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DBW-003-1102001 Seat No. _____

M. Sc. (Sem. II) Examination

July - 2022

Chemistry

Inorganic Chemistry : C-201

Faculty Code : 003
Subject Code : 1102001

Time : Hours] [Total Marks : **70**

Instructions : (1) Answer all questions.
(2) All Questions carry equal Marks.

1 Answer the following : (Any **Seven**) **14**

(1) Define σ – Organometallic compounds.

(2) What is Hyperfine splitting in ESR ?

(3) Give any two examples of π – bonded OMC.

(4) Give essential ultra-trace metals and non-metals present in our body.

(5) Name useful anionic lon exchangers.

(6) Discuss the role of Tanin in Inorganic analysis.

(7) Draw the structure of Zeise's Salt.

(8) Give the limitations of ESR spectroscopy.

(9) Discuss the role of bulk element in human body.

(10) List the fundamental requirements of a resin

2 Answer the following : (Any **two**) **14**

(a) Explain in details : Metalloporphyrins.

(2) Discuss the chemical reaction of η^2 – alkene OMC of transition metals.

(3) Explain the ESR spectrum of H_2.

3 Answer the following : (Any **two**) **14**

(1) Discuss the bonding and structure of σ – bonded OMC of transition metals.

(2) Explain Ion Exchange Chromatography and its use in separation of Cadmium and Zinc.

(3) Discuss the role of oxygen carriers in Biological System.

(4) Write a note on Physiology of blood.

4 Answer the following : **14**

(1) Discuss the ESR spectrum of H-atom.

(2) Write a note on the role of lodine in activity of Thyroid hormones.

5 Answer the following : **14**

(1) Discuss the preparation and use of following reagents in Inorganic analysis.

(a) DMG b) Salicyladoxime

(2) Discuss the role of bulk elements in Human Body.

OR

5 Answer the following **14**

(1) Give the classification of σ – bond OMC of transition metals.

(2) Write short note on ESR technique (instrumentation).
