

**St. Joseph's College of Arts & Science (Autonomous)**  
Cuddalore – 607001

**QUESTION BANK**

**CLASS: III-CHD., & III-CHE, SEMESTER-VI**

**SUBJECT: MEDICINAL CHEMISTRY**

**SUBJECT CODE: ECH617S**

**NAME OF THE STAFF : Mr M. SEBASTIAN MARIANATHAN**

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**Unit-1**

**SECTION-A**

**I. Choose the correct answer:**

1. Croxatto and Huldobro postulated the ----- theory  
a) Occupancy b) Intrinsic activity c) Charniere d) Rate
2. ----- may be defined as what the body does to the drug  
a) Pharmacokinetics b) Pharmacodynamics  
c) Thermodynamics d) Thermochemistry
3. The study of the bodily absorption,distribution, metabolism and excretion of drugs is called-----,  
a) Pharmacology b) Pharmacodynamics  
c) Pharmacokinetics d) Pharmology
4. ----- is the study of biological and therapeutic effect of drugs.  
a) Pharmacokinetics b) Pharmacodynamics  
c) Molecular pharmacology d) Pharmaceutical chemistry
5. SAR stands for -----.  
a) Structure and reactivity  
b) Stereochemistry and reactivity  
c) Stereochemistry and relationship  
d) Structure activity relationship

6. ----- is a substance administered in an inactive form and become active after metabolic activity,  
a) Prodrug b) Soft drug c) Hard drug d) Normal drug

## II. Fill up the blanks

1. Occupancy theory is also called as \_\_\_\_\_
2. Pharmacokinetics may be defined as \_\_\_\_\_
3. ----- are the class of diseases that involve the heart or blood vessels, arteries and veins.
4. A ----- drug is harshly addictive and considered much more harmful to the body.
5. Hansch equation is-----.
6. ----- is referred to as queen of drugs.

## SECTION – B

1. What is prodrug? Give examples.
2. Define pharmacodynamics.
3. What do you mean by LD-50 & ED-50?
4. What are the characteristics of a new drug?
5. Discuss about Rate theory
6. Explain Drug Receptor interaction.

## SECTION- C

1. a) Write notes on i) Induced fit theory ii) Partition Coefficient
2. a) Discuss about Pharmacodynamics and Pharmacokinetics.  
b) ----- theory is applied to drug receptor interaction
3. a) Explain the following:  
i) Pharmacokinetics  
ii) Pharmacodynamics  
b) Describe the theories of drug activity - QSAR.

4. A) What are the steps involved in drug development?
- a) Explain Rate theory.  
b) Write a note on Drug-Receptor interaction.
5. Write short note on the following:  
a) Drug action  
b) Physical and chemical Properties
6. Explain the following physicochemical parameters relation to biological action.  
i) Ionisation constant  
ii) Surface activity  
iii) Redox potentials

## UNIT-II

### SECTION – A

**Choose the correct answer:**

1. Streptomycin is also effective against ----- organisms  
a) +ve b) - ve c) Both d) None of these
2. Which of the following can cause death to bacteria  
a) PABA b) Ampicillin c) Benzyl penicillin d) Both b & c
3. Chloramphenicol is also known as  
a) Cycloheximide b) Penicillin c) Chloromycetin d) All the above
4. Functional group of penicillin G is  
a) Beta – lactum b) Lactose c) Acetal d) Nitro
5. Benzyl penicillin's antibacterial activity is due to the presence of ---  
----- amino penicillanic acid in its structure,  
a) 2 b) 4 c) 6 d) 8
6. Constipation and photosensitivity are the side effects caused by-----  
a) Amoxicillin b) Ciprofloxacin c) Penicillin d) Verapamil
7. Penicillin is active only against ----- organisms,  
a) Gram+ve b) Gram-ve c) Micro d) Macro
8. Antibiotic, streptomycin are employed for the treatment of -----.  
a) Tuberculosis b) Polio c) Ricketts d) Brain fever

9. A drug of choice for the treatment of typhoid fever-----.
- a) Streptomycin b) Chloramphenicol  
c) Auromycin d) Terramycin
10. Chloramphenicol is also known as -----.
- a) Tetracycline b) Pencillin  
c) Chloromycetin d) Streptomyces venezulae

## II. Fill up the blanks

1. Chemical substances which take part in cellular metabolic reactions are called as \_\_\_\_\_.
2. A ----- drug is harshly addictive and considered much more harmful to the body
3. Streptomycin is employed for the treatment of -----.

## SECTION – B

1. Define Antibiotics and mention some important antibiotics.
2. Write the chemical name and structure of penicillin–G.
3. SAR of chloramphenicol.
4. Define antibiotics with an example.
5. Give the description of Streptomycin.
6. What is the mode of action of ciprofloxacin?

## SECTION- C

7. a) Describe the SAR of sulphonamides.  
b) Write a note on Ciprofloxacin.
8. a) Explain the activity of Penicillin-G with structure.  
b) Write the SAR of phenyl ring in Chloramphenicol.

Explain the mode of action of Ciprofloxacin.

9. a) Give the synthesis of penicillin V
- b) Penicillin G has antibacterial activity due to the presence of ----- acid in its structure

10. a) Explain the S.A.R. of chloramphenicol and streptomycin.  
b) Give the mode of action of Ampicillin

### UNIT-III

#### SECTION – A

##### I. Choose the correct answer

1. Antineoplastic agents are used in the treatment of -----.  
a) Hypertension b) Malaria c) Diabetes d) Cancer
2. Which of the following is a cardiovascular drug?  
a) Terramycin b) Digitoxin  
c) Methadone d) Streptomycin
3. ----- tumors are the cancerous tumors,  
a) Benigin b) Non-malignant c) Malignant d) Cell
4. ----- is used in chronic lymphocytic leukemia,  
a) Chloromubucil b) Sulpha drugs  
c) Fluorouracil d) Amoxyllin
5. Antineoplastic agents are used in the treatment of -----.  
a) Hypertension b) Malaria c) Diabetes d) Cancer
6. Which of the following is a cardiovascular drug?  
a) Terramycin b) Digitoxin  
c) Methadone d) Streptomycin

##### II. Fill up the blanks

1. Treatment of cancer by drugs is known as -----.

#### SECTION – B

1. Mention some common causes of cancer.

2. List down any two SAR of verapamil.
3. What is Cancer?
4. Write a note on Cardiovascular diseases.
5. Draw the structure of Verapamil.
6. Mention some common causes of cancer.
7. Explain the SAR of Uracil..
8. Explain the SAR of Atenolol..
9. Explain the SAR of 6- Mercaptopurine.

### SECTION- C

1. a) Write a note on antineoplastic agents.
2. a) What are antineoplastic agents? Name any two plant products used as antineoplastic agents.  
b) Discuss the mode of action of antineoplastic agents.
3. Discuss about cardiovascular diseases ?
4. Explain central intervention of cardiovascular output?
5. Discuss about alkylating agents and antimetabolites in treatment of cancer ?

### UNIT-IV

#### Part-A

1. Chloroquin is a/an -----.
2. Constipation and photosensitivity are the side effects caused by-----
3. 4-aminoquinoline is the chemical name of -----

4. Sulphadiazine is a derivative of -----.

### Part-B

1. What is the mode of action of ciprofloxacin?
2. Give the physical properties and uses of sulphonamides.
3. What is the mode of action of Isoniazid?
4. Draw the structure of Chloroquine.

### Part-C

1. Describe the SAR of sulphonamides.
2. Write a note on Ciprofloxacin.
3. Explain the structure and activity of Norfloxacin.
4. Explain the mode of action of Ciprofloxacin.

## UNIT-V

### SECTION – A

#### I. Choose the correct answer:

- are CNS depressants without producing sleep  
a) Alcohols b) Nitates c) Sedatives d) Hypnotics
- Diazepam structure has ----- nitrogens  
a) 5 b) 3 c) 1 d) 2
- Cyclo propane is an example for ----- anaesthetics  
a) Anionic b) Gaseous c) Liquid d) Solid
- is an example for vasodilator  
a) Reserpine b) Morphine c) Naldixic acid d) Norfloxacin
- 4-aminoquinoline is the chemical name of -----  
a) Chloroquine b) Primaquine c) Albendazole d) Coumarin
- Nalidixic acid is mainly used to treat -----,  
a) Malaria b) Filarial c) Urinary tract infections d) Fibrosis
- The one which is used as general anaesthetic is -----.  
a) Ether b) Vinyl ether  
c) Halothane d) All the above
- Mechanistic action of drugs is evident from-----.  
a) Metabolism of drugs b) Structure of drugs  
c) Medicinal use of drugs d) None of these
1. ----- agents are used for prevention and treatment of infection.
2. Depression of CNS is caused by ----- anesthetic.
3. Chemical substances which take part in cellular metabolic reactions are called as \_\_\_\_\_.
4. \_\_\_\_\_ is a standardized measure for expressing and comparing the toxicity of chemicals.
5. Anthelmintics are drugs used to destroy -----.
6. Sulphadiazine is a derivative of -----.

### SECTION – B

- Write the mode of action of anti-infective drugs.
- What are minor-tranquilizers? Give two examples.

4. What are anti-anxiety drugs? Give example.
5. How anti-depressant drugs are classified? Give examples for each type.
6. What is the mode of action of diazepam
7. Draw the structure of oxazepam.
8. What is tranquilizer?
9. Write a note on sedatives.
10. Write about neurotransmitters.
11. Write a note on antidepressants.

### **SECTION- C**

1. a) Give the structure, therapeutic uses and adverse effects of Sulphathiazole  
b) Give the common mode of action of antiinfective drugs
- 2.. What are the drugs used in the treatment of Psychosis.
3. a) Explain the Structure and activity of Diazepam.  
b) Define Anaesthetics with example.
4. a) Define and classify psychoactive drugs.  
b) Write a note on benzodiazepines, buspirone
5. a) Describe the SAR of phenytoin .  
b) Write a note on neuroleptics.
6. a) Differentiate sedatives and hypnotics?  
b) Give the structure activity relationship of barbiturates.
7. Give the classification, properties and mechanism of general anaesthetics.