

15U518

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Name: .....

Reg. No.....

**FIFTH SEMESTER B.Sc. DEGREE EXAMINATION, OCTOBER 2017**

(CUCBCSS-UG)

**CC15U ZO5 B09 - GENERAL METHODOLOGY IN SCIENCE, BIostatISTICS  
AND INFORMATICS**

(Zoology - Core Course)

(2015-Admission Regular)

Time: Three Hours

Maximum: 80 Marks

**A.** Answer *all* questions. Each question carries 1 mark.

1. What is meant by falsifiability in science?
2. What is controlled experiment?
3. Define plagiarism
4. What is the importance of virtual testing?
5. Write an account on peer review
6. What is bio-computing?
7. Write about information overload
8. What is e-governance?
9. What is discrete series?
10. What are the objectives of classification of data?"

**(10x1=10 Marks)**

**B.** Answer any *ten* questions in two or three sentences each. Each question carries 2 marks.

11. What is deductive method in science?
12. Write a note on test animals used in biological experiments
13. What is green computing?
14. Write an account on ISDN
15. Write an account on artificial intelligence?
16. What is free software movement?
17. Differentiate between theory and law in science
18. What null hypothesis?
19. In a class following is the distribution of marks of 90 students. Calculate the modal class

Marks	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60
No. of students	18	5	7	8	28	12	7	5

20. Write notes on histogram, frequency curve and pie diagram
21. What is T- test?
22. Write notes on standard error.

**(10x2=20 Marks)**

**C.** Answer any *five* questions in not more than a paragraph. Each question carries 6 marks.

23. Give a detailed account on the method of writing a scientific paper
24. What are the health issues associated with the use of computers and mobile phones?
25. Explain different types of non random sampling. Give reasons as to why it should not be used for scientific data collection
26. Explain the depositories of scientific information. Add a note on open access publishing.
27. Write notes on IPR, patents and copy right act.
28. Explain the application of IT in various fields.
29. Explain the methods in scientific inquiry
30. What is Chi-square test? Discuss its significance.

**(5x6=30 Marks)**

**D.** Write essays on any *two* of the following. Each question carries 10 marks.

31. Write an essay on new opportunities and threats in IT field
32. Explain the various aspects of design of an experiment in science.
33. Describe different sampling methods used in biostatistics.
34. a) Define mean and standard deviation. Give its merits and demerits  
b) Calculate the mean and standard deviation for the following data

Length in cm	30-39	40-49	50-59	60-69	70-79	80-89	90-99
Frequency	1	4	14	20	22	12	2

**(2x10=20 Marks)**