# Question Paper

# MANIPAL UNIVERSITY

## MANIPAL COLLEGE OF PHARMACEUTICAL SCIENCES
### END SEMESTER THEORY EXAMINATIONS- NOVEMBER 2017
### PROGRAM: BPHARM SEMESTER 1
### DATE: 01/12/2017
### TIME: 9:30AM - 12:30PM

# Pharmaceutical Analysis-I [PQA-BP102T]

**Marks: 75**

**Duration: 180 mins.**

## I Multiple Choice Questions (MCQs)

**Answer all the questions.**

Section Duration: 30 mins

1) Titration of $I_2$ against thiosulfate is a standard laboratory technique. In connection to the given statement identify the correct one. (1)

| solutions of $I_2$ are prepared in aqueous KI because $I_2$ is insoluble in water | $I_2$ is oxidized during the titration | $[S_2O_3]^{2-}$ is reduced during the titration | No indicator is usually used in this titration |

2) 0.1M sodiumsulphate solution can be standardized using (1)

arsenic trioxide    sodium carbonate    potassium iodide    potassium bromate

3) If acidified Potassium Dichromate(VI) ($K_2Cr_2O_7$) acts as oxidizing agent, color changes from (1)

orange to red    orange to green    yellow to green    yellow to red

4) Calcium as calcium oxide determination of percentage purity by (1)

Cerimetric analysis    Complexometric analysis    Gravimetric analysis    Volumetric analysis

5) Primary standard used to standardize the alkali methoxide in non aqueous titration (1)

Benzoic acid    Dimethyl formamide    Potassium hydrogenphthalate    Sodium carbonate

6) The formation of a second coloured precipitate at the end point in a precipitation titration (1)

Mohr's titration    Volhard's titration    Fajan's titrations    Gay-Lussac Method

7) Indicator used in estimation of sulfonamides (1)

Starch iodide paste    Starch mucilage    Potassium iodide solution    Sodium nitrate

8) The chemical used in making perchloric acid solution anhydrous (1)

acetone    acetic acid    acetic anhydride    mercuric acetate

9) The titrant employed in estimation of dapsone by diazotization titration (1)

Sodium nitrate    sodium nitrite    Sodium nitride    Sodium oxide

10) Calibration of apparatus is not required for the determination of percentage purity by (1)

Cerimetric analysis    Complexometric analysis    Gravimetric analysis    Volumetric analysis

11) Identify the analytical technique that is also an effective separation technique (1)

Absorption spectroscopy    Potentiometry    Titrimetry    Gas chromatography

12) Which of the following is not a primary standard (1)

Potassiumhydrogen phthalate    Sodium carbonate    Sodium hydroxide    Oxalic acid

13) What is the molarity of a solution of sodium chloride prepared by dissolving 1.47 g in 25 mL of water (t weight of Na= 23g; Cl-=35.5g) (1)

0.5 M    1 M    2 M    5 M

14) How many significant figures are present in the number 0.000670 (1)

|  |  |  |  |
|---|---|---|---|
| 6 | 7 | 2 | 3 |

Which of the following statement is not true with respect to "constant errors' (1)

| It is independent of the amount of substance being analysed | The relative magnitude of the constant error would increase with the decreasing quantity of the substance being measured | The relative magnitude of constant error would increase with the increasing quantity of the substance being analysed | Constant errors are also called as additive errors |
|---|---|---|---|

16) The useful range for phenolphthalein indicator is (1)

| 4.4-6.2 | 6.2-8.0 | 8.0-10.0 | 10.0-12.0 |
|---|---|---|---|

17) The pH at neutralization for the titration of 0.1 M acetic acid with 0.1 M sodium hydroxide (1) solution is

| 7.0 | 8.7 | 4.7 | 4.5 |
|---|---|---|---|

18) The amount of disodium EDTA required to prepare 500 mL of 0.05 M solution is ............... (1) (Molecular weight of disodium EDTA is 372.24)

| 18.6 g | 37.2 g | 9.3 g | 48.9 g |
|---|---|---|---|

19) The pH of 1 M hydrochloric acid solution is (1)

| 10 | 1 | 0.1 | 0 |
|---|---|---|---|

20) ------------------- is the term used in EDTA titrations, for "the processes in which a substance is(1) so transformed that it does not enter into a particular reaction"

| Complexation | Chelation | Masking | Demasking |
|---|---|---|---|

## II Long Answers

**Answer all the questions.**

1) What is Iodometry? explain with suitable example. Explain iodate (10) titrations with suitable example.

2) Write in detail about the types of errors and any five approaches to (10) minimize these errors

## III Short Answers

**Answer all the questions.**

1) Explain the principle for the estimation of halogen acid salts of (5) bases by non-aqueous titration with an example.

2) What are argentometric titrations? Classify its detection of end (5) point methods with example.

3) What is Gravimetric analysis? Enlist its steps and applications. (5)

4) Explain the end point detection in diazotization titration using (5) external indicator and in argentometric titration using adsorption indicator.

5) Explain the preparation and standardization of 0.1 M NaOH (5) solution

6) Explain the ionic-chromophoric theory of indicators (5)

7) a) Write the principle of complexometric titration with suitable (5) example.
b) Briefly discuss the types of complexometric titrations

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