecast  
(c) Agriculture only (d) Copy rights only

- CO:4 8. WIPO stands for:  
K:2  
(a) World Industrial Product Order (b) World Insurance Policy Office  
(c) Wildlife Protection Order (d) World Intellectual Property Organization
- CO:5 9. From the following which is related to TRIPS agreement?  
K:1  
(a) Tourism (b) Intellectual Property Rights  
(c) Food habits (d) Space travel
- CO:5 10. Patents are classified in India based on which of the following?  
K:2  
(a) Types of inventions (b) Seasons  
(c) Languages (d) Noble prizes

**PART - B (5 X 5 = 25 Marks)**

**Answer ALL Questions choosing either (a) or (b).**

**Answer should not exceed 250 words.**

- CO:1 11. (a) Apply the elements of containment in Biosafety  
K:3 laboratories and briefly describe each.  
**(OR)**  
(b) Analyse the types of biosafety cabinets and highlight their applications.
- CO:2 12. (a) Summarize the treatment methods of biohazardous waste  
K:2 disposal and provide examples.  
**(OR)**  
(b) Classify the mechanisms of hazardous waste regulatory rules and provide examples.
- CO:3 13. (a) Organize the functions and responsibilities of the  
K:3 Institutional Biosafety Committee in biotechnology in a systematic manner.  
**(OR)**  
(b) Give a short notes on ethical implications of the Human Genome Project.
- CO:4 14. (a) Explain the concept and importance of Intellectual Property  
K:3 Rights.  
**(OR)**  
(b) Develop a comparative model explaining trademarks, copyrights and trade secrets.
- CO:5 15. (a) Apply a chronological approach to explain the history of the  
K:3 Indian Patent System.  
**(OR)**  
(b) Explain about special patents and their applications.

**PART – C (5 X 8 = 40 Marks)**

**Answer ALL Questions choosing either (a) or (b).**

**Answer should not exceed 600 words.**

CO:1 16. (a) Analyze the laboratory hazards and propose Good  
K:4 Laboratory Practices.

**(OR)**

(b) Examine Biosafety Risk Assessment strategies for containment laboratories.

CO:2 17. (a) Examine the National rules and regulatory mechanisms for  
K:4 biohazard waste management.

**(OR)**

(b) Give brief account on the emergency response plan for hazardous laboratory accidents.

CO:3 18. (a) Interpret the ethical issues involving human cloning and  
K:5 animal rights.

**(OR)**

(b) Evaluate the social and ethical implications of biological weapons.

CO:4 19. (a) Analyze the role of WIPO in Global Intellectual Property  
K:4 Protection.

**(OR)**

(b) Examine a detailed framework for protecting Geographical Indications in India.

CO:5 20. (a) Discuss international patent conventions and treaties such  
K:5 as GATT and TRIPS.

**(OR)**

(b) Evaluate the patent filing procedure and justify the classification of patent categories.