

M.TECH/BT/3RD SEM/BIOT 6102/2016
BIOENTREPRENEURSHIP, IPR AND BIOETHICS
(BIOT 6102)

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) Research involving human being requires
(a) informed consent (b) consent
(c) undertaking (d) signature and consent.
- (ii) Nuremberg Code (1947) refers to
(a) voluntary and informed consent (b) anti-war movement
(c) birth of monoclonal Ab (d) rDNA technology.
- (iii) A trade secrete may be
(a) word (b) symbol
(c) punishable information (d) logo.
- (iv) Criteria for patentability do not involve
(a) novelty (b) utility
(c) non-obviousness (d) autonomy.
- (v) The historically first international guideline pertaining to research involving human participants was the
(a) Declaration of Helsinki (b) Declaration of Japan
(c) Nuremberg Code (d) WHO Ethical Guideline.
- (vi) The Declaration of Helsinki is a document of:
(a) The American Medical Association
(b) The World Health Organization
(c) The World Medical Association
(d) The Federal Drug Administration.

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- (vii) Golden Rice is
(a) invented in India
(b) aimed to protect Indian from food deprivation
(c) patented
(d) copyrighted.
- (viii) Berne Convention is
(a) for the protection of literary and artistic works
(b) for the protection of developing countries from the hazards produced in Annex I countries
(c) for the prevention of organized policy
(d) for the protection of nature from anthropogenic hazards.
- (ix) Informed consent is important because
(a) it enables the participant to understand vital information on the proposed trial.
(b) it provides the participant with all the information regarding remote risks.
(c) it enables the investigator to recruit participants of his choice.
(d) it promotes clinical research.
- (x) Of the following, which one is not considered as a key component of a business plan?
(a) Sources of funding (b) Market trend analysis
(c) Methods of dissolution of organization (d) Expansion plans.

Group - B

2. (a) What are GM Foods?
(b) What are the advantages and disadvantages of GM Foods?
(c) Discuss the merits and demerits of Eugenics.
3 + 6 + 3 = 12
3. (a) Discuss the ethical issues involving germ line gene therapy.
(b) Describe cloning using diagrams and examples.
(c) What are ethical issues involving cloning?
3 + 6 + 3 = 12

Group - C

4. (a) What is copyright and how it can be protected?

- (b) Describe the protection of geographical indication.
- (c) Describe the neem and turmeric cases.

3 + 3 + 6 = 12

5. (a) Discuss Farmer's rights in context with Budapest Treaty.
- (b) Describe case study on Basmati Rice patenting.
 - (c) Describe the salient features of Indian Patent Act.

3 + 6 + 3 = 12

Group - D

6. Write short notes on:
- (i) Cartagena protocol on Biosafety
 - (ii) Nuremberg Code
 - (iii) Belmont report.

3 × 4 = 12

7. (a) Comment on the guidelines followed by WHO on Biosafety and rDNA technology.
- (b) Discuss the ICMR guidelines on research on biomedical subjects.
 - (c) What are the guidelines to be followed for an informed consent?

4 + 4 + 4 = 12

Group - E

8. (a) How will you measure market opportunities for an entrepreneurship development?
- (b) Comment on the social factors affecting entrepreneurial development.
 - (c) Comment on the developing opportunities in entrepreneurship in India.

4 + 4 + 4 = 12

9. (a) Comment on the role played by universities and research institutes in entrepreneurship development.
- (b) Discuss the regulations for the transfer of foreign technologies in an entrepreneurial setup.
 - (c) What are the support mechanisms for entrepreneurship in India?

4 + 4 + 4 = 12