Code No. 6710 / CBCS / N

FACULTY OF SCIENCE

M.Sc. II – Semester (CBCS) Examination, May / June 2017

Subject: Chemistry

Paper – I
Inorganic Chemistry

Time: 3 Hours **Max.Marks: 80**

Note: Answer all questions from Part – A and Part – B.
Each question carries 8 marks in Part-A and 12 marks in Part-B.

PART – A (4x8 = 32 Marks)
[Short Answer Type]

1 a) Write notes on anation reactions.

b) Explain Marcus – Hush theory.

2 a) What is microstate? Calculate number of microstates for p^3 and d^2 configurations.

b) Define metal atom cluster. Explain their classification.

3 a) Explain salient features of Orgel diagrams.

b) Write notes on capping rule.

4 a) Explain basic principles involved in biological selection of essential elements.

b) Write the structures of chlorophyll a and chlorophyll b.

PART – B (4x12 = 48 Marks)
[Essay Answer Type]

5 a) Enumerate the factors affecting acid hydrolysis.

b) What is trans effect? Write its applications.

OR

c) Give evidences in favour of SN^1 CB mechanism.

d) Discuss the factors affecting direct electron transfer reactions.

6 a) Derive term symbols for p^2 and d^2 configurations.

b) Write notes on Racah parameters.

OR

c) Explain how terms are arranged in order using Hund's rules.

d) Write notes on hole formalism.