

PhD Entrance Examination 2016  
Part A- Research Methodology

Time 3 Hours

Max marks :100

**Instructions:**

- 1). Answer any 10 questions
- 2). All questions carry equal marks

1. What do you mean by research? Explain about different types of research.
2. What are the techniques involved in defining a research problem?
3. Write down the significance of literature review in research design
4. Discuss the important steps involved in writing a research article for publication
5. What do you mean by hypothesis? What are different types of hypothesis?
6. Discuss the important concepts relating to research design.
7. Write short answer on the following
  - a) Positive and negative correlation
  - b) One way, two way ANOVA
  - c) Student 't' test
  - d) Regression analysis.
8. Explain the various steps of writing of research report in detail.
9. Discuss legal and ethical guidelines applicable to research in India.
10. Write notes on the following:
  - i) Plagiarism in research.
  - ii) Intellectual property rights.
11. Write down the different types of visual aids in your oral presentation achieve the best impact.
12. What is the need of statistics in designing an experiment? Give an example.
13. What is meant by
  - i) Plagiarism
  - ii) bibliography
  - iii) Hypothesis testing
  - iv) Patents
  - v) Copy right
  - vi) Citation
14. How relevant in ethics and the role of ethical committees in the field of research? Explain.
15. Explain in detail-
  - i) The different steps involved in developing a research plan.
  - ii) The features of a good experimental design.

(10x5=50)

Part B- Zoology

**Instructions:**

- 1). Answer any 10 questions
- 2). All questions carry equal marks

1. Explain on biodiversity hot spots emphasizing on global and Indian scenario.
2. Give an account on hypothalamus and hypophyseal hormones and give short note on their biosynthesis.
3. Describe the classification of media and its contents for bacterial culture.
4. Explain Human Evolution in detail.
5. Describe the Hexose-monophosphate shunt.
6. Discuss the biosynthesis and degradation of Purine and Pyrimidine nucleotides.
7. Discuss the process of sexual dysfunctions and its anatomical, physiological, hormonal and immunological factors.
8. Describe theory of natural selection.
9. Give an account of molecular evolution.
10. Examine critically the role of kidneys in the regulation of acid-base balance and osmoregulation.
11. Write a detailed account on disaster management.
12. Write a short note on Human Genome Project and its potential uses to humanity.
13. Explain about the oncogenes and action of hormonal control on the development of cancer.
14. Write a short essay on the role of various enzymes in the replication of DNA.
15. Describe the beneficial and harmful insects, insect products and the use of insects in medicine.

(10x5=50)