CITY COLLEGE

Internal Assessment 2021

Physics (Hons.) CBCS Semester 6

Paper: CC14

Time: 1 Hour; Full Marks: 20

Answer any *ten* questions from the following: **10×2 = 20**

1. Differentiate between microcanonical and canonical ensembles.
2. What are μ-space and τ-space?
3. What do you mean by statistical equilibrium?
4. Briefly explain the concept of negative temperature.
5. What do you mean by thermodynamical probability?
6. What is Gibb's paradox?
7. What do you mean by partition function?
8. Briefly explain the statistical meaning of entropy.
9. What is the difference between classical and quantum statistics?
10. What do you mean by Fermi energy and Fermi temperature?
11. What is the difference between a Boson and a Fermion?
12. Which distribution law will you use for the study of photon gas and why?
13. How Bose-Einstein condensation differs from ordinary condensation?
14. How do the degeneracies of Bose-Einstein and Fermi-Dirac gas differ?
15. Write some of the applications of Fermi-Dirac distribution law.

Answer scripts must be emailed to **sem6hcityphysics@gmail.com** within 15 minutes of the end of the examination.