10. (a) Write the programme for calculation of potentiometric titrations and standard deviation. (10)

Or

(b) Explain the following terms in computer applications.

(i) Ms-word

(ii) Ms-Excel. (5+5)

S.No. 269 **12PCH09**

(For the candidates admitted from 2012–2013 onwards)

M.Sc. DEGREE EXAMINATION, NOVEMBER 2017.

Fourth Semester

Chemistry

INORGANIC CHEMISTRY - III

Time : Three hours Maximum : 75 marks

SECTION A — (5 × 5 = 25 marks)

Answer ALL questions.

1. (a) Write the applications of AAS.

Or

(b) Discuss the principle of DTA.

2. (a) Write a brief account on nano particles.

Or

(b) Describe nano pore channels.

3. (a) Write the EPR spectra for V(II) and Mn (II) complexes.

Or

(b) Discuss the principle of Moss bauer spectroscopy.

4. (a) Define chromatography. Discuss the classifications of chromatography.

Or

(b) Write a note on the following terms in HPLC

(i) Column packing

(ii) Detectors. $(2\frac{1}{2}+2\frac{1}{2})$

5. (a) Discuss input and output statements of computer applications in chemistry.

Or

(b) Write a programme for determination of p_H of a buffer.

SECTION B — ($5 \times 10 = 50$ marks)

Answer ALL questions.

6. (a) Describe the theory and instrumentation technique of atomic absorption spectroscopy. (10)

Or

(b) Write short notes on:

(i) DSC

(ii) TGA. (5+5)

7. (a) Define carbon nano tubes. Discuss the types, properties and defects of carbon nano tubes. (10)

Or

(b) Describe the techniques of botton up and top down methods of synthesis. (10)

8. (a) Discuss the principle of EPR theory. Explain the EPR spectra of Ni (II) and Cu(II) complexes. (10)

Or

(b) Write a note on:

(i) Doppler effect

(ii) Isomer effect. (5+5)

9. (a) Describe the instrumentation and applications of GLC. (10)

Or

(b) Explain the instrumentation and applications of HPLC. (10)