

**Ph. D. IN LIFE SCIENCES
(PHDLS)**

Term-End Examination

December, 2025

RLS-101 : RESEARCH METHODOLOGY

Time : 3 Hours

Maximum Marks : 100

Note : (i) Attempt any **five** questions.

(ii) All questions carry equal marks.

1. Discuss the different bioethical issues of living and cadaveric organ donation. Explain the principle of non-maleficence and principle of justice with regard to organ donation. 15+5=20
2. (a) Briefly describe the intellectual property rights.
(b) Write short notes on copyright and geographical indication.
(c) Explain on what grounds a patent can be revoked.

(d) What are the controversial issues related to Basmati Rice patent ?

4+8+4+4=20

3. Discuss the role of different hierarchical authorities under National Biosafety Regulatory Framework in India in regulating works related to genetically modified organisms. Give a broad outline of the progress made in the patenting of micro-organisms, plants and animals. 12+8=20
4. Discuss the different steps in planning experimental research. Enumerate the advantages, and disadvantages of experimental research. 10+10=20
5. Develop a brief proposal using the following components to investigate the emergence of dengue diseases in Delhi, India :

2+4+4+5+5=20

- (i) Title
- (ii) Research question and objective
- (iii) Hypothesis
- (iv) Research methodology
- (v) Data collection and analysis

[3]

6. Differentiate between the following with suitable examples : $4 \times 5 = 20$
- (i) Qualitative and Quantitative research
 - (ii) Inductive and Deductive reasoning
 - (iii) Type II error and type I error in statistics
 - (iv) Basic and Applied research
7. Write short notes on the following : $4 \times 5 = 20$
- (i) Statistical tools in research methodology
 - (ii) Literature search
 - (iii) Computer application in research
 - (iv) Predatory journals
8. (a) Describe the common software and online tools used for analysis of data.
- (b) How can diagrams and graphs be used in making an Ideal Presentation ?

10+10

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