**Home Assignment I**

**B.Sc. Semester I**

**Chemistry**

*(For roll no. 1-125)*

Q. Show that the wavelength corresponding to the maximum energy density of black-body radiation is inversely proportional to the absolute temperature.                5

*(For roll no. 126-250)*

Q. The temperature of the fireball in a thermonuclear explosion can reach $10^7$ K. What value of $\lambda_{max}$ does it correspond to?                5

*(For roll no. 251 onwards)*

Q. Calculate the average distance (r) of the electron in ground state (n = 1) from the nucleus for H atom.                5

**N.B.** Write your answer in a plain piece of paper with your name and roll number at the top. This is mandatory for your continuous evaluation. **Last date of submission 23/09/2023 (Saturday).**