UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Eighth Semester – Spring 2023

Roll No. .....

Paper: Inorganic Chemistry (Sp. Theory-I) **Course Code: CHEM-425** **Time: 3 Hrs. Marks: 60**

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions. (15x2=30)

i. Which carbonate will be more stable and why: $MgCO_3$ or $BaCO_3$?
ii. Draw Born - Haber cycle for NaCl.
iii. Give structure and few properties of pentaborane.
iv. Give two industrial applications of ICP-OES.
v. Which properties of silicones are responsible for their vast industrial uses?
vi. Compare homocyclic system of sulphur and selenium?
vii. How phosphazene polymers are formed?
viii. Write any two chemical properties of borazine?
ix. What is clay?
x. How are cross linked silicone-polymers formed?
xi. Explain various events that occur in flame in FES.
xii. What are advantages and disadvantages of a total consumption burner?
xiii. Draw a labelled diagram of Hollow Cathode Lamp.
xiv. What is mica?
xv. What are the criteria of spontaneity of reaction?

Q.2. Give adequate answer to the following questions. (5x6=30)

i. Explain clinical applications of Atomic Absorption Spectroscopy.
ii. What are silicates? How are they classified?
iii. Discuss natural and artificial zeolites.
iv. Explain halogen exchange reactions with examples.
v. Explain the construction and working of a Plasma Torch in ICP-OES.