Roll No. .....

Total No. of Questions : 10] [Total No. of Pages : 02

B. Pharmacy (Sem. - 1st)

PHARMACEUTICAL ANALYSIS - I

SUBJECT CODE : PHM-1.1.1

Paper ID : [D0101]

[Note : Please fill subject code and paper ID on OMR]

Time : 03 Hours **Maximum Marks : 80**

Instruction to Candidates:

1) Section - A is **Compulsory**.
2) Attempt any **Four** questions from Section - B.
3) Attempt any **Three** questions from Section - C.

Section - A

Q1) *(15 x 2 = 30)*

a) What are primary and secondary standard substances? Give examples.

b) What are absolute and relative errors?

c) If [OH^-] of a solution is 10^{-10}, calculate the pH of solution.

d) A 100mL of solution contains 1.26 G of oxalic acid. Calculate its normality and molarity.

e) Write the transition pH of phenolphthalein and methyl red.

f) Define solubility product and give solubility product of water.

g) How solubility product affect the amount of precipitation?

h) Calculate the equivalent weight of $KMnO_4$(MW = 158) using following equation :

MnO_4^- ----------> Mn^{++}

i) What are self indicators? Give examples.

j) Why freshly papered solution of $KMnO_4$ is heated to boiling prior to its use in titration?

k) What is Nernst equation? Write the Nernst equation for the following electrode reaction :

Zn ---------> $Zn^{2+} + 2e$

l) What are the differences in iodometry and iodimetry?

m) What are buffer solutions? Give the composition of acetate buffer.

n) Give the role of glycerin in estimation of boric acid.

o) What are mixed indicators?

Section - B

(4 x 5 = 20)

Q2) Calculate the mean and standard deviation of following weights in mg :
5.87, 5.79, 6.13, 5.50.

Q3) Explain redox indicators.

Q4) A sample of $FeSO_4.7H_2O$ (MW = 278.0) consumes 20 mL of 0.2N $KMnO_4$ solution. Calculate the amount of $FeSO_4.7H_2O$ in the given sample.

Q5) Write a note on application of quantitative analysis in quality control.

Q6) Discuss the theory of precipitation titration.

Section - C

(3 x 10 = 30)

Q7) What is gravimetric analysis? Discuss the factors which affect the purity of precipitate in gravimetric analysis.

Q8) Discuss :
(a) Gay-Lussac and
(b) Volhard's method.

Q9) What are different types of indicators? Discuss the theory and application adsorption indicators in detail.

Q10) Explain the concept of iodometry and iodimetry. Give the procedure for the standardization of sodium thiosulphate solution using potassium iodate.