

341154(41)

B Pharmacy (First Semester) Examination

Nov.-Dec. 2019

(PCI Scheme)

(Pharmacy Branch)

PHARMACEUTICAL INORGANIC CHEMISTRY

Theory (BP104T)

Time Allowed : Three hours

Maximum Marks : 75

Note : Answer all questions from Section A. Attempt any two questions from section B and seven questions from Section C.

Section - A

(Multiple Choice Questions)

Note : Attempt all questions from MCQs. All questions carry 01 mark each.

1. Choose the correct answer : 20×1=20

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(i) Ferrous gluconate is :

(a) $C_{12}H_{24}FeO_{14}$

(b) $C_{11}H_{22}FeO_{14}$

(c) $C_{12}H_{26}FeO_{14}$

(d) None of the above

(ii) Sodium potassium tartarate is :

(a) Soluble in water

(b) Insoluble in water

(c) Poorly soluble in water

(d) Highly soluble in water

(iii) In Bronsted-Lowry concept acid is :

(a) Proton donor

(b) Electron donor

(c) Proton acceptor

(d) Electron acceptor

(iv) HSAB categorizes acids and bases :

(a) Size

(b) Charge

(c) Polarizability

(d) All of these

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- (v) Example of strong acid :
- (a) H_4SO_4
 - (b) HCl
 - (c) HNO_3
 - (d) All of these
- (vi) Formula for Hydroxyapatite is :
- (a) $Ca_3(PO_4)_5(OH)$
 - (b) $Ca_5(PO_4)_3(OH)$
 - (c) $Ca_5(PO_4)_5(OH)$
 - (d) $Ca_3(PO_4)_3(OH)$
- (vii) Sodium nitrite is used as :
- (a) A food preservative
 - (b) Antidote to cyanide poisoning
 - (c) Both of these
 - (d) None of these
- (viii) Formula for Potash Alum is :
- (a) $KAl(SO_4)_2$
 - (b) $K_2SO_4Al_2(SO_4)_3 \cdot 12H_2O$
 - (c) $KAl(SO_4)_2 \cdot 12H_2O$
 - (d) $KCrS_2O_8$

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- (ix) Tonicity is the measure of :
- (a) Effective osmotic pressure gradient
 - (b) Effective osmotic potential gradient
 - (c) Relative concentration of solutes dissolved in solution
 - (d) Both (a) and (c)
- (x) Eugenol Cement is :
- (a) Mainly zinc oxide and the liquid is eugenol with castor oil as a plasticizer.
 - (b) Mainly zinc oxide and the liquid is eugenol with coconut oil as a plasticizer.
 - (c) Mainly zinc oxide and the liquid is eugenol with peppermint oil as a plasticizer.
 - (d) Mainly zinc oxide and the liquid is eugenol with olive oil as a plasticizer.
- (xi) Methods of adjusting Tonicity and pH :
- (a) NaCl or some other substances is added to the solution of the drug to lower the freezing point of the solution to $-0.52^\circ C$ and thus make the solution isotonic.
 - (b) Water is added to the drug in a sufficient amount to make it isotonic.

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- (c) Freezing point depression and L_{iso} values for number of drugs are estimated theoretically from the molecular weight of the drug and can be used to calculate the amount of adjusting substance to be added in order to make the solution isotonic.
- (d) All of these

(xii) New ORS formulas as per WHO is :

(a) Sodium chloride	2.4	Sodium	65
Glucose, anhydrous	12.5	Chloride	65
Potassium chloride	1.5	Glucose, anhydrous	75
Trisodium citrate		Potassium	20
Dihydrate	2.9	Citrate	10

(b) Sodium chloride	3.6	Sodium	75
Glucose, anhydrous	10.5	Chloride	75
Potassium chloride	1.5	Glucose, anhydrous	75
Trisodium citrate		Potassium	30
Dihydrate	5.9	Citrate	10

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(c) Sodium chloride	2.6	Sodium	75
Glucose, anhydrous	14.5	Chloride	75
Potassium chloride	1.5	Glucose, anhydrous	75
Trisodium citrate		Potassium	20
Dihydrate	3.9	Citrate	20

(d) Sodium chloride	2.6	Sodium	75
Glucose, anhydrous	13.5	Chloride	65
Potassium chloride	1.5	Glucose, anhydrous	75
Trisodium citrate		Potassium	20
Dihydrate	2.9	Citrate	10

(xiii) Dentifrices helps to :

- (a) To remove food debris
- (b) To remove dental cavities
- (c) To remove dental plaque
- (d) Both (a) and (c)

(xiv) Measurement of Tonicity is done by :

- (a) Hemolytic method

- (b) Measurement of the slight temperature differences
 - (c) Measurement of the slight pressure differences
 - (d) All of these
- (xv) Limit test is :
- (a) Defined as quantitative or semi quantitative test designed to identify and control small quantities of impurity which is likely to be present in the substance.
 - (b) Defined as quantitative or semi qualitative test designed to identify and control small quantities of impurity which is likely to be present in the substance.
 - (c) Defined as qualitative or semi quantitative test designed to identify and control small quantities of impurity which is likely to be present in the substance.
 - (d) Defined as qualitative or semi qualitative test designed to identify and control small quantities of impurity which is likely to be present in the substance.

- (xvi) Povidone-iodine is :
- (a) A broad spectrum antiseptic for topical application in the treatment and prevention of wound infection.
 - (b) A narrow spectrum antiseptic for topical application in the treatment and prevention of wound infection.
 - (c) An antiseptic used for skin disinfection before and after surgery.
 - (d) Both (a) and (c)
- (xvii) What is radioactive half life?
- (a) It is the time for half the radioactive nuclei in any sample to undergo radioactive decay.
 - (b) It is the time for half the radioactive radiation in any sample to undergo decay.
 - (c) It is the time for the radioactive nuclei in any sample to undergo radioactive decay.
 - (d) None of these
- (xviii) Activated charcoal is often combined with sorbitol :
- (a) To curtail the amount of time to move through the system and reduce the possibility of constipation.

- (b) To shorten the amount of time to move through the system and reduce the possibility of constipation.
- (c) Both of these
- (d) None of these
- (xix) Boric acid is also known as :
- (a) Sassolite
- (b) Cassiterite
- (c) Boracic acid
- (d) Both (a) and (c)
- (xx) A Geiger Muller Counter is an instrument :
- (a) Used for detecting and measuring ionizing radiation.
- (b) Used for quantifying and measuring ionizing radiation.
- (c) Used for detecting and quantifying ionizing radiation.
- (d) Used for detecting and measuring the half life.

Section - B

(Long Answer Type Question) 2×10=20

Note : Attempt any two questions. Each question carries 10 marks.

2. Discuss in detail about the properties of α , β and γ radiations. Write an account about radioisotope Sodium iodide I^{131} . Discuss the pharmaceutical applications of radioactive substances.
3. Write an exhaustive note on Haematinics. Write the preparation, properties and assay of Ferrous sulphate.
4. Discuss in detail about Antimicrobials. Elaborate the role of Hydrogen peroxide and Chlorinated line.

Section - C

(Short Answer Type Question) 7×5=35

Note : Attempt any Seven questions. Each question carries 5 marks.

5. What are Acids, Bases and Buffers? Write a short note on Buffered isotonic solutions.
6. What are saline cathartics? Write the preparation and assay of Magnesium Sulphate.
7. Write the principle for Lead limit test with reactions.

8. What is Radioactivity? Explain a method for the measurement of radioactivity.
9. What are Dental products? Write about the role of fluorides as anti-caries agents.
10. Write a short note on Extra and Intra Cellular Electrolytes. Discuss about ORS.
11. How will you assay Ammonium Chloride?
12. Define an anacid. Write the preparation and assay of Sodium bicarbonate.
13. Define Poison and Antidote in detail. Discuss about Sodium thiosulphate.

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