

ASTU B.Ph. 1st Sem.

11/R/13

Total No. of printed pages = 6

PY132106

Roll No. of candidate

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2013

(Odd Semester)

PHARMACEUTICAL CHEMISTRY - I

Full Marks-100 Pass Marks-35 Time-Three hours

The figures in the margin indicate full marks for the questions.

Answer question number 1 and 6 and *any six* from the rest.

SECTION - A

1. (a) Match the following : 1×5=5

Group A

Group B

Oxygen

Local antiseptic

Sodium Chloride

Inhalant

Simethicone

Radio Opaque

Contrast media

Boric Acid

Replacement therapy

Barium sulphate

Defoaming Agent

[Turn over

(b) Fill in the blanks :

1×4=4

- (i) The increased level of carbon dioxide in the blood leads increased carbonic acid and hydrogen ion levels. This results in _____.
- (ii) The limit test for chloride has been based on the reaction between _____ and soluble chloride ion.
- (iii) _____ is an example of systemic antacid.
- (iv) Dibasic calcium phosphate is used as a _____.

(c) Write in brief sentences :

1×5=5

- (i) Why dilute nitric acid is used in the limit test for chloride ?
- (ii) Why combination of antacid is essential ?
- (iii) What is the mechanism of action of an astringent ?
- (iv) Write the definition of acid and base according to Lewis.
- (v) What are sclerosing agents ?

2. (a) What are the different sources of impurities ? Describe any two sources. $2+4=6$
- (b) Write down the principle for the limit test of arsenic. Give the detail description of the apparatus used for limit test of arsenic with suitable diagram. $2+3=5$
- (c) What are anticaries agents ? 1
3. (a) Discuss about the pH of acidic buffer and alkaline buffer by applying Handerson-Hassalbach equation. Write down the role of buffer in pharmacy. $4+2=6$
- (b) Write the preparation, properties and pharmaceutical uses of Boric acid. $2+2+2=6$
4. (a) What are antacids ? Write the different types of antacids with suitable examples. Write the ideal character of an antacid. $1+2+2=5$
- (b) Write down the preparation, properties and uses of calcium carbonate. $2+2+2=6$
- (c) What are protective and adsorbents ? Give examples. 1

5. (a) What are the major intra and extracellular electrolytes ? Write down the role of sodium ion. 1+2=3

(b) Write short notes on the following : 3×3=9

(i) ORS

(ii) Pharmaceutical aid

(iii) Respiratory stimulant

SECTION – B

6. (a) Match the following : 1×5=5

Group A

Zinc oxide

Alum

Povidone-Iodine

Kaoline

Magnesium trisilicate

Group B

Adsorbent

Antimicrobial agent

Antacid

Astringent

Protective

(b) Fill in the blanks : 1×4=4

(i) Nuclides having the same number of protons but different numbers of neutrons are termed as _____.

(ii) The substance which brings about mild depression of the central nervous system is _____.

(iii) The chemical formula of Plaster of Paris is _____.

(iv) The solution having a mixture of ammonium hydroxide and ammonium chloride is a _____ buffer.

(c) Write in brief sentences : 1×5=5

(i) What are cathartics ? Give examples.

(ii) Write down the principle of the limit test for sulphate.

(iii) What is electrolyte combination therapy ?

(iv) What do you mean by complexing and chelating agent ? Give examples.

(v) What are expectorants and emetics ?

7. (a) Define topical agent. Classify it. Write down the physical, chemical properties, storage condition and pharmaceutical uses of the following : 1+1+(4×2)=10

(i) Talc

(ii) Potassium permanganate

(b) Write the biological role of zinc. 2

8. (a) Discuss Bronsted-Lowry concept of Acid and Base. Write the limitation. $3+1=4$
- (b) What are anti-infective agents ? Write the different types of anti-infective agents. Discuss the mechanism of action of an anti-infective agent. $1+1+6=8$
9. What are radio nuclides ? Discuss the construction and operation of Gieger Muller Counter. What are the applications of radioisotopes ? $2+6+4=12$
10. Write short notes on the following : $3 \times 4 = 12$
- (a) Astringents
 - (b) Limit test for Iron
 - (c) Heavy metal poisoning
 - (d) Antioxidants.