W-2022

Seat Number | | | | | | |

PANKH-07

BP-102T

Pharmaceutical Analysis-I

(711102)

Total Pages : 4]

Time : 3 Hours

Max Marks : 75

Note : (1) Do not write anything on question paper except seat no.

(2) Graph or diagram should be drawn with black ink pen being used for writing paper or blank HB pencil.

(3) Students should note, no supplement will be provided.

(4) Figures to the right indicate full marks.

1. (A) Solves the Multiple Choice Questions (MCQs) : 10

(*i*) Which of the following is not the characteristic of ion selective electrodes ?

(*a*) Easy to use

(*b*) Available in different sizes and shapes

(*c*) It is fragile

(*d*) It is insensitive to many ions

(*ii*) Which of the following forms of electrochemistry seeks to obtain the condition of full polarization ?

(*a*) Potentiometry (*b*) Voltametry

(*c*) Coulometry (*d*) Electrogravimetry

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(iii) Polarographic cells type of electrochemical method uses which of the following concepts :

(a) Cyclic reaction (b) Exothermic reaction

(c) Reversible reaction (d) Redox reaction

(iv) Which of the following errors is caused by poor calibration of instrument ?

(a) Random error (b) Gross error

(c) Systematic error (d) Precision error

(v) Which of the following is caused by careless handling ?

(a) Systematic error (b) Gross error

(c) Random error (d) None of the mentioned

(vi) Carminic acid gives purple colour with :

(a) acid (H^+) (b) Alkalis ($-OH^-$)

(c) Weak acid (H^+) (d) All of them

(vii) Which one of the following statements about reaction rate is false ?

(a) Reaction rate is the speed at which the reaction proceeds

(b) Reaction rate is governed by the energy barriers between reactions and products.

(c) Enzymes can accelerate the rate of reaction.

(d) Reaction rate are not sensitive to temperature.

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(viii) In neutralization titration, acid react with a base to form :

(a) Salt and water (b) Salt and acid

(c) Neutral solution (d) Concentrated solution

(ix) In a reaction between $CuSO_{4(s)}$ and $Zn_{(s)}$:

(a) Zinc experiences an increase in oxidation state.

(b) Undergoes oxidation

(c) Zinc undergoes oxidation

(d) All of the above

(x) The ratio of cell constant and resistance in conductometric titration is known as :

(a) EMF (b) Specific conductance

(c) Standard potential (d) None of these

(B) Attempt the following : 10

(i) Define the term error and enlist types of errors.

(ii) Draw a well labelled diagram of dropping mercury electrode.

(iii) Write the sources of impurities in medicinal agents.

(iv) Enlist the application of potentiometry.

(v) What is iodometry and iodimetry.

2. Solve any *two* : 20

(i) Discuss the principle of gravimetric analysis. Enlist the steps involved in it with their application.

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(ii) What is the principle of potentiometry and explain the various types of potentiometry titration.

(iii) Write the principle of polarography with construction and working of DME and write their application. 35

3. Solve any *seven* :

(i) Write a note on masking and demasking agents.

(ii) Explain Volhard's method in detail.

(iii) Describe diazotization titration with application.

(iv) What are primary standard substances ? Explain with their example.

(v) What do you mean by error ? Explain the sources of errors.

(vi) Write a note on acid-base indicator.

(vii) Write a short note on rotating platinum electrode.

(viii) Write the theory of redox titration.

(ix) Explain the concept of co-precipitation.

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