LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

M.Sc. DEGREE EXAMINATION – ZOOLOGY

THIRD SEMESTER – NOVEMBER 2016

ZO 3814 - RESEARCH METHODOLOGY

Date: 03-11-2016   Dept. No.   Max. : 100 Marks
Time: 09:00-12:00

SECTION- A

***Answer ALL the questions. All questions carry equal marks* (20 Marks)**

I CHOOSE THE CORRECT ANSWER   [5 X 1 = 5]

1. One of the following is not the part of basic principle of experimental design
    (a) Generalization   (b) Randomization
    (c) Local control   (d) Hypothesis testing
2. Pick out the odd one
    (a) Replacement   (b) Refinement   (c) Recycling   (d) Reduction
3. Photographic technology encompasses
    (a) Editing hardware   (b) Digital sensor   (c) Search engine   (d) Editing software
4. Bibliography software includes
    (a) Mendeley   (b) Reference work   (c) End note   (d) All the above
5. Generally correlation value ranges from
    (a) 1.0 – 1.1   (b) 1.1 – 1.9   (c) 1.0 – 0 to 1   (d) 1.1 – 0 to 1

II FILL IN THE BLANKS   [5 X 1 = 5]

6. A Researcher should possess the perseverance and patience of _____ and fervor of a _____.
7. _____ is a statistical package.
8. When the value of correlation coefficient (r) lies around ±1, then there is a perfect association between two _____.
9. In any manuscript text body, the term end note is replaced by _____ foot note.
10. _____ is a life science search engine from NCBI public domain.

III MATCH THE FOLLOWING   [5 X 1 = 5]

11. MOEF   - Reference
12. Glossary   - ZSI
13. Bibliography   - Index
14. Data mining   - LC 50 / CD 50
15. Probit analysis - Statistics

IV DEFINE/ DISTINGUISH/EXPAND   [5 X 1 = 5]

16. What are the objectives of CBD?
17. Define: Impact factor.
18. Distinguish patent and trade secrets.
19. Name any four proof reading tools.
20. Expand: (a) WIPO   (b) GPS

SECTION- B

BRIEFLY ANSWER ANY FOUR OF THE FOLLOWING IN 600 WORDS EACH   (4 X 10 = 40)

21. How do you draft a research project proposal for funding?

22. What are the domains protected and not protected under copy right law?

23. What are alternatives to lab animals? How are they reliable?

24. Highlight the significance of four levels of biosafety.

25. What are experimental errors? How are they rectified?

26. How do you plan and execute a field survey for biological data?

SECTION- C

ANSWER ANY TWO OF THE FOLLOWING IN 1200 WORDS EACH   (2 X 20 = 40)

27. What are the steps and elements involved in scientific research? State the components of a research report.

28. "Software applications is an integral part of research" - Justify.

29. Elucidate the methodology of sampling in terms of principle, elements, types and advantages.

30. Some health researchers have reported an inverse relationship between central nervous system malformations and the related water supplies. The following data were collected on a sample of 9 geographic areas as under.

C.N.S Malformation rate (per 100 births)	Water hardness (ppm)
9	120
8	130
5	90
1	150
4	160
2	100
3	140
6	80
7	200

Compute Co-efficient of correlation and infer your results.

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