VPM's ADVANCED STUDY CENTRE

POST GRADUATE DIPLOMA IN APPLIED ANALYTICAL CHEMISTRY

RE- EXAMINATION 2010-2011

Date:27.07.2011 (5-8 pm) **PAPER – I** Marks: 100

Write answers of two sections in two different answer sheets.

SECTION - I

Q.1] Answer in short (any 5) **10**

1. State Nerns't Distribution Law
2. Define absolute error and relative error
3. Define pH, calculate pH of 0.05m HCl
4. What is polyprotic acid? Give one example.
5. Define Stochiometry
6. Define Super saturation

7 What is Mole Fraction?

Q.2] Answer in brief (any 6) **30**

1. Explain theory of acid base indicators
2. Calculate pH at different stages of titration and explain titration curve for titration of 0.1M HCl against 0.1M NaOH.
3. Explain potentiometric titrations and their advantages over normal titrations.
4. Give detail classification of methods of analysis based on physico chemical principles involved.
5. Write a note on non-aqueous titration.
6. What is meant by standardization? What is primary and secondary standard? Give appropriate examples.
7. What is meant by - i) Proximate analysis ii) Trace analysis iii) Complete analysis
8. Write a note on TLC
9. Write a note on Paper chromatography

Q. 3] Solve the following problems. **10**

1) 58.5 mg of NaCl is dissolved in 1000 ml of solution. Calculate concentration of NaCl in moles/dm3, equivalents / dm3, percent by weight, ppm.

2) How you will prepare following solutions:

i) 50 cm3 of 0.005 N H_3PO_4

ii) 20 cm3 of 0.003 N $K_2Cr_2O_7$

iii) 100 cm3 of 0.015 M $KMnO_4$

iv) 500 cm3 of 0.003 M H_2SO_4

----- P.T.O. -----

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PAPER - I

Section II

Q1. Write a note on (Any one) **10**

1. Kaizen.
2. Good Laboratory Practices.
3. ISO

Q.2. Write answers in brief.(Any Six) **30**

1. What are the eight quality management principles included in ISO 9000: 2000?
2. Write a note on Quality Circles.
3. Write a note on Just in time approach.
4. Write a note on general safety and precautionary measures to be taken while sampling in chemical industry.
5. What are the drawbacks of QC system in chemical industry?
6. What is a trademark?
7. Write a note on Central Drugs Laboratory.
8. What is Bar Coding?
9. What is the modified Gutzeit test for Arsenic? Describe general method for determination of Arsenic impurity by I.P. method.
10. What types of intellectual creations can be the subject matter of IP?

Q3. Write the difference between (Any Five) **10**

1. Corrective action and Preventive action.
2. Quality control and Quality Assurance.
3. ISO 9000 and ISO 14000.
4. 'Under Test' and 'Approved' sample.
5. Active ingredient and Finished Product.
6. GMP & GLP
7. KF titration & LOD
8. Drugs & Spurious drugs