



M 7779

Reg. No. :

Name :

I Semester B.Sc. Degree (CCSS – Supple./Improv.)
Examination, November 2014
(2012 and 13 Admn.)
CORE COURSE IN PHYSICS
1B01 PHY : Methodology of Science

Time : 3 Hours

Total Weightage : 30

PART – A

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

1. i) Who said "Science is both a body of knowledge and process of acquiring and refining knowledge"
a) Fitzpatrick
b) Schlesinger
c) Newton
d) Einstein
- ii) Which of the following is not a scientific statement ?
a) A cow is bigger than cat
b) A cow eats more grass than a horse of same weight
c) Horse is prettier than cows
d) None of the above
- iii) Size of the nucleus is very small compared to size of _____
a) Proton
b) Electron
c) Atom
d) Neutron
- iv) Which of the following scientist formulated quantum theory _____
a) Bohr
b) Plank
c) Einstein
d) None of the above
2. i) A scientific theories have reproducible results is
a) Sociological criteria
b) Empirical criteria
c) Historical criteria
d) None of the above



- ii) In astronomy the earth centered description of the planetary orbit was overthrown by the
- a) Galileo
b) Newton
c) Copernicus
d) None of the above
- iii) _____ allows scientific to learn about nature under artificial conditions.
- iv) Big-bang explosion took place about _____ billion to _____ billion years ago.
- a) 5 to 10
b) 10 to 15
c) 15 to 20
d) 20 to 25
- (2×1)

PART-B

Answer **any six** questions **each** carries a weightage of **1** :

3. Give a brief history of science.
 4. What is science ?
 5. Explain Galileo contribution in the middle ages.
 6. Explain with suitable example a scientific statement.
 7. What is Quantum surprise ?
 8. What is the structure of the new atom ?
 9. Discuss the importance of selecting a topic to study science.
 10. How graph helps us to study an experimental data ?
- (6×1=6)**

PART - C

Answer **any nine** questions **each** carries a weightage of 2 :

11. Explain what are the recent developments in Philosophy of science.
12. Give a short account of the fall of Aristotelean Universe.
13. Discuss the development of nuclear physics in the middle ages of science.
14. Explain the properties of X-rays.



15. Briefly explain the contribution made by Einstein in the development of Quantum mechanics.
16. Give a brief account of history of science.
17. What is the IMRAD approach in scientific writing ? Explain.
18. Explain the contribution of Euler in the field of Mechanics.
19. List the different steps involved in a scientific study.
20. Explain how a model helps to the study of science.
21. What is the significance of Peer Review ?
22. List the precaution to be taken for writing science.

PART-D

Answer **any one** question, **each** carries weightage of **4** :

23. With a neat sketch explain Rutherford model of the atom. Discuss its limitations.
24. Explain in detail with a suitable example of design and performing an experiment.
- (1×4=4)