Name : .....

Roll No. : .....

Invigilator's Signature : .....

CS/M.Pharm/SEM-2/MPT-201(2)/2013

2013

ADVANCED PHARMACEUTICAL ANALYSIS-II

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 × 1 = 10

i) The solvents in ESR should have

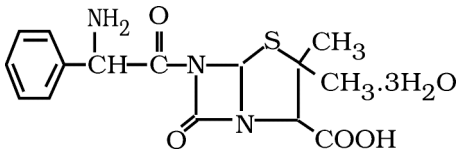
a) Low dielectric constant

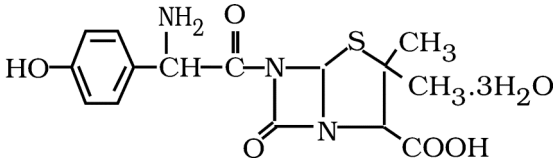
b) High dielectric constant

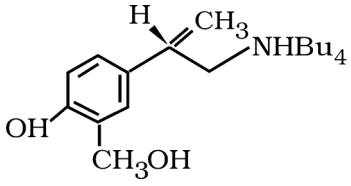
c) Aqueous medium

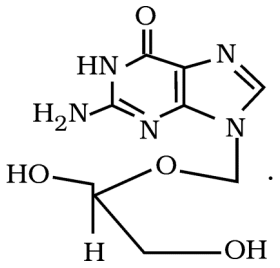
d) Organic medium.

ii) Identify the structure of Salbutamol :

a) 

b) 

c) 

d) 

iii) The mechanism of colour formation by PDAC is ?

a) Oxidation and coupling

b) Schieff's base reaction

c) Diazotization

d) Complexation.

iv) Crystalline phase identification can be done by

a) ICPAAS

b) ESR Spectroscopy

c) RIA

d) X-ray diffraction Spectrometry.

v) The official I.P. assay of Ascorbic acid is done by

a) Specrophotometry

b) HPLC

c) Iodimetry

d) Non-aqueous titration.

vi) Folin's reagent is chemically

a) 3-methyl-2-benzthiazolinone hydrazone hydrochloride

b) p-dimethylamino benzaldehyde

c) 2, 6-Dichloroquinone-4-chlorimide

d) sodium 1,2-naphthoquinone-4-sulphonate.

vii) The mechanism of scintillation is

a) Antigen-antibody reaction

b) Emission of photons by radiation

c) Change in spin of electrons in orbital

d) None of these.

viii) Tetracyanoethylen acts as..... in reaction with amine.

a) electron acceptor b) electron donor

c) reducing agent d) none of these.

ix) Scintillation counters may be used to detect the various types of

a) Radioactivity (alpha, beta and gamma rays)

b) cosmic rays

c) various elementary particles

d) all of these.

x) Hazardous materials can be analyzed by XRF but special sample cell are required to prevent

a) instrument contamination

b) sample degradation

c) erroneous results

d) sample contamination.

xi) Inductively coupled Plasma-Atomic Emission Spectrometry (ICP-AES) a ..... source is used to dissociate the sample into its constituent atoms or ions, exciting them to a higher energy level.

a) plasma source b) light source

c) gamma ray source d) infrared source.

xii) ICPAA is carried out at a temperature about

a) 273 K b) 1500 K

c) 6500 K d) 2800 K.

GROUP – B

(Short Answer Type Questions)

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

2. Write the difference between energy dispersive and wave length dispersive X-ray fluorescence spectroscopy.

3. Describe the IP assay procedure of one Antihistaminic drug.

4. What is the role of nebulizer in ICPAE mentioning different alternatives.

5. Define Diazotization reaction and write down the conditions required for the reaction. Give an example of spectrophotometric method for estimation of pharmaceutical formulation based on diazotization followed by coupling.

6. Write a brief note on use of Folin's reagent estimation of a drug.

GROUP – C

(Long Answer Type Questions)

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

7. Briefly describe the methods of detection of Aceclofenac and its related substances.

8. Describe condensation followed by charge transfer reaction. Explain its application in estimation of a drug and its formulation.

9. Discuss the spectrophotometric estimation method of Ganciclovir by condensation and Oxidative coupling reactions.

10. Write notes on of the following : $7\frac{1}{2} + 7\frac{1}{2}$

    a) Colorimetric assay by PDAB reagent

    b) Principle and procedure of IP assay of one fat soluble vitamin.

11. a) What is ESR spectroscopy ? Describe its similarity and differences with NMR spectroscopy. What information can be obtained from ESR spectrum ?

    b) Mention the difference between crystal and powder defractometry. (2 + 2 + 6) + 5