Code No: BP102T **PCI** SET - 1

I B. Pharmacy I Semester Regular/Supplementary Examinations, February - 2020
PHARMACEUTICAL ANALYSIS-I

Time: 3 hours Max. Marks: 75

Note: 1. Question paper consists of three parts (**Part-I**, **Part-II & Part-III**)
2. Answer ALL (Multiple Choice) Questions from **Part-I**
3. Answer any **TWO** Questions from **Part-II**
4. Answer any **SEVEN** Questions from **Part-III**

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PART –I

1. (i) Calcium ion can be estimated by using the reagent………….. (1M)
(a) $NaNO_2$ (b) H_2SO_4 (c) EDTA (d) NaOH

(ii) If a pharmaceutical product is listed in any Pharmacopoeia, it is called as…. (1M)
(a) spurious drug (b) official drug (c) rejected drug (d) approved drug

(iii) When ……….. is dissolved in water, the solution will become acidic. (1M)
(a) NaCl (b) NH_4Cl (c) NaOAc (d) NH_4OAc

(iv) …….. indicator is used for pH 8-9 (1M)
(a) Thymol blue (b) bromothymol blue (c) methyl violet (d) phenolphthalein

(v) …….. is not essential for a primary standard. (1M)
(a) Purity (b) Stability (c) low hygroscopicity (d) high molecular weight

(vi) $AgNO_3$ is used for limit test of………… (1M)
(a) Chloride (b) sulfate (c) Iron (d) Lead

(vii) In complexometric titrations,………… is used for masking Fe^{+3} ion. (1M)
(a) Triethanolamine (b) NaCN (c) sodium hydroxide (d) Na_2CO_3

(viii) ……… is used as solvent for preparing 0.1N perchloric acid solution. (1M)
(a) ethanol (b) acetic acid (c) chloroform (d) water

(xi) Colloids scatter the light due to (1M)
(a) Tyndall effect (b) Brownian motion (c) Raman effect (d) Fluorescence

(x) A lipophilic weak acid is preferably estimated by using…………… titration. (1M)
(a) aqueous (b) non-aqueous (c) complexometry (d) gravimetry

(xi) Reduction involves………… (1M)
(a) loss of electrons (b) addition of oxygen
(c) gain in electrons (d) loss of hydrogen

(xii) A calomel electrode is an example of… (1M)
(a) a fuel cell (b) reference electrode
(c) ion selective electrode (d) electrolytic cell

(xiii) In a reaction between $CuSO_{4(s)}$ and $Zn_{(s)}$, (1M)
(a) copper gains electrons
(b) copper is being reduced
(c) copper experiences a decrease in oxidation state
(d) all of the above

(xiv) Which of the following is not an Oxidizing agent? (1M)
(a) potassium iodide
(b) potassium manganate
(c) potassium dichromate
(d) bromine solutions
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(xv) If acidified Potassium Manganate (VII) acts as oxidizing agent, color changes from ……. (1M)
(a) orange to red (b) Purple to green (c) Purple to colourless (d) yellow to red

(xvi) Formation of a precipitate is necessary for………… (1M)
(a) polarography (b) voltammetry (c) electrogravimetry (d) conductometry

(xvii) Values of E^o for the Ce^{4+}/Ce^{3+} and Fe^{2+}/Fe half-cells are +1.72 and –0.44 V, respectively. From these data you can conclude that: (1M)
(a) Ce^{4+} will oxidize Fe^2
(b) Ce^{4+} is a better oxidizing agent than Fe^{2+}.
(c) Ce^{3+} is a better oxidizing agent than Fe^{2+}
(d) Ce^{3+} will oxidize Fe

(xviii) An electrochemical cell consists of two copper electrodes dipping into aqueous $CuSO_4$ solution; the electrodes are connected to a battery. Which statement about the electrolysis process in this cell is incorrect? (1M)
(a) Reduction occurs at anode
(b) Copper is deposited on cathode
(c) Cu^{+2} ions are produced at anode
(d) Copper is transported from anode to cathode

(xix) Standard hydrogen electrode has an arbitrarily fixed potential at …. volt (1M)
(a) 0.00 (b) 1.00 (c) 0.10 (d) None of the above

(xx) The Potential at the point on the polarographic wave where the current is equal to one half of the diffusion current is termed as (1M)
(a) Half wave current (b) full wave Current
(c) half wave Potential (d) full wave Potential

PART -II

2. a) Enumerate methods used for reducing errors. (5M)
   b) Write a note on Pharmacopoeias. (5M)
3. a) Classify acid base titrations with examples. Write in brief on neutralizing curves. (5M)
   b) Write principle and procedure involved in estimation of $MgSO_4$. (5M)
4. a) With a neat sketch explain construction of dropping mercury electrode. (5M)
   b) Discuss the methods used to determine end point in potentiometric titrations. (5M)

PART -III

5. Write a note on determinate errors. (5M)
6. Explain the role of reaction process as a source of impurity. (5M)
7. Explain the principle, chemistry and significance of limit test for iron. (5M)
8. Write in brief on metal-ion indicators. (5M)
9. Explain the principle, procedure and applications of Mohr's method. (5M)
10. Write in detail on Iodimetry. (5M)
11. Explain the construction and working of calomel electrode. (5M)
12. What is Ilkovic equation? Explain its significance. (5M)

13. Discuss the methods used for expression of concentration. (5M)