

**B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, MAY 2018****Second Semester****Core Course – METHODOLOGY AND PERSPECTIVES OF SCIENCE**

(Common for B.Sc. Bioinformatics, B.Sc. Biotechnology, B.Sc. Electronics and  
B.Sc. Computer Maintenance and Electronics)

(2013 – 2016 Admissions)

Time : Three Hours

Maximum Marks : 80

**Part A (Short Answer Questions)**

*Answer all questions.*

*Each question carries 1 mark.*

1. A \_\_\_\_\_ is a proposed explanation for a phenomenon.
2. Evaluation of scientific, academic, or professional work by others working in the same field is known as \_\_\_\_\_ review.
3. \_\_\_\_\_ is a research technique that makes use of pre-recorded behaviour from secondary sources.
4. Processed data is known as \_\_\_\_\_.
5. The meaning falsification is \_\_\_\_\_.
6. Evidence which confirms or supports a statement, theory, or finding is called \_\_\_\_\_.
7. The difference between actual value and measured value is called \_\_\_\_\_.
8. Define Knowledge.
9. \_\_\_\_\_ is a way of gaining knowledge by means of direct and indirect observation or experience.
10. Define null hypothesis.

(10 × 1 = 10)

**Part B (Brief Answer Questions)**

*Answer any eight questions.*

*Each question carries 2 marks.*

11. What is data acquisition ?
12. What is scientific Temper ?
13. Write a note on ad-hoc Hypothesis.

**Turn over**

14. What is replication ?
15. Define Sensitivity.
16. Write a note on empiricism.
17. What is factual truth ?
18. What is Virtual testing ?
19. What is Auxiliary Hypothesis ?
20. Explain the formulation of a Hypothesis.
21. Explain experiments to test a Hypothesis.
22. Write a short note on Robotics.

(8 × 2 = 16)

**Part C (Descriptive / Short Essay Type Questions)**

*Answer any six questions.*

*Each question carries 4 marks.*

23. What is meant by Deduction of scientific correlation ?
24. What is the significance of knowledge ? Explain the different types of knowledge in detail.
25. Explain the significance of Peer Review.
26. Explain the influence of observer or observations.
27. Explain in detail about the significance of statistical tools in data interpretation.
28. Compare Direct and Indirect observations.
29. Write a note on the connection between measurements and underlying theory.
30. What is Virtual testing ? Explain in detail.
31. Explain in detail the planning of experiments.

(6 × 4 = 24)

**Part D (Long Essays)**

*Answer any two questions.*

*Each question carries 15 marks.*

32. Explain in detail the historical development and evolution of scientific instruments. Give examples.
33. Compare mathematical methods and scientific methods in detail with examples.
34. Explain in detail about sensory extension.
35. What are the different methods used for data presentation ?

(2 × 15 = 30)