



- Notes :
1. All questions are compulsory.
 2. Diagrams and Chemical equation should be given wherever necessary.
 3. Discuss the reaction, mechanism wherever necessary.

1. Multiple Choice Questions.**1x20****=20**

- Which of the following NSAIDs is a non-selective COX inhibitor?
 - Celecoxib
 - Rofecoxib
 - Piroxicam
 - All of the above
- Which cyclooxygenase enzyme is selective for aspirin, indomethacin and sulindac?
 - Cyclooxygenase-I
 - Cyclooxygenase-II
 - Both-a-and b
 - None of the above
- The most potent narcotic antagonist is
 - Naloxone
 - Naltrexone
 - Nalorphine
 - Levorphanol
- Which of the following narcotic analgesic is a phenylpiperidine derivative?
 - Codeine
 - Fentanyl
 - Dezocine
 - Buprenorphine
- Dissociative anesthetic agent is
 - Ketamine
 - Thiopental
 - Midazolam
 - Fentanyl
- Which of the following is inhalational general anesthetic?
 - Propofol
 - Ketamine
 - Thiopental
 - Desflurane
- First known anticonvulsant drug was
 - Phenobarbital
 - Paraldehyde
 - Potassium bromide
 - Phenytoin
- The drug which can be used in treating myoclonic seizure in children.
 - Carbamazepine
 - Clonazepam
 - Lamotrigine
 - Vigabatrin
- In the treatment of Schizophrenia, blockade of D₂ receptor in which pathway is useful
 - Mesolimbic
 - Mesocortical
 - Nigrostriatal
 - Substantia nigra to basal ganglia

- x) The mechanism of action of atypical antipsychotic agents is based on the receptor subtype of
- | | |
|----------|-------------|
| a) H_1 | b) M_1 |
| c) D_1 | d) $5HT_2A$ |
- xi) The peripheral anionic site of cholinesterase consists of residues are:
- | | |
|---------------|----------------------|
| a) Serine | b) Glutamic acid |
| c) Both A & b | d) None of the above |
- xii) How much amount of Atropine metabolized in liver?
- | | |
|---------|--------|
| a) 100% | b) 50% |
| c) 80% | d) 30% |
- xiii) Tetrahydro furan ring comes in the structure of ----- drug.
- | | |
|----------------|-----------------|
| a) Pilocarpine | b) Methacholine |
| c) Carbachol | d) Bethanechol |
- xiv) Which group of Ach contributes to the binding of compound to the muscarinic receptor?
- | | |
|-------------------|-----------------|
| a) Ammonium group | b) Methyl group |
| c) Ethylene group | d) Ester-group |
- xv) Selective β_2 antagonist drugs are used to act on which part.
- | | |
|-----------------------|----------|
| a) Kidney | b) Brain |
| c) Respiratory system | d) Heart |
- xvi) Phenoxybenzamine inhibits the uptake of
- | | |
|--------------|-------------------|
| a) Histamine | b) Catecholamines |
| c) Histidine | d) Serotonin |
- xvii) In which of the following is stereoisomer of ephedrine?
- | | |
|--------------------|------------------|
| a) Pseudoephedrine | b) Mephentermine |
| c) Methoxamine | d) Metaephedrine |
- xviii) Bioisosters are similar in their-----.
- | | |
|--------------------------|------------------------|
| a) Physical properties | b) Chemical properties |
| c) Electronic properties | d) All of these |
- xix) Which of the following substance is the first precursor of Adrenaline formation?
- | | |
|-----------|-------------|
| a) Dopa | b) Dopamine |
| c) Serine | d) Tyrosine |
- xx) Which of the following reaction is catalysed by the enzyme adenylate cyclase?
- | |
|------------------------------------|
| a) Conversion of ATP to cAMP |
| b) Conversion of AMP to cyclic AMP |
| c) Conversion of cyclic AMP to ATP |
| d) Conversion of cyclic AMP to AMP |

- 2. Solve any two.** **10x2
=20**
- a) What are narcotic analgesics, classify them, give in general SAR, Mode of action of narcotic analgesics.
 - b) Give classification of cholinomimetics with examples and write MOA and SAR of direct acting cholinomimetics. Outline synthesis of carbachol.
 - c) Define and classify antipsychotics. Discuss about SAR and MOA of phenothiazine as a antipsychotic.

- 3. Solve any seven.** **5x7
=35**
- a) Write about Bioisosterism and its applications in medicinal chemistry.
 - b) Write a note on glucuronidation reaction.
 - c) Give SAR of direct acting sympathomimetics.
 - d) Write biosynthesis of catecholamines.
 - e) Write SAR of beta blockers.
 - f) Write structure, IUPAC name, MOA and uses of Diazepam.
 - g) Outline the synthesis and uses of mefenamic acid.
 - h) Write a short note on salicylic acid derivatives as anti-inflammatory agents.
 - i) Give SAR of barbiturates as a hypnotic.
