

**BIOETHICS AND I P R  
(HMTS 4203)**

Time Allotted : 3 hrs

Full Marks : 70

*Figures out of the right margin indicate full marks.*

*Candidates are required to answer Group A and  
any 5 (five) from Group B to E, taking at least one from each group.*

*Candidates are required to give answer in their own words as far as practicable.*

**Group - A  
(Multiple Choice Type Questions)**

1. Choose the correct alternative for the following: **10 × 1 = 10**
  - (i) Human reproductive cloning is ethically unacceptable at present because of
 

(a) poor risk to benefit	(b) discrimination
(c) privacy	(d) all of the above.
  - (ii) Xenotransplantation is a
 

(a) biosafety issue	(b) bioethical issue
(c) social issue	(d) all of the above.
  - (iii) What ethical theory applies to the statements "Donated organs should be made available to patients on the basis of medical need and not on the basis of social status or other consideration."
 

(a) Justice	(b) Rights
(c) Double effect	(d) Preference utilitarianism.
  - (iv) Protection in a patent is granted by virtue of what is mentioned in the —
 

(a) explanation	(b) claims
(c) descriptive part of specification	(d) illustrations.
  - (v) A company developed by Sheldon Cooper. He invents an umbrella that could be folded 6 times and easily put into a trouser pocket or a hand purse. Which of the following IP rights is the most appropriate in protecting his novel invention?
 

(a) Copyrights	(b) Trade marks
(c) Patent	(d) Trade secrets.
  - (vi) In which year product patent started in India?
 

(a) 2001	(b) 2002	(c) 2004	(d) 2005.
----------	----------	----------	-----------

- (vii) What does an IP right entitle a person?
  - (a) Right to file a suit in case of an infringement
  - (b) Right of excludability
  - (c) Right of commercial exploitation
  - (d) All of the above.
- (viii) Statement 1: The Patents Manual is not binding on the Patent Office as it does not have any force of law.  
Statement 2: Budapest Treaty relates to International recognition of the deposit of micro-organisms for the purpose of patent procedure.
 

(a) Statement 1 is true, 2 is false	(b) Statement 1 is false, 2 is true
(c) Statement 1 and 2 both are false	(d) Statement 1 and 2 both are true.
- (ix) Protection of the patent is the responsibility of
 

(a) patent holder	(b) government
(c) patent office	(d) patent lawyer.
- (x) The Govt. of India became a signatory to TRIPS after joined the W T O in
 

(a) 1990	(b) 1995	(c) 2000	(d) 2003.
----------	----------	----------	-----------

**Group - B**

2. (a) What is bioethics? Describe the principle of bioethics.  
(b) Discuss about Ethical, Legal and Social Issues (ELSI) in Biotechnology on the following:
 

(i) Stem Cell Research	(ii) Genetic Testing.
------------------------	-----------------------

**(1 + 3) + 4 + 4 = 12**
3. Write short notes on about of the following:
  - (i) The responsible conducts of biotechnological research.
  - (ii) Declaration of Helsinki, and Belmont report.
  - (iii) Ethics and the natural world: environmental ethics.

**4 + (2 + 2) + 4 = 12**

**Group - C**

4. (a) Name different regulatory bodies and their functions in India.  
(b) Describe the safety concern related to G M crop and the myth associated with it.
 

**6 + 6 = 12**
5. (a) Describe different level of biosafety in biotechnology work.

- (b) Describe about Convention of Biological Diversity (CBD): Kyoto protocol.
- (c) Describe about IPR and biosafety issues of the following cases:  
(i) Turmeric patent case (1997)      (ii) Basmati patent case (1997)

$$4 + 4 + (2 + 2) = 12$$

**Group - D**

- 6. (a) Define industrial design. How it can be protected?
- (b) Write the steps to get patent for a product or process. Who are the main user groups of Patent Information?
- (c) What is trade mark? How it can be protected explain with two examples?

$$(1 + 3) + (2 + 2) + (1 + 3) = 12$$

- 7. Write notes on (any six):  
(i) Trade mark, (ii) Process patent, (iii) Geographical indication, (iv) Rights and obligation of patentee, (v) Prior art, (vi) Invention not patentable, (vii) Complete specification, (viii) Claims, (ix) State of the art, (x) Power of controller.

$$(6 \times 2) = 12$$

**Group - E**

- 8. (a) Write a name of one biotechnological product for which you want to develop your own biotech company. Draw the design of the logo or trade mark of your biotechnological product.
- (b) Describe the criteria to get the patent for the biotechnological product you made. Write steps to get the patent of your product.
- (c) What will be the trade secret for the said biotechnological product?

$$(1 + 4) + 4 + 3 = 12$$

- 9. (a) What is six differences between invention and innovation?
- (b) Describe the characters of a bio-entrepreneur.
- (c) Discuss about the development of any one Indian person (other than Kiran Shaw Majumdar) became successful entrepreneur in biotechnology, mentioning all the characters of a bio-entrepreneur they possess.

$$4 + 4 + 4 = 12$$