



M 6580

Reg. No. : .....

Name : .....



II Semester B.Sc. Degree (CCSS – Reg./Supple./Improv.)  
Examination, May 2014  
CORE COURSE IN PHYSICS  
2B02 PHY : Methodology of Science  
(2010 and Earlier Admn.)

Time: 3 Hours

Max. Weightage : 30

SECTION – A

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

1. I) The word research is derived from a French word
  - a) Cher
  - b) Recher
  - c) Cherchen
  - d) Rechercher
- II) Which of the following is a pseudo-science ?
  - a) Psychology
  - b) Astrology
  - c) Palentology
  - d) Biology
- III) A scientific study is always
  - a) Subjective
  - b) Objective
  - c) Subjective and objective
  - d) None of the above
- IV) Scientist who formulated a hypothesis from dream is
  - a) Archimedes
  - b) Kekule
  - c) Newton
  - d) Galileo
2. i) "No amount of experimentation can ever prove me right a single experiment can prove me wrong." Who said this ?
  - a) Kelvin
  - b) Faraday
  - c) Einstein
  - d) Galileo
- ii) 1 micron ( $\mu\text{m}$ ) is
  - a)  $10^{-9}\text{ m}$
  - b)  $10^{-12}\text{ m}$
  - c)  $10^{-6}\text{ m}$
  - d)  $10^{-15}\text{ m}$

P.T.O.



- iii) Who introduced the concept of Quantum ?
- a) Michelson-Morley                      b) Max Planck
- c) Maxwell                                      d) None
- iv) Research is a systematized effort to gain \_\_\_\_\_
- a) New knowledge                      b) Money
- c) Power                                      d) Prestige

(2×1=2)

## SECTION – B

Answer **any 6**. Each question carries a weightage of 1.

3. 'Mathematics is the language of Nature.' Comment.
4. Distinguish b/w pure and applied physics.
5. What is the difference b/w theory and hypothesis ?
6. Name the scientists who discovered the following :
- a) X rays
- b) Radioactivity.
7. What do you mean by relativity ?
8. Mention any four areas of science.
9. What is meant by scientific revolution ?
10. Mention any four measurement methods in physical science. (6×1=6)

## SECTION – C

Answer **any 9**. Each question carries a weightage of 2.

11. Explain the significance of research.
12. Explain Hypothesis testing.
13. What is meant by experimentation ?



14. Write a brief note on scientific writing.
15. Briefly discuss the European origin of science.
16. Write short notes on Vedic Astronomy and Medicine.
17. Briefly discuss the Dr. Sitters "expanding Universe".
18. Explain Rutherfords model of an atom .
19. Bring out the significance of non-experimental research in Science.
20. Explain the significance of the discovery of X rays.
21. Explain the factors to be considered before selecting a topic for study.
22. Discuss the recent developments in the philosophy of science. (9×2=18)

## SECTION – D

Answer **any one (1)**. Each question carries a weightage of 4.

23. Discuss in detail the various step involved in a scientific study.
24. "Development of Quantum Mechanics as a major branch of physics completely revolutionised the study of the subatomic world". Comment. (1×4=4)