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Reg. No. : .....

**Code No. : 10391 E      Sub. Code : EEMI52**

B.Sc.(CBCS) DEGREE EXAMINATION,  
NOVEMBER 2025.

Fifth Semester

Microbiology – Major Elective

**BIOSAFETY AND BIOETHICS**

(For those who joined in July 2023 onwards)

Time : Three hours

Maximum : 75 marks

**PART A — (10 × 1 = 10 marks)**

Answer ALL questions.

Choose the correct answer :

1. Which of the following equipment is included in Biosafety Level 1 (BSL-1)?
  - (a) Respiratory protection
  - (b) Full body suit
  - (c) Biological safety cabinet
  - (d) Laboratory coat, gloves

2. Which hazard symbol indicates a substance is flammable?
  - (a) A skull and crossbones
  - (b) Aflame
  - (c) An exploding bomb
  - (d) Chemical corrosion on skin
3. Which of the following is not a biological hazard produced from biotechnology laboratory?
  - (a) Bacteria
  - (b) Tissues
  - (c) GMO
  - (d) Mercury
4. Select the First Aid from the following
  - (a) Cleaning and bandaging minor cuts, scrapes, and blisters.
  - (b) Applying a cold pack to a burn.
  - (c) Controlling bleeding by applying pressure.
  - (d) All the above

5. Regarding IBSC, Choose the correct statement(s)
- (a) Institutional Biosafety Committee
  - (b) It is also known as IBC
  - (c) responsible for reviewing and overseeing all research activities that involve biological agents, including recombinant DNA (rDNA), pathogens, human materials, transgenic organisms, and other potentially hazardous substances.
  - (d) All the above
6. RCGM deals about
- (a) Chemical hazards
  - (b) Radioactive hazards
  - (c) GMO
  - (d) All the above
7. What was the primary goal of the Human Genome Project?
- (a) To develop gene editing techniques
  - (b) To determine the complete sequence of DNA base pairs in humans
  - (c) To cure all genetic diseases
  - (d) To create a complete database of all human proteins

8. Prevention of Cruelty to Animal was enacted in the year
- (a) 1946
  - (b) 1950
  - (c) 1960
  - (d) 1974
9. Indian Patent Act was passed in the year
- (a) 1960
  - (b) 1961
  - (c) 1969
  - (d) 1970
10. Key aspects of TRIPS is / are
- (a) Promotion of trade
  - (b) Public welfare
  - (c) International tie up
  - (d) All the above

PART B— (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).  
Each answer should not exceed 250 words.

11. (a) What do you know about biosecurity?
- Or
- (b) Comment on biohazard.
12. (a) How do we categorize wastes of biotech lab origin?
- Or
- (b) Write an account on biohazard treatment.

13. (a) Explain the guidelines of biosafety in India.

Or

(b) What is GEAC?

14. (a) Briefly explain about ethical issues of human cloning.

Or

(b) Write an account on biological weapons.

15. (a) Write about GATT.

Or

(b) Sketch about the need of IPR.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Portray the key aspects of GLP.

Or

(b) Record the need and significance of GMP.

17. (a) Highlight the diverse risks associated with GMOs.

Or

(b) Record the guidelines of first aid to be adopted in labs.

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18. (a) Classify biosafety contaminants in detail.

Or

(b) Discuss in detail about the objectives and formation of BSC(Biological Safety Containment)@institutions.

19. (a) Explain in detail about ethical issues pertaining to biotechnology products and process with one example each.

Or

(b) Document the threats associated with biological warfare.

20. (a) Depict the types, importance and limitations of patent.

Or

(b) Discuss in detail about Intellectual Property Rights.

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