



Reg. No. :

Name :

**I Semester B.Sc. Degree (C.C.S.S. – Supple./Improv.) Examination,
November 2016**

CORE COURSE IN PHYSICS

1B01 PHY : Methodology of Science

(2012/'13 Admn.)

Time : 3 Hours

Weightage : 30

PART – A

Choose the correct answer. **Each** bunch of question carries a weightage of **1**.

1. i) Robert Hooke belongs to
 - a) England
 - b) Poland
 - c) Denmark
 - d) Italy
- ii) A scientific theories have reproducible results is
 - a) Sociological criteria
 - b) Empirical criteria
 - c) Historical criteria
 - d) None of the above
- iii) Which of the following is the space science ?
 - a) Astronomy
 - b) Paleontology
 - c) Geology
 - d) Meteorology
- iv) A bent bow used for shooting has
 - a) Potential energy
 - b) Kinetic energy
 - c) Gravitational energy
 - d) Electrical energy



2. i) Rayleigh-Jeans curve agrees with the Planck's radiation formula for
 a) Long wavelength region b) Short wavelength region
 c) Short frequency d) Both a) and c)
- ii) _____ does not make aesthetic judgments.
 a) Theoretical knowledge b) Practical knowledge
 c) Science d) None of the above
- iii) _____ is an ongoing processes; there is no end product.
- iv) Which of the following is a theory ?
 a) Liquid flow b) Water flows
 c) Milk flows d) None of the above

(Wt. 2×1=2)

PART – B

Answer **any six** questions. **Each** carries a weightage of **1**.

3. What is not science ?
4. Analyze Rutherford experiment in the context of scientific knowledge.
5. Distinguish between law and theory.
6. How is theoretical knowledge gained ? Illustrate.
7. What are the main aspect of scientific temper ?
8. Explain the term relativism.
9. What is serendipity ?
10. What is graphing ?

(Wt. 6×1=6)

PART – C

Answer **any nine** questions. **Each** carries a weightage of **2**.

11. Science as a human activity. Explain with suitable examples.
12. Distinguish between auxiliary hypothesis and ad-hoc hypothesis.
13. Explain corroboration and falsification.



14. List the series of steps to be taken for scientific method.
15. List and explain the empirical criteria of scientific theories.
16. Briefly explain Vedic astronomy.
17. Why value judgments are not scientific ?
18. Briefly explain the need for mathematical language for physics.
19. Why should scientific test to be reproducible ?
20. Discuss scientific temper as an important outcome of learning science.
21. Explain why scientific test should be reproducible.
22. Discuss the role of graphing in the study of mechanics.

(Wt. 9×2=18)

PART – D

Answer **any one** question. **Each** carries weightage of **4**.

23. Discuss the impact of science and technology on day today life.
24. Discuss in detail the framework on which Quantum theory developed and give its contribution to Nuclear physics.

(Wt. 1×4=4)