

00342

**Ph.D. IN BIOCHEMISTRY  
(PHDBC)**

**Term-End Examination**

**December, 2018**

**RBC-001 : RESEARCH METHODOLOGY,  
BIOETHICS AND IPR**

*Time : 3 hours*

*Maximum Marks : 100*

*Note : Question paper consists of two sections, section A and B.  
Both the sections are compulsory.*

**SECTION - A**

Attempt all the questions.

**5x1=5**

1. Give full forms of the following abbreviations :

- |            |                  |
|------------|------------------|
| (a) RDAC   | (b) WIPO         |
| (c) MoEFCC | (d) HEPA filters |
| (e) IBSC   |                  |

2. Write notes on any three of the following : **3x5=15**

- (a) Field trials
- (b) Hazardous chemicals
- (c) Primary Barriers
- (d) Institutional Ethical Committee
- (e) Plagiarism

## SECTION - B

Attempt any four question :

3. (a) Define research design. How would you design an experiment to study the effect of mercury on the antioxidant status in wistar rats ? 6+6=12
- (b) Discuss the environmental impacts of GMOs. 8
4. (a) Discuss the merits and limitations of Latin Square. Design in agricultural research. 10
- (b) Explain the importance of patents in the present day biotechnological developments, and their protections for the proper returns to the inventor. 10
5. (a) Discuss the two principles involved in Completely Randomised Design. 10
- (b) Distinguish between an experiment and survey with suitable example. 10
6. (a) Discuss the difference between class II and III Biological safety cabinets. 10
- (b) Give any five salient features of a plant variety to be protected. 10
7. Differentiate between the following terms : 4x5=20
- (a) Research methods and Research methodology.
- (b) Biosecurity and biosafety.
- (c) Research hypothesis and research report.
- (d) Discovery and Invention.
8. (a) Discuss the various types of patents in the context of the Indian Scenario. 10
- (b) Explain Traditional/Indigenous knowledge in terms of Intellectual Property Rights. 10