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Brainware University  
Barasat, Kolkata-700125



## BRAINWARE UNIVERSITY

Term End Examination 2023-2024

Programme – D.Pharm-2022/D.Pharm-2023

Course Name – Pharmaceutical Chemistry - Theory

Course Code - ER20-12T

( Year I )

Full Marks : 80

Time : 3:0 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

### Group-A

(Multiple Choice Type Question)

1 x 20=20

1. Choose the correct alternative from the following :

- (i) Identify the reasons for the impurities in pharmaceutical preparations.
- |                         |                          |
|-------------------------|--------------------------|
| a) Raw Materials        | b) Manufacturing Process |
| c) Chemical Instability | d) All of these          |
- (ii) Identify the test on which Limit test for Arsenic is based.
- |                   |                  |
|-------------------|------------------|
| a) Gutzeit test   | b) Fehlings test |
| c) Benedicts test | d) None of these |
- (iii) Identify correct answer: A substance or chemical that changes its colour in acidic and basic medium during titration called \_\_\_\_\_.
- |                |                    |
|----------------|--------------------|
| a) Indicator   | b) Titrant         |
| c) Equivalency | d) Buffer solution |
- (iv) Identify correct answer: In formula  $N1V1$ ,  $N1$  stands for \_\_\_\_\_.
- |                      |                      |
|----------------------|----------------------|
| a) Volume of acid    | b) Normality of acid |
| c) Normality of base | d) Volume of base    |
- (v) Identify correct answer: The method involves the titration of halides in an acidic medium is \_\_\_\_\_.
- |                  |                    |
|------------------|--------------------|
| a) Fajans method | b) Volhards method |
| c) Mohrs method  | d) None of these   |
- (vi) Identify correct answer: Which antacid is water soluble in nature?
- |               |               |
|---------------|---------------|
| a) $Al(OH)_3$ | b) $Mg(OH)_2$ |
| c) $NaHCO_3$  | d) $Ca(OH)_2$ |
- (vii) Identify correct answer: Which antacid absorbs  $CO_2$  from atmosphere?
- |                        |                       |
|------------------------|-----------------------|
| a) Aluminium Hydroxide | b) Sodium Bicarbonate |
| c) Magnesium Hydroxide | d) None of these      |
- (viii) Identify correct answer: Which of the following is long acting thiazide diuretic?

- a) Metformin  
c) Pioglitazone
- (ix) Identify the correct option. The important features of general anaesthesia are.  
a) Loss of all sensation, especially pain  
c) Immobility and muscle relaxation
- (x) Select the correct option: The drug used to treat epilepsy is known as \_\_\_\_\_.  
a) Adrenergic drug  
c) Anticonvulsant drug
- (xi) Select the correct option: 5,5-Diphenylimidazolidine-2,4-dione is the other name of \_\_\_\_\_.  
a) Diazepam  
c) Mephenytoin
- (xii) Identify the correct option: Adrenergic drugs also known as \_\_\_\_\_.  
a) Sympathomimetic agents  
c) Adrenergic antagonist
- (xiii) Select the correct option: These drugs inhibit adrenergic responses mediated through the  $\beta$ -receptors.  
a) Beta adrenergic blockers  
c) Direct acting
- (xiv) Identify the correct option: Which of the following drug is a beta blocker class?  
a) Spironolactone  
c) Frusemide
- (xv) Identify the correct option: Isoflurane belongs to which class of general anaesthetic?  
a) Volatile liquids  
c) Slow acting
- (xvi) Select the correct option: Thiopental Sodium is freely soluble in \_\_\_\_\_.  
a) alcohol  
c) chloroform
- (xvii) Identify the correct option: Amobarbital belongs to which class of barbiturates?  
a) Long acting  
c) Medium acting
- (xviii) Identify the correct option from the following: Ideal Antacid works in pH range.  
a) pH 3-4  
c) pH 5-7
- (xix) Identify the correct option from the following: The role of citric acid in the limit test of Iron is \_\_\_\_\_.  
a) Alkaline media  
c) Prevent precipitation
- (xx) Choose the following: Which among the following is a beta blocker drug?  
a) Spironolactone  
c) Frusemide
- b) Chlorthalidone  
d) Repaglinide
- b) Sleep (unconsciousness) and amnesia  
d) All of these
- b) Cholinergic drug  
d) Antipsychotics drug
- b) Thiopental sodium  
d) Phenytoin
- b) Parasympathetic  
d) None of these
- b) Adrenergic antagonist  
d) Both (a) and (b)
- b) Propranolol  
d) All of these
- b) Gas  
d) Inducing agents
- b) ether  
d) water
- b) Short acting  
d) Ultra-short acting
- b) pH 4-6  
d) pH 8-9
- b) Acidic media  
d) Increase precipitation
- b) Propranolol  
d) All of these

**Group-B**  
(Short Answer Type Questions)

3 x 10=30

2. Discuss the principle for the limit test of Iron and explain the role of thioglycolic acid. (3)
3. Describe the method of preparation, storage condition and uses of Ferrous sulphate. (3)

4. Describe antacids and classify them with suitable examples in each class. (3)
  5. Classify antiarrhythmic drugs and write down the chemical structure, uses of Quinidine sulphate. (3)
  6. Briefly explain about hypertension and classify antihypertensive agents with suitable example. (3)
  7. Illustrate schematically the mode/mechanism of action of NSAIDs. (3)
  8. Describe protectives and adsorbents with their uses. (3)
  9. Describe about Silver Nitrate. (3)
  10. Define Hypoglycaemic agents and also focus on the 3 types of diabetes in brief. (3)
  11. Classify NSAID with suitable examples. (3)
- OR
- Classify anti fungal agents with suitable examples. (3)

**Group-C**

(Long Answer Type Questions)

5 x 6=30

12. Describe about the stability, storage conditions and uses of Salbutamol (Albuterol). (5)
13. Write down the chemical name, uses, stability & storage conditions of Carbachol. (5)
14. Describe briefly about Clonazepam. (5)
15. Explain about Propranolol with structure. (5)
16. Discuss the stability, storage condition, market formulation and uses of Phenytoin Sodium with structure. (5)
17. Classify NSAIDs and briefly explain the stability, storage conditions and uses of Diclofenac. (5)

OR

- Classify antibiotics with examples with a detailed focus on Penicillin-G. (5)