hmName : .....

Roll No. : .....

Invigilator's Signature : .....

CS/B.PHARM (NEW)/SEM-3/PT-301/2009-10

2009

PHARMACEUTICAL ANALYSIS

Time Allotted : 3 Hours *Full Marks* : 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for any *ten* of the following : $10 \times 1 = 10$

i) In GLC, the compound under the analysis should be

a) solid b) crystalline

c) thermostable d) volatile.

ii) Methyl orange has pH range of

a) 2·2 — 4 b) 3·2 — 4·4

c) 4·4 — 5·4 d) 4·2 — 6·2.

iii) Potential of standard hydrogen electrode is

a) 0 b) 1

c) 10 d) 100.

iv) In amperometric titration DME can be substituted by

a) Kathrometer b) FID

c) rpm d) none of these.

v) How many numbers of chelate rings will be formed with aluminium ion ?

a) 2 b) 3

c) 4 d) 5.

vi) Which visualizing agent can be used to detect alkaloid ?

a) Ninhydrine reagent b) Mayer reagent

c) Cromic acid reagent d) Vanillin reagent.

vii) Which of the following complexing agent forms water insoluble complex ?

a) Diethyl glyoxime b) Dimethyl glyoxime

c) Diacetyl glyoxime d) Dichloro glyoxime.

viii) Apnotic solvent in non-aqueous titration is

a) water b) benzene

c) glacial CH_3COOH d) none of these.

ix) Composition of calomel in saturated calomel electrode is

a) AgCl b) HgCl

c) Hg_2Cl_2 d) none of these.

x) The compound used to standardize perchloric acid in non-aqueous titration is

a) potassium phthalate

b) potasium hydrogen phthalate

c) phthallic acid

d) sodium phthalate.

xi) Oxygen flask combustion analysis is used for the determination of

a) nitrogen b) amines

c) water d) halogen.

xii) Cyanide ion is used to mask

a) calcium b) cadmium

c) iron d) manganese.

GROUP – B
(Short Answer Type Questions)

Answer any *three* of the following. 3 × 5 = 15

2. Describe briefly about diffusion current (id) and describe the principle of amperometric titration. 2 + 3

3. Write the differences in between normal phase chromatography and reverse phase chromatography.

4. What is Werner's co-ordination number ? How does an indicator in complexometric titration work ? 2 + 3

5. How do you prepare and standardize 0·05 M disodium EDTA solution ? 3 + 2

6. Describe the procedure for the preparation of TLC plates.

GROUP – C
(Long Answer Type Questions)

Answer any *three* of the following. 3 × 15 = 45

7. Discuss in brief oxygen flask combustion method of analysis with diagram.

8. Define ohm's law. What are the advantages of conductometric titration ? Write different types of conductometric titration. Write the name of electrodes used in oxidation-reduction titration of potentiometry. 2 + 3 + 8 + 2

9. a) Give the basic principle underlying the rapid method of estimation of organically combined halogens.

   b) Can you cite examples of drugs were such method of estimation is recommended officially ? Name few of them.

   c) Write in brief about the design of apparatus etc. used for above method of estimation in actual practice.

5 + 2 + 8

10. a) Define chromatography. What are the different types of chromatography ? Write in brief about them indicating their usefulness in actual practice.

    b) Diagrammatically represent the basic gas chromatography apparatus. 8 + 7

11. a) Give the basic principle underlying the estimation of nitrogen by Kjeldahl method. Give the limitation of this method, if any. Give your answer with proper justifications.

    b) Do you think that incorporation of catalyst is essential during digestion of the compound nitrogen ? If so, why ? And name some catalysts that may be used in actual practice.

    c) Give detailed procedure for the estimation of nitrogen by Kjeldahl method. 5 + 2 + 8