

Roll No.

42004

M. Sc. (Chemistry) 4th Semester

Examination – May, 2019

INORGANIC SPECIAL - V

Paper : CY(H)-402(a)/4284

Time : Three Hours]

[Maximum Marks : 80

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt *five* questions in all, selecting *one* question from each Section. Question No. 1 is *compulsory*. All questions carry equal marks.

1. (a) How a large concentration of a supporting electrolyte can eliminate the migration current ?
- (b) Define coulometry.
- (c) What is anodic deposition ?
- (d) What are the main sources of residual current in polarography ? <https://www.haryanapapers.com>
- (e) Give two applications of Square wave Polarography.

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- (f) Draw a neat and clean diagram of Hanging Mercury Drop Electrode.
- (g) What do you mean by Ilkovic Equation ?
- (h) Write the two disadvantages of Dropping Mercury Electrode. $8 \times 2 = 16$

SECTION – A

- 2. (a) What are polarographic maxima ? Explain its various types. How can these be suppressed ? 8
- (b) Explain various factors governing limiting current in polarography. 8
- 3. (a) What do you understand by electrons at and across interface ? Explain in detail. 8
- (b) Explain half wave potential and its significances. 8

SECTION – B

- 4. (a) Discuss different types of carbon electrodes; such as carbon paste, graphite and glassy carbon electrode. 8
 - (b) Explain the apparatus and applications of amperometric titrations. 8
 - 5. (a) Give a detail account of catalytic hydrogen wave. 8
 - (b) Write short notes on : 8
- Rotating Platinum Electrode & Gold Electrode

SECTION – C

6. (a) Explain square wave polarography in detail.
(b) Discuss principle, instrumentation applications of Differential Pulse Polarography.
7. (a) Explain chronoamperometry in detail.
(b) Discuss the principle and applications superimposed AC polarography.

SECTION – D

8. (a) Write in detail about Anodic stripping voltametry.
(b) Discuss the design and working of Enzyme substrate Electrode.
 9. (a) Explain concentration process and rest period.
(b) Explain the various applications of Ion Selective Electrodes to Inorganic Systems.
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