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NCD-003-1102001 **Seat No. _____**

M. Sc. (Sem. II) (CBCS) Examination

April / May - 2017

C-201 : Inorganic Chemistry

Faculty Code : 003
Subject Code : 1102001

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

Instructions : (1) All Questions are compulsory.
(2) All Questions carry equal Marks.

1 Answer the following : (any **seven**) **14**

(a) Give two suitable examples of Heteroleptic σ-bonded OMC.

(b) Name the types of ESR instruments available in the market.

(c) What is the importance of Iron in Human body.

(d) Discuss the toxicity of Lead.

(e) Write short note on exchangers.

(f) Discuss the compound which can be studied by ESR spectroscopy.

(g) Explain the use of trace elements in our body

(h) Discuss the structure of Hemoglobin.

(i) Draw the structure of Ni-DMG complex.

(j) Discuss isotropic 'g' value in ESR.

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

(a) Discuss the transport and storage of Proteins.

(b) Give the classification of σ-boned OMC of transition metals.

(c) Write the experimental method for the separation of Cl-Br using ion Exchange Chromatography.

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

(a) Discuss 'g' and factor affecting it in ESR spectroscopy.

(b) Write note on the role of Iodine in activity of Thyroid hormones.

(c) Discuss the transport and storage of protein.

4 Answer the following **14**

(a) Discuss the preparation and use of following reagents in Inorganic analysis :

(1) Cupferron

(2) Dithiozone

(b) How many peaks do you expect in ESR spectrum of $CH_3^{\bullet}$, discuss it in detail.

5 Answer the following : **14**

(a) Discuss the chemical properties of η^2-alkene OMC of transition metals.

(b) Discuss the bonding and structure of π-bonded OMC.

OR

5 Answer the following : **14**

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

(1) Pyrogallol

(2) Benzidine

(b) Discuss the different type of Ion Exchangers used in Ion exchange chromatography.
