B.Sc. Part-II (Old) (General) Internal Assessment, 2020

Subject: Chemistry

Full Marks: 50

Answere the following questions. **2.5 x 20 = 50**

1) Why is $SnCl_2$ a solid but $SnCl_4$ a liquid at ordinary temparature?

2) Give two evidences in favour of the presence of Hg_2^{2+} in mercurous compounds.

3) Explain why alkali metals are strong reducing agents.

4) How is potassium permanganate prepared from pyrolusite?

5) Why fluorine is called a superhalogen?

6) Write down the composition and use of Nessler's reagents.

7) Write short notes on a) Fullerene and b) Optical Isomerism

8) How will you seperate the individual rare gases from their mixture?

9) Nitrous acid behaves both as an oxidising and a reducing agent.- Justify.

10) Give the name and structure of a tetradentate ligand.

11) Derive therelation between C_p and C_v in case of ideal gas.

12) Write the mathematical defination of entropy and its unit.

13) Draw the phase diagram of water and calculate the degrees of freedom at the triple point of water.

14) Explain the Hess's law in thermochemistry. What is its significance?

15) Calculate the root mean square velocity of N_2 gas at 27^OC in SI unit.

16) The molecules like Hcl, CO show rotational spectra. ------ Explain.

17) Write down the Bragg's equation for first order reflection indicating the meaning of the symbols used.

18) Write short note on equipartition principle of energy.

19) State Kohlrausch's law and give its application.

20) how does the viscosity change with temperature in case of gas and liquid?

**** Send the scan copy of the hand written answer script to the e-mail id suparna.sadhu@gmail.com or to the Whatsapp no. 9432959204 mentioning your Full name, University Registration no. & Roll no. Mobile no. etc. Within 03.12.2020.**