Hooghly Mohsin College
B. Sc. 2nd Semester (General) 1st Internal Assessment, 2022
Subject: CC/GE-2- Chemistry (General)

Time : 30 Minutes **Full Marks : 10**

General Instruction:

Write your Name, University Roll number, Registration number, Semester, Mobile no and Date at the top of 1st Page, then start writing.
Take a snapshot of your answer sheet(s) and **save it PDF** format as: **ChemInt-your Univ. Roll no-Name of the department**.
After saving send it to: hmconlineexamchem@gmail.com

Answer any five questions: **5x2=10**

1. Draw the Born Haber Cycle for the formation of solid common salt (NaCl). 2
2. Define polarization and polarizibility of ions giving suitable examples. 2
3. Explain with the help of Fajan's rule, which of the following compounds is most Ionic and which is the least: NaCl, $MgCl_2$, $AlCl_3$. 2
4. Using VSEPR theory, predict the shape of ClF_3 or I_3^- . 2
5. Using VSEPR theory, predict the shape of SF_4 or $XeOF_4$. 2
6. Write the expression for pressure following the Kinetic Theory of gases and explain the terms. 2
7. State the Principle of Equipartition of Kinetic Energy. 2
8. Define degrees of freedom. 2
9. Define mean free path of an ideal gas molecules. 2
10. Write down the expression for bi-molecular collisions between the same type molecules. 2
11. Show that the half-life period of a second order reaction is inversely proportional to the initial concentration of the reactant/s. 2
12. Prove that $t_{75\%} = 2 \times t_{50\%}$ for a first order reaction (t stands for required time). 2
