

H 1337

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2006.

Sixth Semester

Industrial Biotechnology

IB 344 — BIOETHICS

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is sui generis system of plant variety protection?
2. What is geographical indication?
3. What is the difference between genetic testing and genetic screening?
4. What is TRIPS?
5. Name the three criteria for patentability.
6. What is UPOV?
7. Why is it important to study bioethics?
8. What do you understand by containment?
9. Define bioremediation.
10. What is the difference between germ line gene therapy and somatic cell gene therapy? List any ethical concerns.

PART B — (5 × 16 = 80 marks)

11. (i) The first cloning of a human embryo has recently been announced by a cult. Should the medical community and governments world wide allow the use of this technique?  
(ii) Formulate the case and outline ELSI concerns and formulate regulatory guidelines.

12. (a) A leading research lab in India has been doing clinical trials for a controversial drug. You're part of this team. You have been asked to withhold sensitive details about the drug. How would you be guided by ethical principles in working out a suitable alternative.

Or

- (b) Write short notes on :

- (i) Doha protocol
- (ii) Budapest treaty
- (iii) Paris convention
- (iv) Cartagena protocol.

13. (a) What is the process in the application of a patent? Describe the post-application process. Why is it important to protect intellectual property? Discuss IPR issues in biotechnology.

Or

- (b) Why is human cloning ethically wrong?

14. (a) What are the ELSI concerns of genetic testing and the human genome project?

Or

- (b) What are the scientific and ethical concerns of genetically modified foods?

15. (a) Discuss biological and physical containment, risk groups, biosafety levels, risk assessment and risk management. Why is biosafety a concern in biotechnology.

Or

- (b) What is biological diversity and sustainable development. Discuss plant breeders rights, farmers rights, traditional knowledge and biopiracy.