

**I B.Pharmacy II Semester Supplementary Examinations, Feb/Mar 2014  
PHYSICAL PHARMACY-II**

**Time: 3 hours**

**Max Marks: 75**

**Answer any FIVE Questions  
All Questions carry equal marks**

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1. (a) Discuss about theory of strong electrolytes.  
(b) Write notes on activity and activity coefficients. [8+7]
2. (a) Discuss about Arrhenius theory of acids and bases. Give its limitations.  
(b) Using acid base equilibria, derive an equation to calculate the ionization constant of acetic acid. [8+7]
3. (a) Discuss about Bronsted Lowry theory of acids and bases. Mention its limitations.  
(b) Write notes on pH scale  
(c) Calculate the pH of 0.1 N and 0.01N HCL solution.  
(d) What is the normality of pH 1 and pH 3 sulfuric acid solution. [4+4+4+3]
4. (a) Define and explain buffer capacity and give method and equation for determination of buffer capacity in an approximate way and in exact way?  
(b) Write short note on drugs as buffers. [8+7]
5. (a) Explain buffer action mechanisms.  
(b) Define buffer, buffer capacity & buffer action. Explain their applications. [8+7]
6. (a) Explain Henderson-Hassel batch equations  
(b) Write a note on buffer actions of alkaline buffer. [8+7]
7. (a) Name the different type of electrodes and explain the working of glass electrode.  
(b) Write a note on construction and working of a calomel electrode. [8+7]
8. (a) Discuss about the determine the dissolution constant by potentiometry?  
(b) Define *emf* and write about the electrochemical cell with neat sketch. [7+8]

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