

22/04/2021

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2021

B.Pharm. 1st Semester (Regular) Examination

PHARMACEUTICAL INORGANIC CHEMISTRY THEORY

(New Regulation)

(w.e.f. 2017-18)

Full Marks – 75

Time – Three hours

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

1. Answer the following questions :

(20 × 1 = 20)

(i) First edition of I.P. was published in the year

- (a) 1955
- (b) 1966
- (c) 1996
- (d) 1944

(ii) In Bronsted-lowry theory acid is a

- (a) proton donor
- (b) electron acceptor
- (c) proton acceptor
- (d) none of the above

(iii) HSAB categorizes acid and bases according to the properties of

- (a) size
- (b) charge
- (c) polarizability
- (d) all of the above

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(iv) Pharmaceutical buffer system could be categorized into

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

(v) Sodium bicarbonate is a

- (a) Systemic antacid
- (b) Non-systemic antacid
- (c) Neutral substance
- (d) Acidifying agent

(vi) Caustic soda is the synonym of

- (a) Potassium hydroxide
- (b) Calcium hydroxide
- (c) Sodium hydroxide
- (d) Magnesium hydroxide

(vii) Iodine should be stored in

- (a) Glass bottles with glass stoppers
- (b) Well closed bottles with cork closures
- (c) Well closed bottles with rubber closures
- (d) None of the above

(viii) Green vitriol is the synonym of

- (a) Copper sulphate
- (b) Ferrous sulphate
- (c) Magnesium sulphate
- (d) Zinc sulphate

- (ix) Radiopaque contrast media is
- (a) Barium sulphate
 - (b) Magnesium sulphate
 - (c) Sodium hydroxide
 - (d) None of the above
- (x) Impurities in pharmaceutical preparation may be due to
- (a) Raw material
 - (b) Manufacturing process
 - (c) Chemical instability
 - (d) All of the above
- (xi) Povidone is
- (a) polivinyl Pyrrolidine
 - (b) polyvinyl chloride
 - (c) polyvinyl alcohol
 - (d) polyvinyl carbonate
- (xii) Hydrogen peroxide is used as
- (a) antiseptic
 - (b) acidifying agent
 - (c) protective
 - (d) antioxidant
- (xiii) Radioactivity is measured by
- (a) G.M counter method
 - (b) pH meter
 - (c) spectrophotometer
 - (d) volumetric titration method

(xiv) Arsenic limit test is carried out in

- (a) Nessler cylinder
- (b) Separating funnel
- (c) Gutzeit apparatus
- (d) All of the above

(xv) In physiological acid-base imbalance K excretion will be decreased

- (a) the amount of Na reaching distal tubule is low
- (b) the proton secretion by kidney tubule is increased
- (c) both (a) and (b)
- (d) none of the above

(xvi) Calcium gluconate is prepared by

- (a) lactic acid and CaCO_3
- (b) oxalic acid and CaCO_3
- (c) gluconic acid and CaCO_3
- (d) gluconic acid and Ca(OH)_2

(xvii) The advantage of sodium lactate over sodium bicarbonate

- (a) rapidly metabolized
- (b) it may be sterilized by boiling
- (c) both of the above
- (d) none of the above

(xviii) Fluoride inhibits caries formation via

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

(xix) Hypochloremia can be caused by

- (a) salt losing nephritis
- (b) metabolic acidosis
- (c) both (a) and (b)
- (d) metabolic alkalosis

(xx) Halogenation mechanism occurring with antiseptic are

- (a) hypohalite
- (b) sulphhydryl
- (c) halogens
- (d) none

2. Answer any seven questions (any seven) : (7 × 5 = 35)

- (a) Write the Henderson-Hasselbatch equation for buffers. (5)
- (b) Write the theories of acid and base with suitable examples. (5)
- (c) Define Antacid with examples. Classify them. Write two ideal properties of antacid. (1 + 2 + 2 = 5)
- (d) Write the preparation, properties and uses of Ammonium Chloride. (1 + 2 + 2 = 5)
- (e) What is Limit test? Give its significance. Discuss the limit test for chloride. (1 + 1 + 3 = 5)
- (f) What are Dentifrices. Discuss the role of fluoride in the treatment of dental caries. (1 + 4 = 5)
- (g) Write a note on Oral Rehydration Salt (ORS). (5)
- (h) Define Antiseptic and Disinfectant with example. Write the mechanism of action of antimicrobials. (2 + 3 = 5)
- (i) Discuss the function of major physiological ions in maintaining the acid base balance. (5)

3. Long Answer any two questions (any two) : (2 × 10 = 20)

(a) What are Radiopharmaceuticals? Write a note on measurement of radioactivity? Discuss the storage condition and pharmaceutical application of radioactive substances. (1 + 4 + 5 = 10)

(b) (i) Explain briefly Geiger-Muller counter with diagram. (5)

(ii) Write a short note on Expectorants and Emetics with examples. (2.5 + 2.5 = 5)

(c) Write a detailed note on the various sources of impurities in pharmaceutical preparations. (10)
