RESEARCH METHODOLOGY, BIOETHICS & IPR
(BIOT 5103)

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) The goal of a formal study is to _____.
(a) discover future research tasks (b) expand understanding of a topic
(c) test hypotheses (d) provide insight

(ii) The reasoning that uses specific observations to construct general principles is
(a) inductive (b) deductive
(c) both of these (d) hypothetico-deductive

(iii) Survey research studies
(a) events (b) processes
(c) populations (d) circumstances

(iv) Inductive reasoning is
(a) data collection analysis method (b) theory data collection analysis method
(c) data collection method (d) both a and b

(v) The following are the features of good research except
(a) Should be replicable (b) Should be systematic ad objective
(c) Should be ethical and unbiased (d) Should be unethical and biased

(vi) Which of the following is an "intellectual property" as per IPR Laws in India?
(a) Original literary work (b) Industrial Design of Maruti800 car
(c) Trademark of Tata company (d) All the above

(vii) The first transgenic plant to be produced is
(a) Brinjal (b)Tobacco
(c) Rice (d) Cotton

(viii) The rights of a patentee are
(a) Sell or distribute (b) License
(c) Assign the property to others (d) All of the above

(ix) Which bacterium is used in the production of insulin by genetic engineering?
(a) Saccharomyces (b) Rhizobium
(c) Escherichia (d) Mycobacterium

(x) Prior art includes
(a) Prior publication (b) Prior Use
(c) Prior Knowledge (d) All the above

Group – B

2. (a) Describe the components of a research problem.

(b) What are the objectives of research?

(c) What do you mean by basic and applied research?

4 + 4 + 4 =12

3. (a) What do you mean by dependent and independent variables?

(b) How do extraneous variables affect the research design?

(c) Mention the differences between experimental and non-experimental hypothesis testing research.

(2 + 2) + 4 + 4 = 12

Group – C

4. (a) Write a brief note on 'Principle of Randomization'.

(b) Discuss the major types of informal experimental designs in research work.

6 + 6 =12

5. (a) Discuss the sources of error in data measurement.

(b) Discuss the different types of validity in relation to measurement of data.

(c) Give a brief outline of the problems faced by researchers in India.

4 + 4 + 4 =12

Group – D

6. (a) What is Traditional Knowledge (TK)? Describe the characteristic and objectives of protecting TK.

(b) Describe with the help of case studies like Neem and Turmeric on how TK can be misused. State the conclusion of case studies.

(2 + 4) + 6 = 12

7. (a) Distinguish between cloning and stem cells production techniques.

   (b) Discuss the problems associated with gene therapy.

   (c) Discuss about the HUGO Ethics Committee Statement on Gene Therapy Research-1999.

3 + 3 + 6 = 12

Group – E

8. (a) Describe the functions of IBSC, RCGM, GEAC and MEC.

   (b) Distinguish between GM and Selective Breeding.

8 + 4 = 12

9. (a) What are the different categories of Genetic Disorders?

   (b) What are the ethical issues behind genetic engineering?

   (c) What are the pros and cons of genetic engineering?

4 + 4 + 4 = 12

Department & Section	Submission Link
BT	https://classroom.google.com/c/MjczODI2MDM2MTU4/a/Mjg4MDMyNTIyODA3/details