



**Subject: Pharmaceutical Inorganic Chemistry (Theory)**

**Course: B. Pharm**

**Full Marks: 30**

**Time: 1hr**

- **All Questions are compulsory.**

**I. Multiple Choice Questions(10 × 1 = 10)**

**1. Pharmaceutical buffer systems could be categorized into:**

- (a) 1                      (b) 2                      (c) 3                      (d) None of the above

**2. Fluoride inhibits caries formation via:**

- (a) Increase acid solubility of enamel                      (b) Bacterial inhibition  
(c) Both a and b                      (d) Decrease acid solubility of enamel

**3. Impurities in pharmaceutical preparation may be due to the following sources:**

- (a) Raw material  
(b) Manufacturing process  
(c) Chemical instability  
(d) All of the above

**4. Caustic soda is a synonym of:**

- (a) NaOH                      (b) HCl                      (c) CaCO<sub>3</sub>                      (d) I<sub>2</sub>

**5. The most widely used Anti-caries agent is:**

- (a) Sodium Bicarbonate                      (b) Sodium Carbonate  
(c) Sodium Fluoride                      (d) Acacia

**6. The lead acetate cotton wool is used in the limit test for arsenic to:**

- (a) Make the arsine gas                      (b) Develop the yellow color  
(c) Trap the hydrogen sulphide gas                      (d) None of the above

**7. Limit tests are performed in:**

- (a) Flask                      (b) Test Tube  
(c) Nessler Cylinder                      (d) Petri Dish

**8. Milk of magnesia is a common name for:**

- (a) Suspension of Magnesium Oxide  
(b) Suspension of Magnesium Hydroxide  
(c) Suspension of Magnesium Carbonate  
(d) None of the above

**9. Silver nitrate should be stored in:**

- (a) Clean, dry white bottles
- (b) Lead-free white bottles
- (c) Amber colored bottles
- (d) Neutral glass bottles

**10. Hydrochloric acid (HCL) is used in:**

- (a) Diarrhea
- (b) Hyperacidity
- (c) Achlorhydria
- (d) Fever

**II. Long Answers (Answer 1 out of 2) (1 × 10 = 10)**

1. What are the sources of impurities in pharmaceutical substances? Explain the principle for the limit test for sulphate.
2. What are Dentrifrices? Role of fluoride in the treatment of dental caries.

**III. Short Answers (Answer 2 out of 3) (2 × 5 = 10)**

1. What are buffers derived from the Henderson-Hasselbalch equation for buffer?
2. What do you mean by the term monograph? What are the contents of the monograph in detail?
3. Calculate the pH of a buffer prepared by mixing 150 mL of 0.3 M acetic acid with 200 mL of 0.2 M sodium acetate when the pKa of acetic acid is 4.74.