

BIOETHICS & IPR
(BIOT 4231)

Time Allotted : 2½ hrs

Full Marks : 60

Figures out of the right margin indicate full marks.

*Candidates are required to answer Group A and
any 4 (four) from Group B to E, taking one from each group.*

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

Group – A

1. Answer any twelve:

12 × 1 = 12

Choose the correct alternative for the following

- (i) Which of the following technique is facing bioethical issues?
 - (a) DNA microarray
 - (b) Fluoresce activated cell sorter
 - (c) Embryonic cell therapy
 - (d) All of the above
- (ii) The Ethical, Legal, and Social Implications (ELSI) program was founded in 1990 as an integral part of the
 - (a) Convention on Biological Diversity
 - (b) Cartegena Protocol Which is the property of stem cells?
 - (c) Human Stem Cell Research
 - (d) Human Genome Project.
- (iii) Which one of the following combinations of containment methods best describes Biosafety Level 3?
 - (a) All work conducted in a Class II biosafety cabinet or other physical containment device, directional airflow from the corridor into the laboratory, and double-door access to the laboratory
 - (b) Laboratory located in separate zone or building, work conducted in a Class III biological safety cabinet, and all materials decontaminated before leaving the laboratory
 - (c) Negative-pressure air environment, limited access, and handwashing capability
 - (d) Hand-washing sink, limited laboratory access, and cultures decontaminated before disposal.
- (iv) How should biological materials that need to be transported from the lab to another location be handled
 - (a) Sealed in a secondary, shatterproof container
 - (b) Wear gloves and transport carefully in your hands
 - (c) In the pocket of a lab coat
 - (d) Cells in cell culture flasks and dishes are fine for transport.

- (v) The Government of India became a signatory to TRIPS after joining the WTO in the year
 (a) 1990 (b) 1995 (c) 2000 (d) 2003
- (vi) Protection of the patent is the responsibility of the
 (a) Government (b) patent lawyer
 (c) patent and trade mark office (d) patent holder
- (vii) Choose the most appropriate statement among the following: Investors prefer which form of the legal structure of an enterprise and why
 (a) Proprietorship because it gives absolute liberty to the proprietor for execution and the personal assets of the proprietor can be attached in case of default.
 (b) Partnership because it has all attributes of proprietorships and more than one founders
 (c) Private limited company because the personal assets of shareholders cannot be attached to meet company obligations and it can induct new investors as shareholders.
 (d) Public limited since it can list its shares to stock exchanges.
- (viii) Which of the following startup has not issued shares through IPO?
 (a) Paytm - One 97 Communications Ltd.
 (b) Swiggy Ltd.
 (c) Zomato Ltd.
 (d) All the companies mentioned have issued shares to the public
- (ix) Out of the following, where to raise the money from at the early stage of a startup
 (a) The venture capitalists who fund businesses.
 (b) Angel investors who fund early stage ventures and has higher risk appetite.
 (c) Banks who are flushed with fund
 (d) None of the above
- (x) The convention on biological diversity on biosafety entered into effect on.
 (a) Dec. 20th 1983 (b) Dec. 19th 2003
 (c) Dec. 29th 1993 (d) Jan. 28th 2013.

Fill in the blanks with the correct word

- (xi) India's start-up movement has flourished significantly in the domain of _____.
- (xii) Microsoft by Bill Gates is an example of _____ entrepreneurship.
- (xiii) Full form of TRIPS _____.
- (xiv) In India, a computer programme's codes can be protected by _____.
- (xv) The duration of the design protection in India for _____ years

Group - B

2. Discuss about Ethical, Legal and Social Issues (ELSI) in biotechnology on the following:
 (i) Gene therapy, (ii) Eugenic genetic engineering, (iii) Genetically modified foods.

[[C02](Understand/IOCQ)]

(4 + 4 + 4) = 12

3. (a) "Informed consent is necessary in biotechnological research", justify this statement with three real examples from biotechnology. *[[C02)(Analyse/HOCQ]]*
 (b) Discuss about Ethical, Legal and Social Issues (ELSI) in biotechnology on the following: (i) prenatal diagnosis, (ii) organ transplantation, (iii) Human genome project. *[[C02)(Apply/IOCQ]]*
3 + (3 × 3) = 12

Group - C

4. (a) Why good manufacturing practices (GMP) is essential today? *[[C03)(Understand/LOCQ]]*
 (b) Explain rDNA guide lines for animal cell culture laboratory. *[[C03)(Remember/LOCQ]]*
 (c) Define biohazards. *[[C03)(Remember/IOCQ]]*
5 + 5 + 2 = 12
5. (a) What do you understand by the term biosafety? *[[C03)(Understand/LOCQ]]*
 (b) Describe different level of biosafety in biotechnology work. *[[C03)(Remember/LOCQ]]*
 (c) Discuss the international guidelines for bio-safety. *[[C03)(Remember/IOCQ]]*
2 + 5 + 5 = 12

Group - D

6. (a) Explain in brief India patent Act 1970. *[[C04)(Understand/IOCQ]]*
 (b) Define claims of the patent. *[[C04)(Remember/LOCQ]]*
 (c) Discuss in brief the effect of WTO agreement on Indian economy. *[[C04)(Understand/IOCQ]]*
5 + 2 + 5 = 12
7. (a) Explain in brief the main objectives of WTO. *[[C04)(Remember/IOCQ]]*
 (b) Discuss about trade mark and trade secret with example. *[[C04)(Remember/LOCQ]]*
 (c) Define industrial design with example. How it can be protected? *[[C04)(Understand/IOCQ]]*
4 + 4 + 4 = 12

Group - E

8. (a) Design a trade mark for a sunscreen cream whose target group consider only men. *[[C06)(Analyse/HOCQ]]*
 (b) What you will do if any other company mimics your product? *[[C06)(Remember/LOCQ]]*
 (c) Discuss the appropriateness of the support mechanism available for entrepreneurship in India. *[[C06)(Apply/IOCQ]]*
4 + 4 + 4 = 12
9. (a) Write a name of your desired biotechnological product, through which you want to start your biotech company. What steps will be involved in commercialization of that product. Draw a logo of your product. *[[C06)(Analyse/IOCQ]]*

- (b) If you want to start your start-up company based on TK of India, then how you will get permission for that? What is TK and why is it necessary? What is TKDL and explain its significance with two examples?

[[CO6](Explain/HOCQ)]

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

Cognition Level	LOCQ	IOCQ	HOCQ
Percentage distribution	28.13	58.33	13.54