



# RRB PHARMACIST

2024

MODEL PAPER -22



TIME:-  
9 P.M

## 40 QUESTIONS

WITH DETAILED EXPLANATION

SUBJECT -

## PHARMACOLOGY

VIDEO DEKHNE KE LIYE BANNER PAR CLICK KARE

1

## Stimulation of the nicotinic receptor causes

- (a) Muscle contraction and twitching
- (b) Bradycardia
- (c) A bladder muscle contraction
- (d) Increased secretion of saliva and gastric acid

1

## Stimulation of the nicotinic receptor causes

- (a) Muscle contraction and twitching
- (b) Bradycardia
- (c) A bladder muscle contraction
- (d) Increased secretion of saliva and gastric acid

# NICOTINIC ACTIONS



- **Autonomic ganglia:** Both sympathetic and parasympathetic ganglia are stimulated.
- **Skeletal muscles:** Iontophoretic application of ACh to muscle endplate causes contraction of the fibre.
- **CNS actions:** ACh injected i.v. does not penetrate blood-brain barrier and no central effects are seen.

2

**When Parasympathetic stimulation drugs are used, which of the following action on heart is noted**

- (a) Bradycardia
- (b) Conductivity is enhanced
- (c) Tachycardia
- (d) Refractory period of atria is shortened

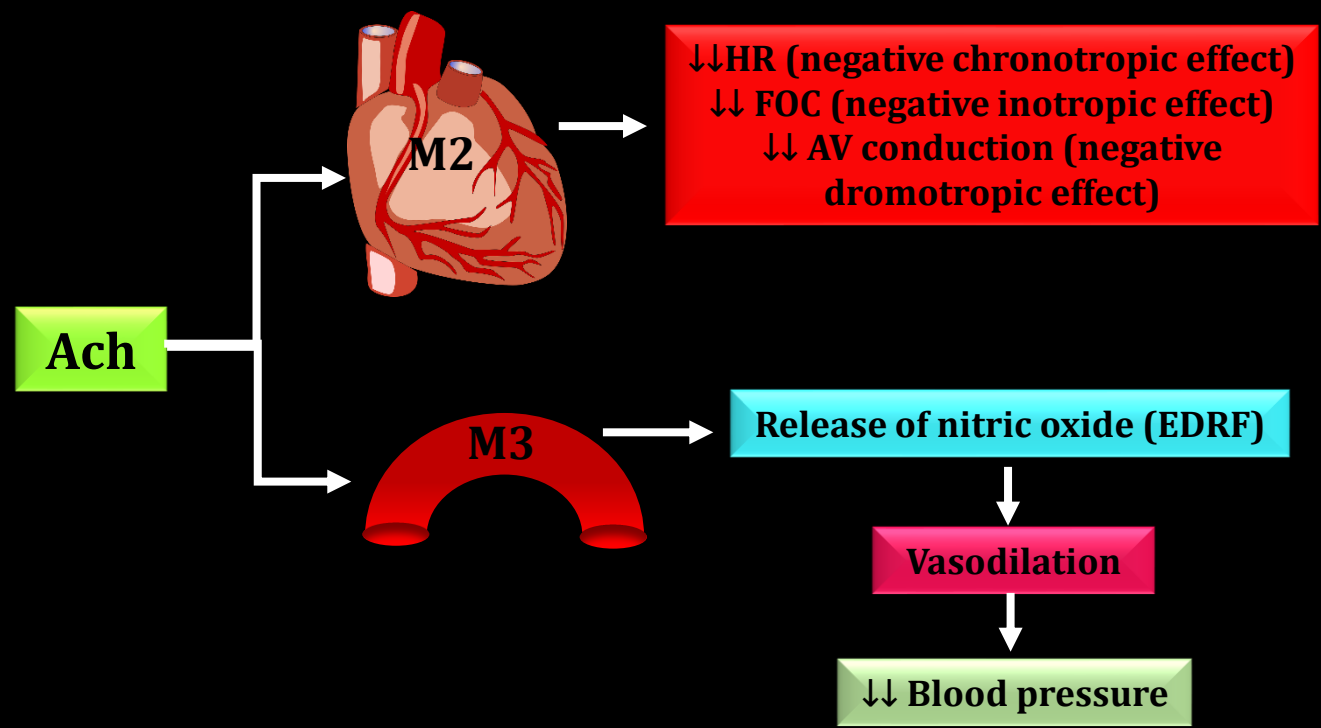
2

**When Parasympathetic stimulation drugs are used, which of the following action on heart is noted**

- (a) Bradycardia
- (b) Conductivity is enhanced
- (c) Tachycardia
- (d) Refractory period of atria is shortened

# MUSCARINIC ACTIONS

## Cardiovascular system



3

**The reduction in the release of which of the following neurotransmitters is related to the condition of dementia**

- (a) Anandamide
- (b) Acetylcholine
- (c) Norepinephrine
- (d) Dopamine



3

**The reduction in the release of which of the following neurotransmitters is related to the condition of dementia**

- (a) Anandamide
- (b) Acetylcholine**
- (c) Norepinephrine
- (d) Dopamine

**Acetylcholine is another type of neurotransmitter found in the parts of the brain, responsible for memory, thinking, and processing information. When Lewy bodies build up in these areas, they lead to a deficiency in acetylcholine, causing symptoms of dementia.**

4

**Which of the following substances is classified as deliriant poison**

- (a) Nicotine
- (b) Caffeine
- (c) Hyoscyamine
- (d) Logenin

4

**Which of the following substances is classified as deliriant poison**

- (a) Nicotine
- (b) Caffeine
- (c) Hyoscyamine**
- (d) Logenin

**Deliriant**s are a class of hallucinogens that are generally anticholinergic. Some examples of deliriants include:

- **Hyoscyamine**
- **Diphenhydramine**
- **scopolamine**

5

**The specific antidote used for atropine poisoning is**

- (a) Bemegride
- (b) Mercaptide
- (c) Protamine
- (d) Physostigmine

5

**The specific antidote used for atropine poisoning is**

- (a) Bemegride
- (b) Mercaptide
- (c) Protamine
- (d) Physostigmine**

## Reversible Anticholinesterases

- Due to **high lipid solubility**, **physostigmine** can be administered **orally** and it can **cross blood brain barrier** and **corneal membrane**.
- **Lipid insoluble** compounds are **ineffective orally** and do **not enter CNS or eye**.
- **Physostigmine** is used in **glaucoma** as a **miotic drug** and in **belladonna (atropine) poisoning** as a specific antidote.



6

## Which statement is NOT CORRECT for Cholinergic blocking drugs

- (a) They have some structural similarity to Acetylcholine
- (b) The Acyl group in drugs is smaller to acyl group of acetylcholine for good activity.
- (c) The presence of free OH group or carbamide group is important for H-bonding to receptor
- (d) The nitrogen is the tertiary atom which should contain alkyl group not larger than butyl group

6

## Which statement is NOT CORRECT for Cholinergic blocking drugs

- (a) They have some structural similarity to Acetylcholine
- (b) The Acyl group in drugs is smaller to acyl group of acetylcholine for good activity.
- (c) The presence of free OH group or carbamide group is important for H-bonding to receptor
- (d) The nitrogen is the tertiary atom which should contain alkyl group not larger than butyl group

## Cholinergic blocking drugs

- They have some structural similarity to Acetylcholine.
- The presence of free OH group or carbamide group is important for H-bonding to receptor.
- The nitrogen is the tertiary atom which should contain alkyl group not larger than butyl group.

7

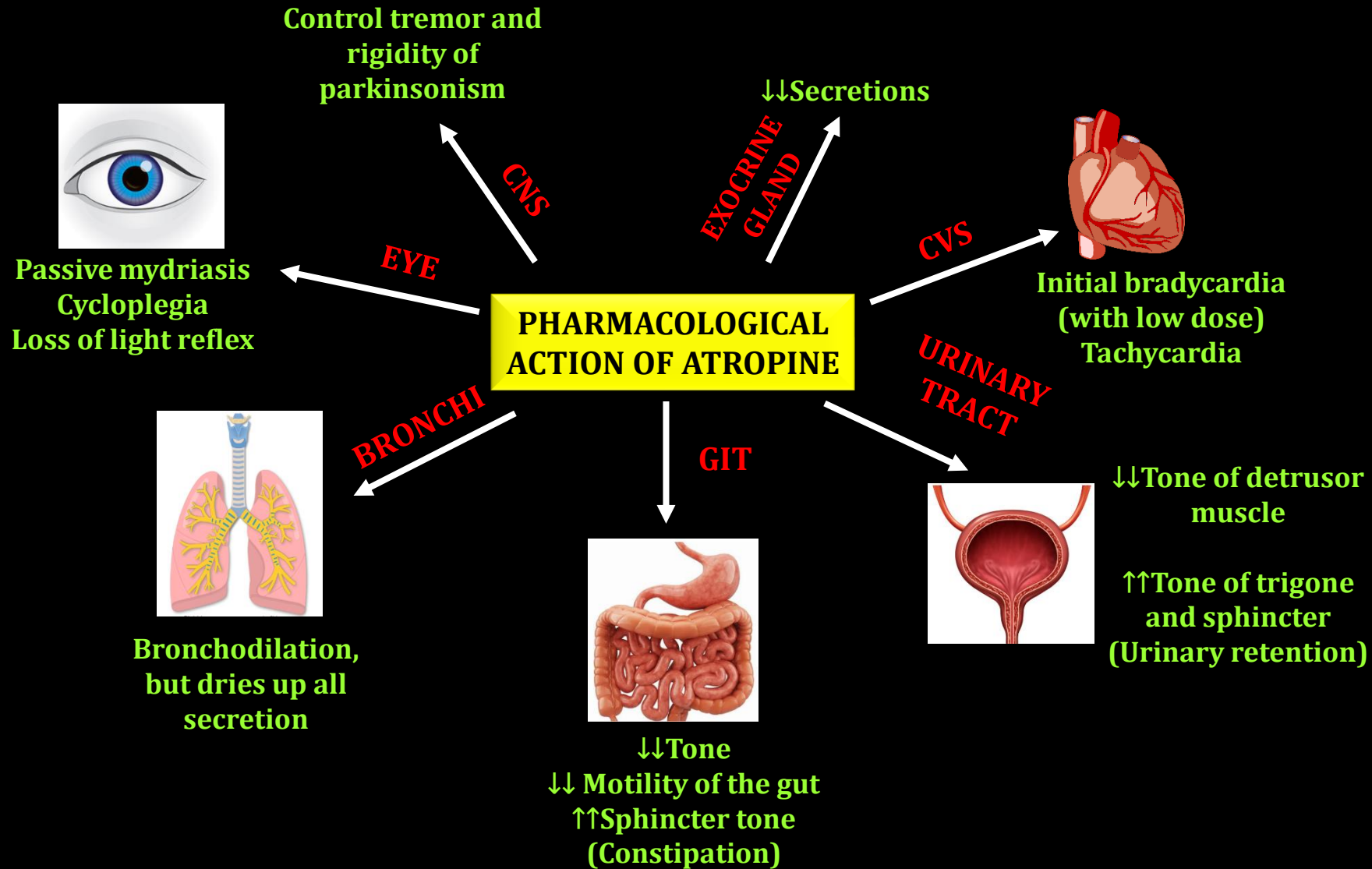
## Which is NOT an effect of Atropine

- (a) Rise of body temperature
- (b) Decreased salivary secretion
- (c) Bradycardia
- (d) Increased A-V Conduction

7

## Which is NOT an effect of Atropine

- (a) Rise of body temperature
- (b) Decreased salivary secretion
- (c) Bradycardia
- (d) Increased A-V Conduction



8

**All of the following are the features of Atropine poisoning**

- (a) Mydriasis
- (b) Hallucinations
- (c) Hypothermia
- (d) Coma

8

All of the following are the features of Atropine poisoning

- (a) Mydriasis
- (b) Hallucinations
- (c) Hypothermia
- (d) Coma



# ADVERSE EFFECT OF ATROPINE



D → Dry mouth

H → Hot dry skin

A → Accomodation paralysis

T → Tachycardia

U → Urinary retention

R → Respiratory depression

A → Ataxia (lack of voluntary constriction)

9

**Physostigmine act as a cholinergic drug by**

- (a) Directly binding with nicotinic receptors
- (b) Binding with Muscarinic receptors
- (c) Inhibiting cholinesterase enzyme
- (d) Bind with  $\beta 1$  receptors

9

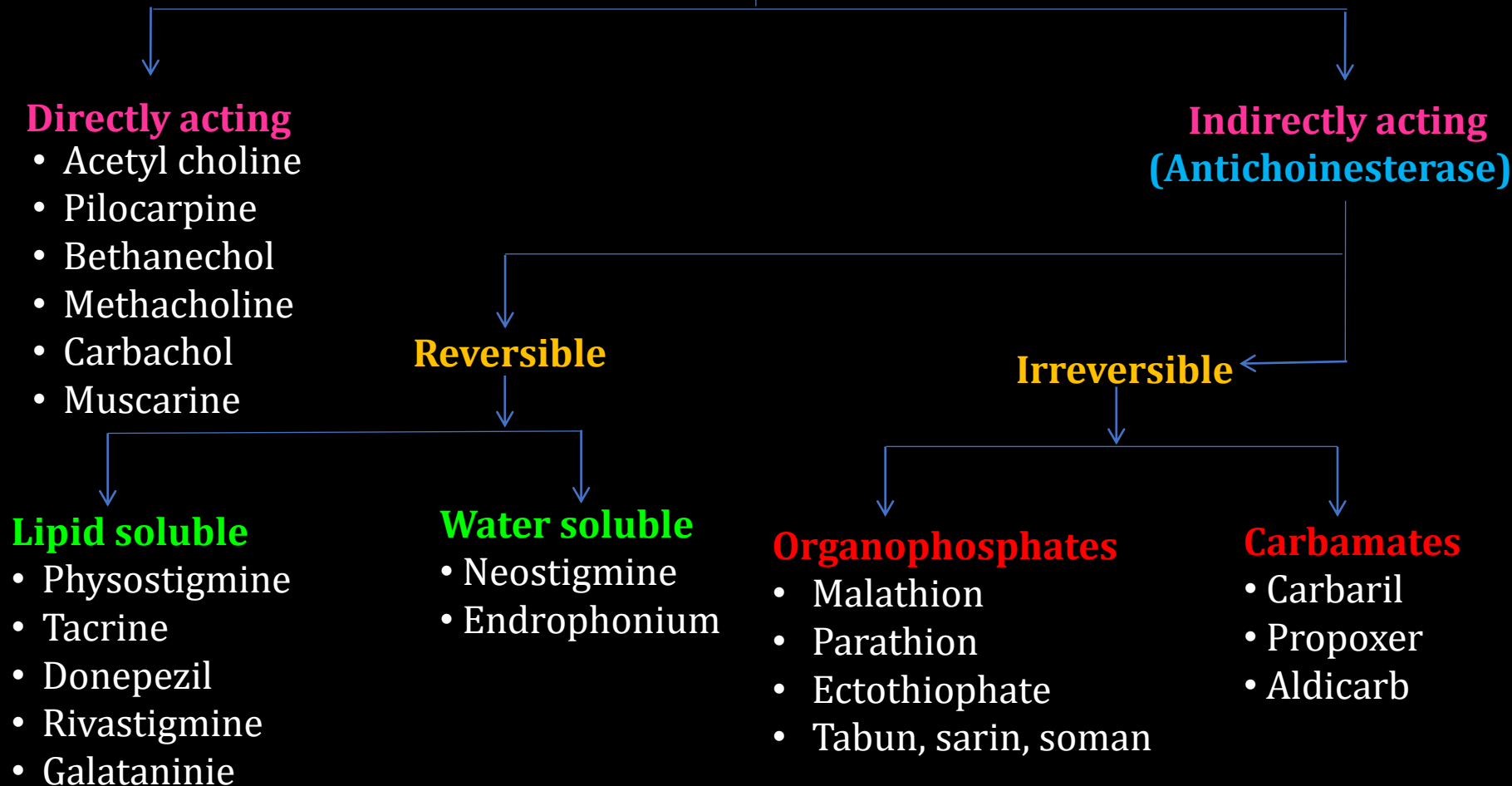
**Physostigmine act as a cholinergic drug by**

- (a) Directly binding with nicotinic receptors
- (b) Binding with Muscarinic receptors
- (c) Inhibiting cholinesterase enzyme**
- (d) Bind with  $\beta 1$  receptors

# CHOLINERGIC DRUGS

## (Cholinomimetic, Parasympathomimetic)

### CHOLINERGIC DRUG



10

**The most potent mydriatic agent with longest duration of action**

- (a) Homatropine
- (b) Tropicamide
- (c) Atropine
- (d) Cyclopentolate

10

The most potent mydriatic agent with longest duration of action

- (a) Homatropine
- (b) Tropicamide
- (c) Atropine
- (d) Cyclopentolate

**Topical instillation of atropine causes mydriasis, abolition of light reflex and cycloplegia lasting 7–10 days. This results in photophobia and blurring of near vision.**



# PREPARING FOR PHARMACIST EXAM

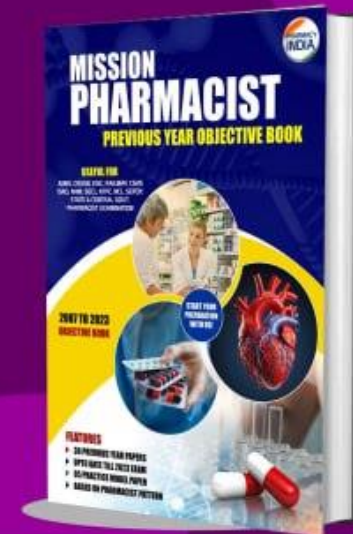
## MISSION PHARMACIST PREVIOUS YEAR OBJECTIVE BOOK

CLICK TO  
BUY NOW

Flipkart 

NOW WE ARE AVAILABLE  
ON FLIPKART

~~Rs.399/-~~  
Rs.299/-  
ONLY



CASH  
ON DELIVERY  
AVAILABLE

Best PYQ Book for Question Practice  
COD Available



**DAILY UPDATES**



जुड़िए **PHARMACY INDIA**  
के साथ.....

**WHATSAPP & TELEGRAM SE JUDNE KE LIYE  
ICONS PAR CLICK KARE**



11

**Atropine blocks which of the following neurotransmitter**

- (a) Dopamine
- (b) Epinephrine
- (c) Norepinephrine
- (d) Acetylcholine

11

**Atropine blocks which of the following neurotransmitter**

- (a) Dopamine
- (b) Epinephrine
- (c) Norepinephrine
- (d) Acetylcholine

# ANTIMUSCARINIC AGENTS (ANTICHOLINERGIC AGENTS)

- These drugs **block muscarinic receptor** mediated actions of **acetylcholine** on **heart, CNS, smooth muscles** and **exocrine glands**.
- **Atropine** and **scopolamine** are **belladonna alkaloids**.
- **Atropine** is obtained from **Atropa belladonna** and **scopolamine** from **Hyoscyamus niger**.
- **Mechanism of Action:** Both natural and synthetic drugs **competitively block** the **muscarinic effects of Ach** → competitive antagonism.



12

**Which of the following is an example of direct-acting adrenergic agonist**

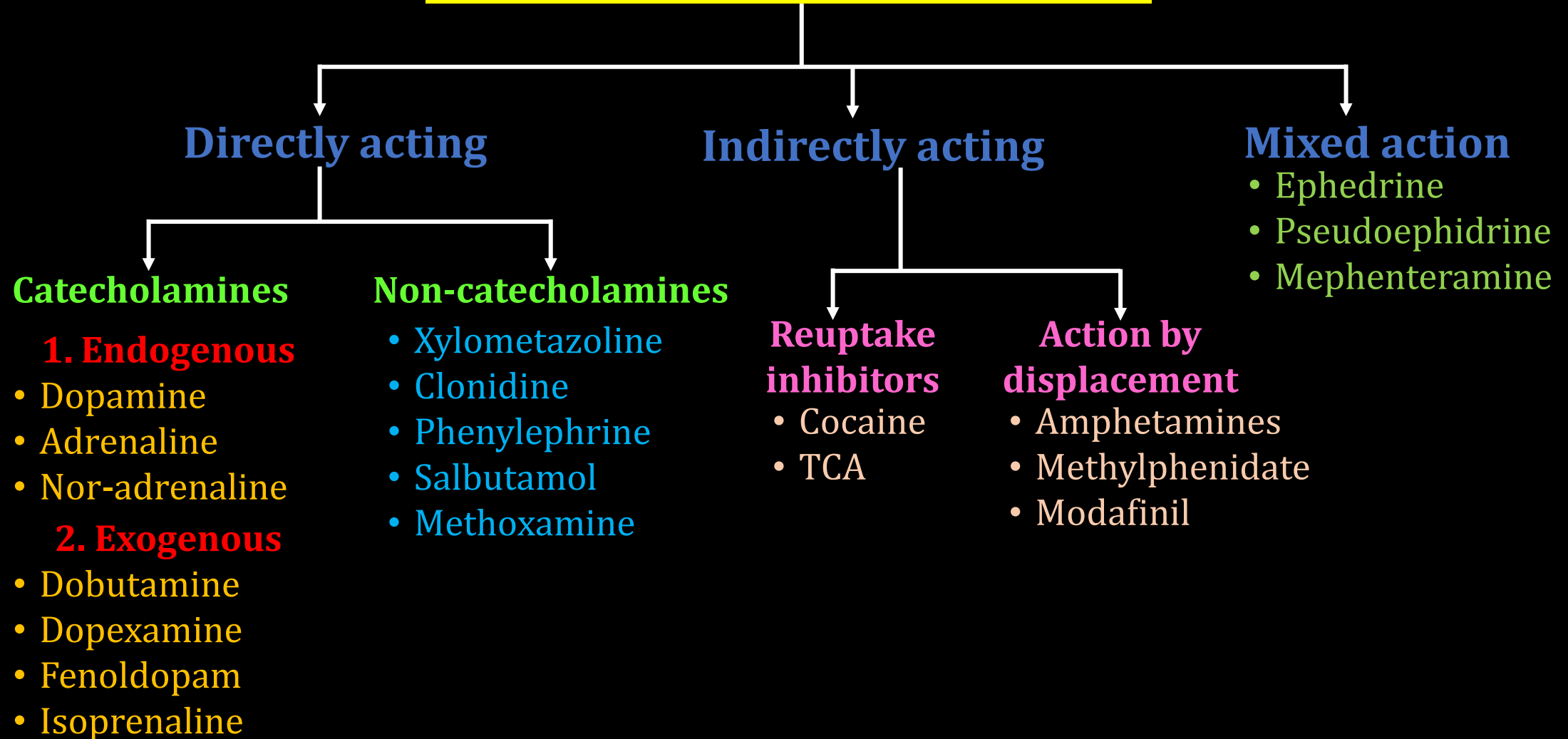
- (a) Phenyl ephedrine
- (b) Amphetamine
- (c) Ephedrine
- (d) Epinephrine

12

**Which of the following is an example of direct-acting adrenergic agonist**

- (a) Phenyl ephedrine
- (b) Amphetamine
- (c) Ephedrine
- (d) Epinephrine

# ADRENERGIC DRUGS (SYMPATHOMINETICS)



13

All the following eye drops may cause a miosis, EXCEPT

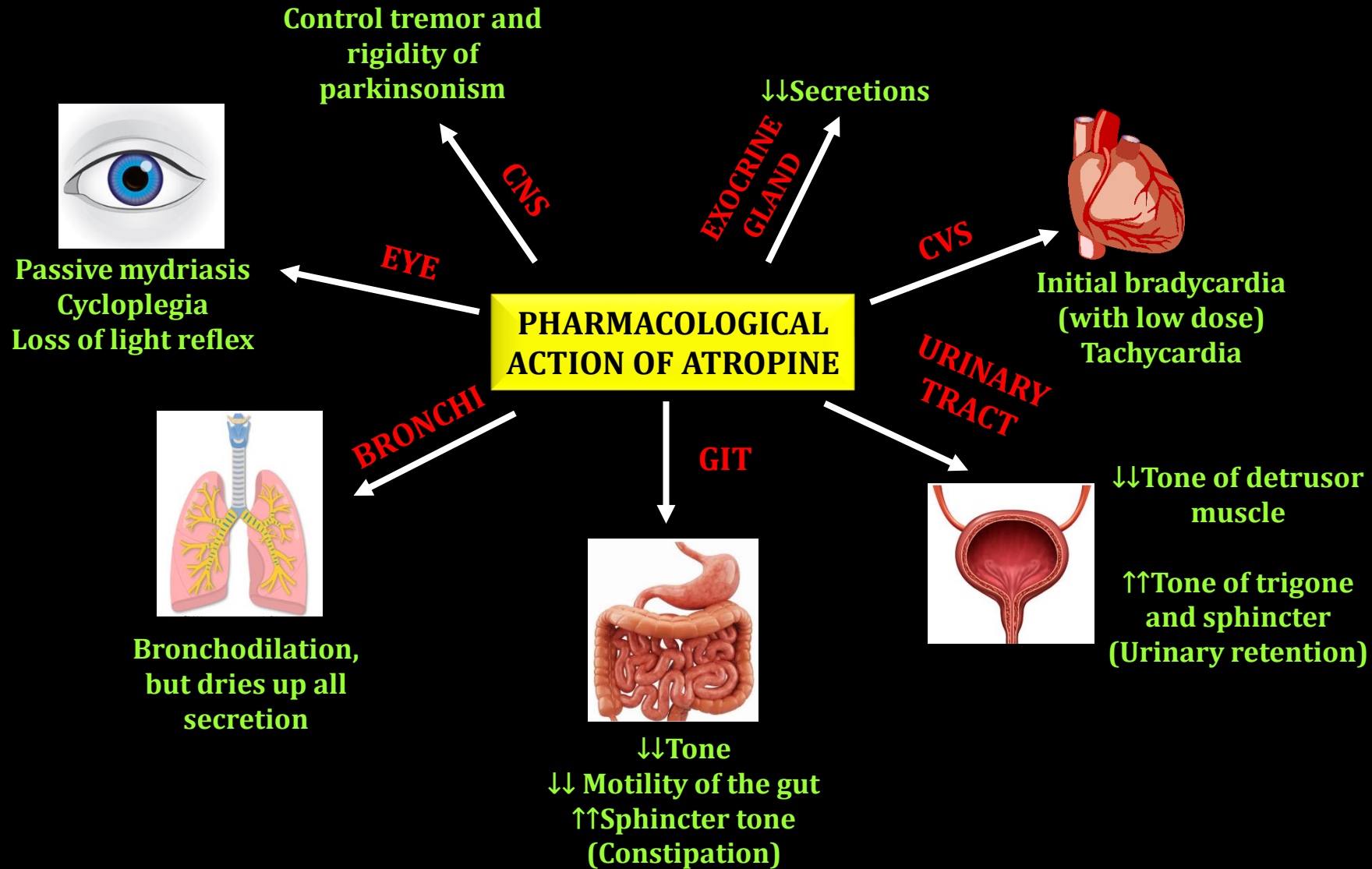
- (a) Timolol
- (b) Neostigmine
- (c) Atropine
- (d) Pilocarpine



13

All the following eye drops may cause a miosis, EXCEPT

- (a) Timolol
- (b) Neostigmine
- (c) Atropine
- (d) Pilocarpine



14

**Bronchodilation produced by Ipratropium bromide is due to its action as**

- (a) Nicotinic agonist
- (b) Nicotinic antagonist
- (c) Muscarinic agonist
- (d) Muscarinic antagonist

14

**Bronchodilation produced by Ipratropium bromide is due to its action as**

- (a) Nicotinic agonist
- (b) Nicotinic antagonist
- (c) Muscarinic agonist
- (d) Muscarinic antagonist

## Ipratropium bromide

- 40–80  $\mu\text{g}$  by inhalation; it acts selectively on bronchial muscle without altering volume or consistency of respiratory secretions.
- Another desirable feature is that in contrast to atropine, it does not depress mucociliary clearance by bronchial epithelium.
- It has a gradual onset and late peak (at 40–60 min) of bronchodilator effect in comparison to inhaled sympathomimetics.

15

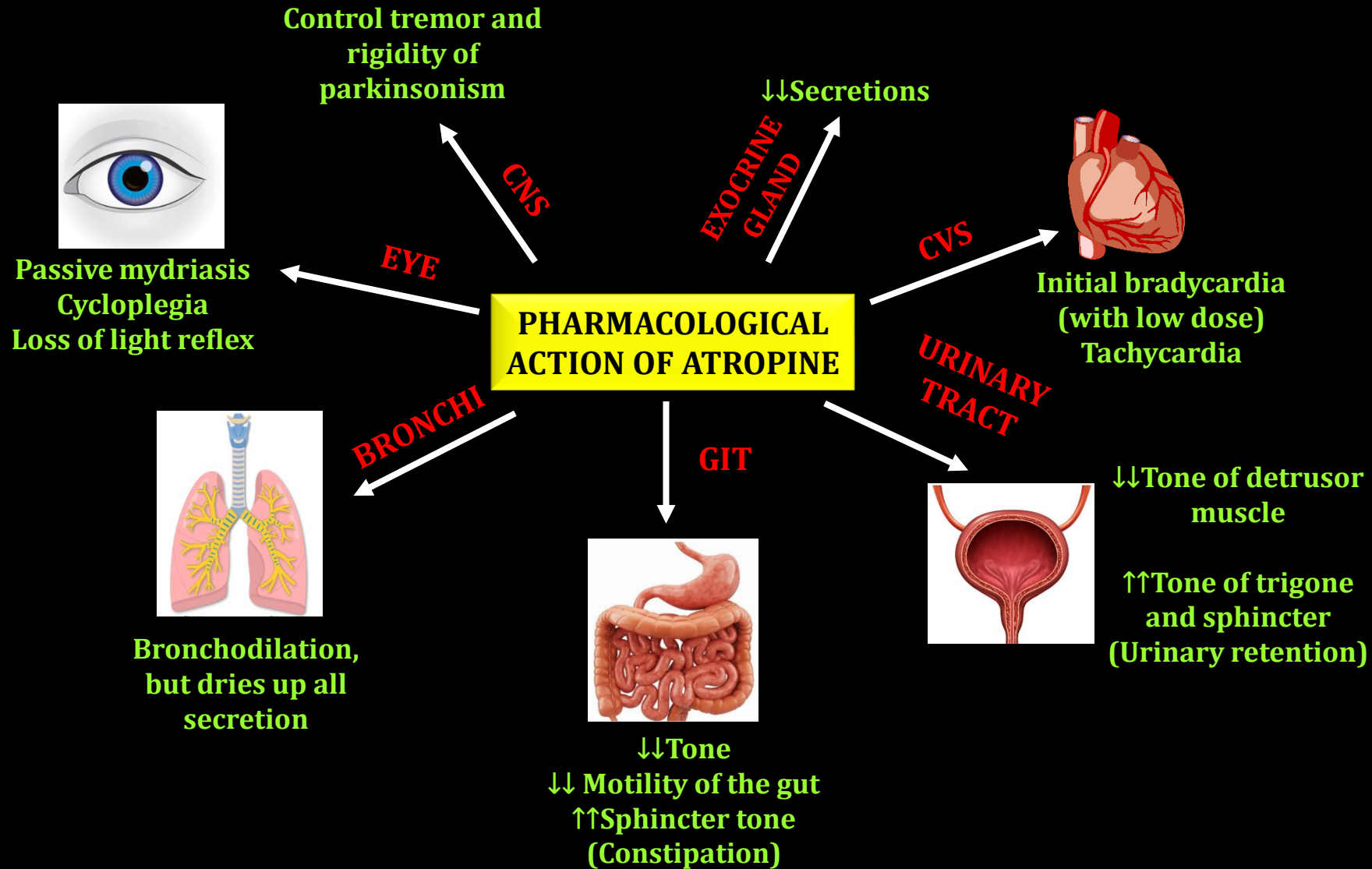
**Which of the following drug is used to demonstrate the mydriatic action**

- (a) Chlorambucil
- (b) Atropine Sulphate
- (c) N-Fluorouracil
- (d) Procaine

15

**Which of the following drug is used to demonstrate the mydriatic action**

- (a) Chlorambucil
- (b) Atropine Sulphate**
- (c) N-Fluorouracil
- (d) Procaine





16

**Nicotinic antagonist is**

- (a) Carbachol
- (b) Decamethonium
- (c) Atropine
- (d) Hyoscine

16

**Nicotinic antagonist is**

- (a) Carbachol
- (b) Decamethonium**
- (c) Atropine
- (d) Hyoscine

## Nicotinic antagonist is

- Decamethonium
- Atracurium,
- Curare,
- Mecamylamine,
- Mivacurium,
- Pancuronium,
- Rocuronium,
- Succinylcholine,
- Trimethaphan, and Vecuronium.

17

**Which one of the following drug is used to treat bradycardia or heart block during anaesthesia**

- (a) Atropine
- (b) Ipratropium
- (c) Propantheline
- (d) Glycopyrrolate

17

**Which one of the following drug is used to treat bradycardia or heart block during anaesthesia**

- (a) Atropine
- (b) Ipratropium
- (c) Propantheline
- (d) Glycopyrrolate

# ANTIMUSCARINIC AGENTS (ANTICHOLINERGIC AGENTS)

- These drugs **block muscarinic receptor** mediated actions of **acetylcholine** on **heart, CNS, smooth muscles** and **exocrine glands**.
- **Atropine** and **scopolamine** are **belladonna alkaloids**.
- **Atropine** is obtained from **Atropa belladonna** and **scopolamine** from **Hyoscyamus niger**.
- **Mechanism of Action:** Both natural and synthetic drugs **competitively block** the **muscarinic effects of Ach** → competitive antagonism.



18

**Which of the following is cholinergic blocking agent**

- (a) Acetylcholine
- (b) Carbachol
- (c) Pilocarpine
- (d) Atropine

18

**Which of the following is cholinergic blocking agent**

- (a) Acetylcholine
- (b) Carbachol
- (c) Pilocarpine
- (d) Atropine



# ANTIMUSCARINIC AGENTS (ANTICHOLINERGIC AGENTS)

- These drugs **block muscarinic receptor** mediated actions of **acetylcholine** on **heart, CNS, smooth muscles** and **exocrine glands**.
- **Atropine** and **scopolamine** are **belladonna alkaloids**.
- **Atropine** is obtained from **Atropa belladonna** and **scopolamine** from **Hyoscyamus niger**.
- **Mechanism of Action:** Both natural and synthetic drugs **competitively block** the **muscarinic effects of Ach** → competitive antagonism.



19

**Which organ is extremely sensitive to the action of Atropine**

- (a) Gastric gland
- (b) Salivary gland
- (c) Urinary bladder
- (d) Heart

19

**Which organ is extremely sensitive to the action of Atropine**

- (a) Gastric gland
- (b) Salivary gland**
- (c) Urinary bladder
- (d) Heart

## Action of Atropine on Glands

- Atropine markedly decreases sweat, salivary, tracheobronchial and lacrimal secretion (M3 blockade). Skin and eyes become dry, talking and swallowing may be difficult.

20

**Drug of choice for the organophosphorus poisoning is**

- (a) Neostigmine
- (b) Atropine
- (c) Physostigmine
- (d) Acetylcholine

20

**Drug of choice for the organophosphorus poisoning is**

- (a) Neostigmine
- (b) Atropine**
- (c) Physostigmine
- (d) Acetylcholine

## Irreversible Anticholinesterases

- **Ecothiophate** is useful in glaucoma.
- **Atropine** is an antidote of choice for both **organophosphate and carbamate poisoning**.
- Enzyme reactivators like **pralidoxime, obidoxime and diacetylmonoxime** can be used to **regenerate AChE** in the **organophosphate poisoning** but are contraindicated in the **carbamate poisoning**.



# PREPARING FOR PHARMACIST EXAM

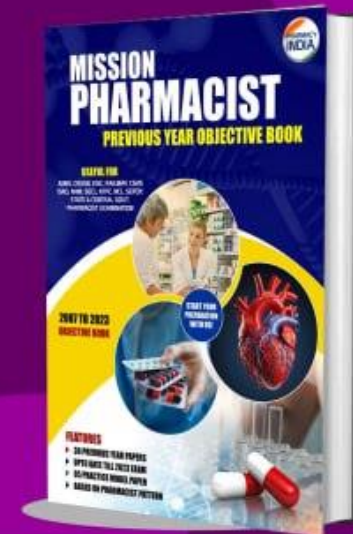
## MISSION PHARMACIST PREVIOUS YEAR OBJECTIVE BOOK

CLICK TO  
BUY NOW

Flipkart 

NOW WE ARE AVAILABLE  
ON FLIPKART

~~Rs.399/-~~  
Rs.299/-  
ONLY



CASH  
ON DELIVERY  
AVAILABLE

Best PYQ Book for Question Practice  
COD Available



**DAILY UPDATES**



जुड़िए **PHARMACY INDIA**  
के साथ.....

**WHATSAPP & TELEGRAM SE JUDNE KE LIYE  
ICONS PAR CLICK KARE**



21

**Anti-muscarinic agent preferred in the management of motion sickness is**

- (a) Atropine methonitrate
- (b) Scopolamine
- (c) Homatropine methyl bromide
- (d) Ipratropium bromide

21

**Anti-muscarinic agent preferred in the management of motion sickness is**

- (a) Atropine methonitrate
- (b) Scopolamine**
- (c) Homatropine methyl bromide
- (d) Ipratropium bromide

<b>Drugs for Motion sickness</b>	<b>Scopolamine, Hyoscine, Promethazine, diphenhydramine</b>
<b>Drugs for morning sickness</b>	<b>Doxylamine</b>

22

**Belladonna alkaloid (atropine) is used prior to administration of a general anesthetic agent due to**

- (a) Inhibition of GIT motility
- (b) Prevention of miosis
- (c) Inhibition of salivation and secretion of the respiratory tract
- (d) Causing skeletal muscle relaxation

22

**Belladonna alkaloid (atropine) is used prior to administration of a general anesthetic agent due to**

- (a) Inhibition of GIT motility
- (b) Prevention of miosis
- (c) Inhibition of salivation and secretion of respiratory tract**
- (d) Causing skeletal muscle relaxation

## Action of Atropine on Glands

- Atropine markedly decreases sweat, salivary, tracheobronchial and lacrimal secretion (M3 blockade). Skin and eyes become dry, talking and swallowing may be difficult.

23

**Physostigmine is an example for**

- (a) Adrenergic drug
- (b) Anticholinergic drug
- (c) Adrenergic blocking drug
- (d) Anticholinesterase drug



23

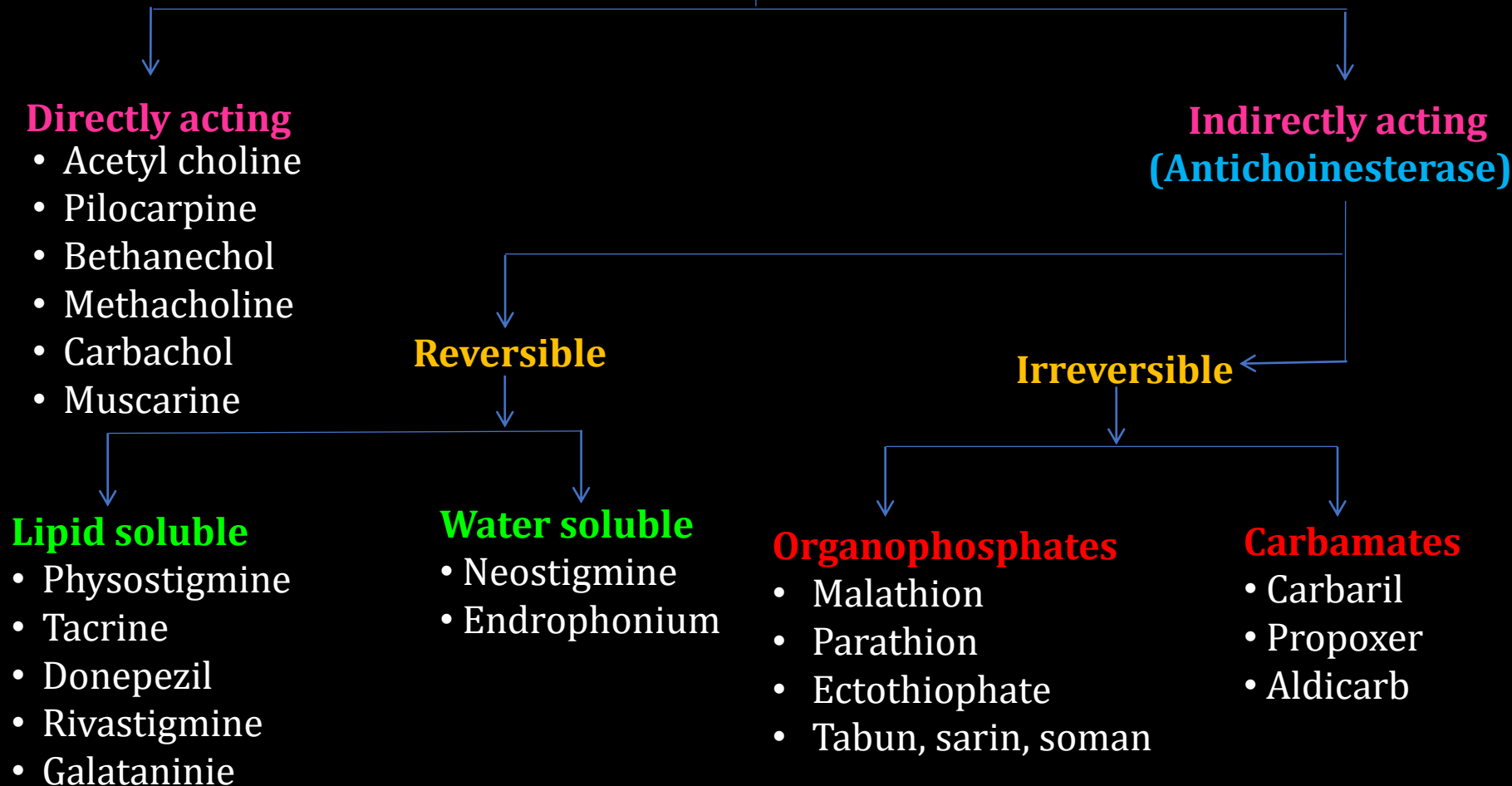
**Physostigmine is an example for**

- (a) Adrenergic drug
- (b) Anticholinergic drug
- (c) Adrenergic blocking drug
- (d) Anticholinesterase drug

# CHOLINERGIC DRUGS

## (Cholinomimetic, Parasympathomimetic)

### CHOLINERGIC DRUG



24

**Atropine does NOT antagonize the following feature of anticholinesterase poisoning**

- (a) Hypotension
- (b) Central excitation
- (c) Muscle paralysis
- (d) Bronchoconstriction

24

**Atropine does NOT antagonize the following feature of anticholinesterase poisoning**

- (a) Hypotension
- (b) Central excitation
- (c) Muscle paralysis**
- (d) Bronchoconstriction

**Topical instillation of atropine causes mydriasis, abolition of light reflex and cycloplegia lasting 7–10 days. This results in photophobia and blurring of near vision.**

25

**Pirenzepine is an antagonist of**

- (a) M<sub>1</sub> receptor
- (b) M<sub>2</sub> receptor
- (c) N<sub>1</sub> receptor
- (d) N<sub>2</sub> receptor

25

**Pirenzepine is an antagonist of**

- (a)  $M_1$  receptor
- (b)  $M_2$  receptor
- (c)  $N_1$  receptor
- (d)  $N_2$  receptor

CHARACTERISTIC	M1	M2	M3
AGONIST	Oxotremorine	Methacholine	Bethanechol
ANTAGONIST	Pirenzepine, Talenzepine	Methoctramine, Tripitramine	Solifenacin, Dariferacin



26

**Drug of choice for mushroom poisoning is**

- (a) Adrenaline
- (b) Carbachol
- (c) Atropine
- (d) None of these

26

**Drug of choice for mushroom poisoning is**

- (a) Adrenaline
- (b) Carbachol
- (c) Atropine**
- (d) None of these

Condition	Drug of choice
<b>Mushroom poisoning</b>	
• <b>Early (Inocybe sp.)</b>	Atropine
• <b>Delayed (Amanita sp.)</b>	Thioctic acid
<b>Glaucoma</b>	
• <b>Open angle</b>	Latanoprost
• <b>Angle closure</b>	Acetazolamide
• <b>Diagnosis</b>	Edrophonium
• <b>Treatment</b>	Neostigmine/pyridostigmine
<b>Belladonna poisoning</b>	Physostigmine
<b>Atropine poisoning</b>	Physostigmine
<b>Datura poisoning</b>	Physostigmine
<b>Alzheimer's dementia</b>	Donepezil/ Rivastigmine/ Gallantamine
<b>Cobra bite</b>	Anti-venom

27

**Mast cell responsible for release of**

- (a) Serotonin
- (b) Keratin
- (c) Fatty Acids
- (d) None of these

27

**Mast cell responsible for release of**

- (a) Serotonin
- (b) Keratin
- (c) Fatty Acids
- (d) None of these

**Local mast cells produce, store, and release serotonin into the extravascular space—in part, even under neural control (6, 16, 17). Still, the vast majority of total peripheral serotonin is stored in platelets and released upon platelet activation.**

28

**Vesicular uptake of Ach is inhibited by**

- (a) Hemicholinium
- (b) Botulinum toxin
- (c) Vesamicol
- (d) Cholinesterase

28

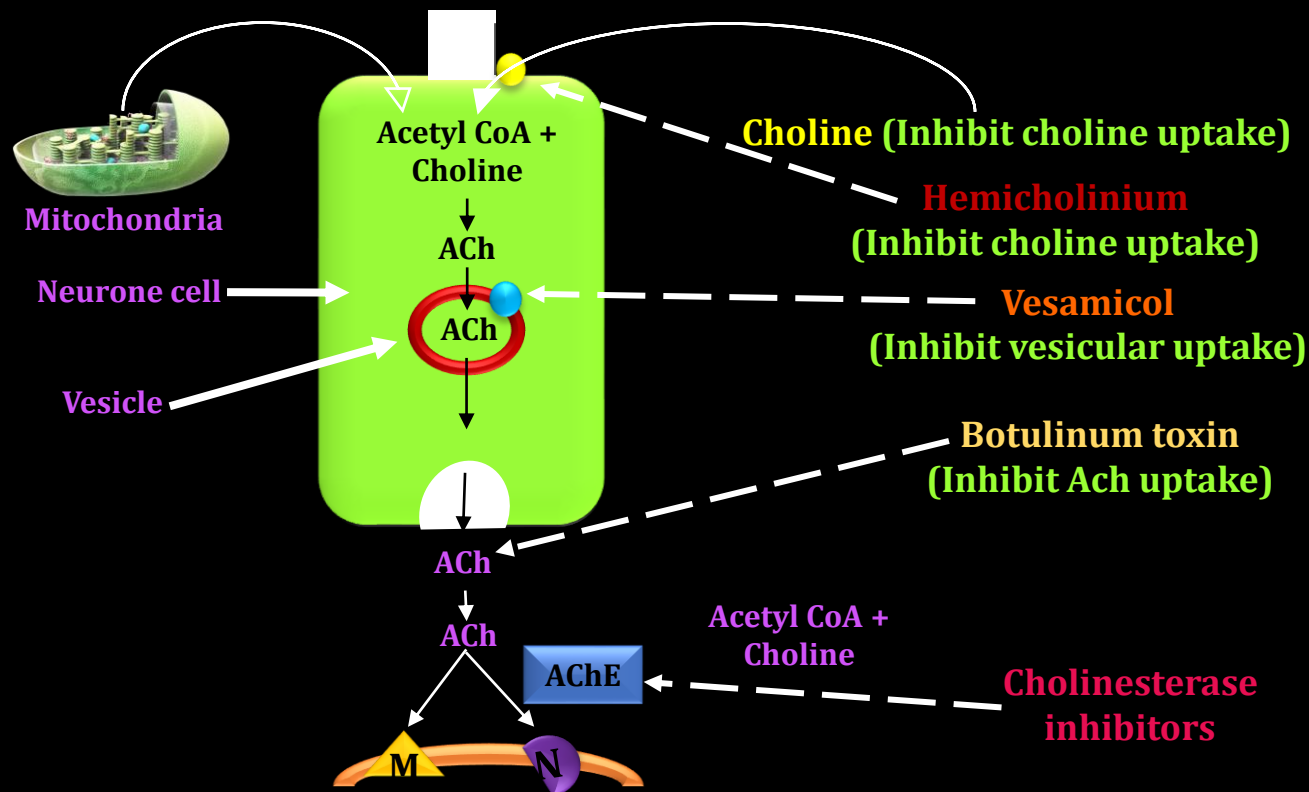
**Vesicular uptake of Ach is inhibited by**

- (a) Hemicholinium
- (b) Botulinum toxin
- (c) Vesamicol
- (d) Cholinesterase



# CHOLINERGIC TRANSMISSION

## Synthesis storage and destruction of acetylcholine



29

**Atropine is a**

- (a) Muscarinic agonist
- (b) Muscarinic antagonist
- (c) Nicotinic agonist
- (d) Nicotinic antagonist

29

**Atropine is a**

- (a) Muscarinic agonist
- (b) Muscarinic antagonist**
- (c) Nicotinic agonist
- (d) Nicotinic antagonist

# ANTIMUSCARINIC AGENTS (ANTICHOLINERGIC AGENTS)

- These drugs **block muscarinic receptor** mediated actions of **acetylcholine** on **heart, CNS, smooth muscles** and **exocrine glands**.
- **Atropine** and **scopolamine** are **belladonna alkaloids**.
- **Atropine** is obtained from **Atropa belladonna** and **scopolamine** from **Hyoscyamus niger**.
- **Mechanism of Action:** Both natural and synthetic drugs **competitively block** the **muscarinic effects of Ach** → competitive antagonism.



30

**Poisoning with carbamate insecticide is best managed by**

- (a) Atropine
- (b) Pilocarpine
- (c) Propranolol
- (d) Physostigmine

30

**Poisoning with carbamate insecticide is best managed by**

- (a) Atropine
- (b) Pilocarpine
- (c) Propranolol
- (d) Physostigmine

## Irreversible Anticholinesterases

- **Ecothiophate** is useful in glaucoma.
- **Atropine** is an antidote of choice for both **organophosphate and carbamate poisoning**.
- Enzyme reactivators like **pralidoxime, obidoxime and diacetylmonoxime** can be used to **regenerate AChE** in the **organophosphate poisoning** but are contraindicated in the **carbamate poisoning**.



# PREPARING FOR PHARMACIST EXAM

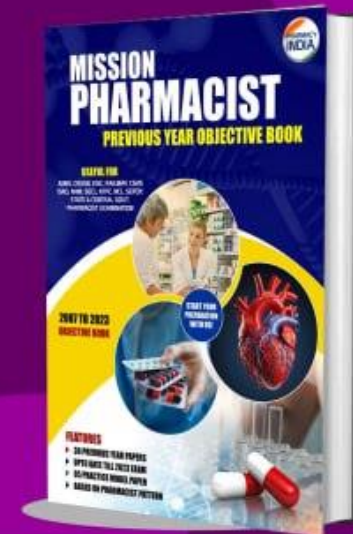
## MISSION PHARMACIST PREVIOUS YEAR OBJECTIVE BOOK

CLICK TO  
BUY NOW

Flipkart 

NOW WE ARE AVAILABLE  
ON FLIPKART

~~Rs.399/-~~  
Rs.299/-  
ONLY



CASH  
ON DELIVERY  
AVAILABLE

Best PYQ Book for Question Practice  
COD Available



**DAILY UPDATES**



जुड़िए **PHARMACY INDIA**  
के साथ.....

**WHATSAPP & TELEGRAM SE JUDNE KE LIYE  
ICONS PAR CLICK KARE**



**31**

**Which one of the following classes of drugs causes side effects like dryness of mouth, tachycardia, urinary retention, constipation, blurring of vision, precipitation of glaucoma, drowsiness and impairment of cognition**

- (a) Anti-adrenergic
- (b) Anti-cholinergic
- (c) Anti-serotonergic
- (d) Anti-dopaminergic

31

**Which one of the following classes of drugs causes side effects like dryness of mouth, tachycardia, urinary retention, constipation, blurring of vision, precipitation of glaucoma, drowsiness and impairment of cognition**

- (a) Anti-adrenergic
- (b) Anti-cholinergic**
- (c) Anti-serotonergic
- (d) Anti-dopaminergic

# ADVERSE EFFECT OF ATROPINE



D → Dry mouth

H → Hot dry skin

A → Accomodation paralysis

T → Tachycardia

U → Urinary retention

R → Respiratory depression

A → Ataxia (lack of voluntary constriction)

32

**Which is selective antagonist of cholinergic transmission in skeletal muscles**

- (a) Muscarine
- (b) Tubocurarine
- (c) Atropine
- (d) Carbachol

32

**Which is selective antagonist of cholinergic transmission in skeletal muscles**

- (a) Muscarine
- (b) Tubocurarine**
- (c) Atropine
- (d) Carbachol

	$N_N$	$N_M$
<b>Location and specific function</b>	Neuromuscular junction: depolarization of muscle end plate (contraction of skeletal muscle)	Autonomic ganglia: depolarization (postganglionic impulse) Adrenal medulla: catecholamine release CNS: site specific excitation or inhibition
<b>Agonists</b>	Dimethyl phenyl piperidinium (DMPP), Nicotine	Phenyl trimethyl ammonium (PTMA), Nicotine
<b>Antagonists</b>	Hexamethonium, Trimethophan	Tubocurarine, Bungarotoxin

33

**Which is autoimmune disease**

- (a) Cancer
- (b) Alzheimer disease
- (c) Cardiac heart failure
- (d) Myasthenia gravis



33

**Which is autoimmune disease**

- (a) Cancer
- (b) Alzheimer disease
- (c) Cardiac heart failure
- (d) Myasthenia gravis

# MYASTHENIA GRAVIS

Disorder	Abnormality	Treatment	Diagnosis test
<b>Autoimmune disorder</b>	development of antibodies directed to the nicotinic receptors (NR) at the muscle endplate → reduction in number of free NM cholinceptors	Neostigmine 15 mg orally 6 hourly	Ameliorative test: edrophonium is used. Provocative test: d-tubocurarine is used

34

**Alkaline diuresis is done for the treatment of poisoning due to**

- (a) Atropine
- (b) Morphine
- (c) Phenobarbitone
- (d) Amphetamine

34

**Alkaline diuresis is done for the treatment of poisoning due to**

- (a) Atropine
- (b) Morphine
- (c) Phenobarbitone**
- (d) Amphetamine

- **Serum electrolytes and urinary pH must be closely monitored every 2 to 3 hours during alkaline diuresis, with a target urine pH between 7.5 and 8.5.**
- **Urinary alkalization effectively increases elimination of drugs such as phenobarbital, barbitol, and salicylates.**

35

**Neostigmine bromide is used orally for treatment of**

- (a) Parkinson's disease
- (b) Alzheimer's disease
- (c) Glaucoma
- (d) All of these

35

**Neostigmine bromide is used orally for treatment of**

- (a) Parkinson's disease
- (b) Alzheimer's disease**
- (c) Glaucoma
- (d) All of these

## Alzheimer's disease

- Characterized by progressive dementia, AD is a neurodegenerative disorder, primarily affecting cholinergic neurons in the brain.
- Various measures to augment cholinergic transmission in the brain have been tried.
- The relatively cerebroselective anti-ChEs, rivastigmine, donepezil and galantamine are now commonly used.



36

**Which of the following is a musculoskeletal disorder**

- (a) Myasthenia gravis
- (b) Gout
- (c) Guillain-Barre syndrome
- (d) Anaphylaxis

36

**Which of the following is a musculoskeletal disorder**

- (a) Myasthenia gravis
- (b) Gout
- (c) Guillain-Barre syndrome
- (d) Anaphylaxis

# MYASTHENIA GRAVIS

Disorder	Abnormality	Treatment	Diagnosis test
<b>Autoimmune disorder</b>	development of antibodies directed to the nicotinic receptors (NR) at the muscle endplate → reduction in number of free NM cholinceptors	Neostigmine 15 mg orally 6 hourly	Ameliorative test: edrophonium is used. Provocative test: d-tubocurarine is used

37

**Drug used in the diagnosis of Myasthenia gravis**

- (a) Edrophonium
- (b) Physostigmine
- (c) Pyridostigmine
- (d) None of these

37

**Drug used in the diagnosis of Myasthenia gravis**

- (a) Edrophonium
- (b) Physostigmine
- (c) Pyridostigmine
- (d) None of these

# MYASTHENIA GRAVIS

Disorder	Abnormality	Treatment	Diagnosis test
<b>Autoimmune disorder</b>	development of antibodies directed to the nicotinic receptors (NR) at the muscle endplate → reduction in number of free NM cholinceptors	Neostigmine 15 mg orally 6 hourly	Ameliorative test: edrophonium is used. Provocative test: d-tubocurarine is used

38

**Sympathetic neurotransmitter is**

- (a) Acetylcholine
- (b) Noradrenaline
- (c) Glutamine
- (d) Glycine

38

**Sympathetic neurotransmitter is**

- (a) Acetylcholine
- (b) Noradrenaline**
- (c) Glutamine
- (d) Glycine



# ADRENERGIC TRANSMISSION



- In this part of ANS, **Nor-adrenaline** is the neurotransmitter at most of the sites.
- There are three closely related **endogenous catecholamines (CAs)**.
  - **Noradrenaline (NA)** - It acts as transmitter at **postganglionic sympathetic sites** (except **sweat glands, hair follicles** and some **vasodilator fibres**) and in certain areas of **brain**.
  - **Adrenaline (Adr)** - It is secreted by **adrenal medulla** and may have a **transmitter role in the brain**.
  - **Dopamine (DA)** - It is a major transmitter in **basal ganglia, limbic system, CTZ, anterior pituitary**, etc. and in a limited manner in the periphery.

39

## Anticholinesterase with central action

- (a) Neostigmine
- (b) Physostigmine
- (c) Donepezil
- (d) Edrophonium

39

## Anticholinesterase with central action

- (a) Neostigmine
- (b) Physostigmine**
- (c) Donepezil
- (d) Edrophonium

## Physostigmine

- It is rapidly absorbed from g.i.t. and parenteral sites.
- Applied to the eye, it penetrates cornea freely.
- It crosses blood-brain barrier and is disposed after hydrolysis by ChE.

40

**Which of the following drug is a non-catecholamine**

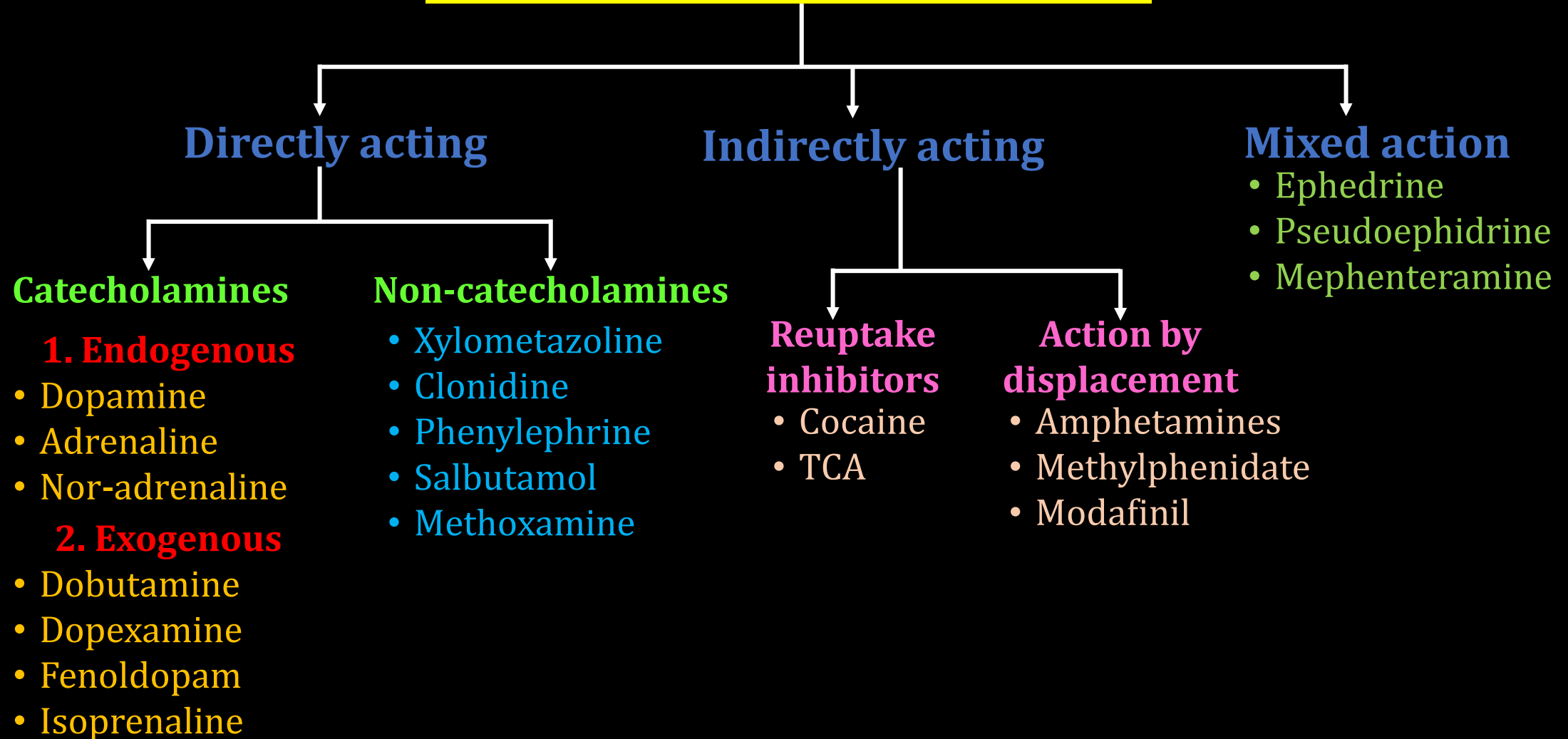
- (a) Terbutaline
- (b) Phenylephrine
- (c) Ephedrine
- (d) All of these

40

**Which of the following drug is a non-catecholamine**

- (a) Terbutaline
- (b) Phenylephrine
- (c) Ephedrine
- (d) All of these

# ADRENERGIC DRUGS (SYMPATHOMINETICS)





# PREPARING FOR PHARMACIST EXAM

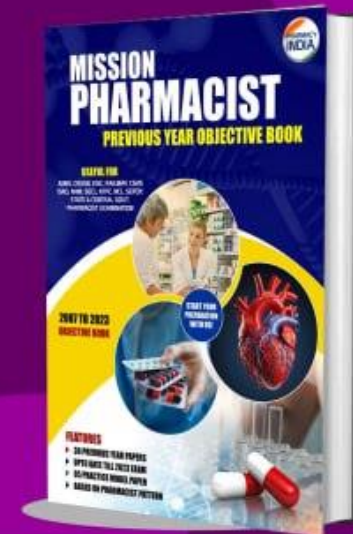
## MISSION PHARMACIST PREVIOUS YEAR OBJECTIVE BOOK

CLICK TO  
BUY NOW

Flipkart 

NOW WE ARE AVAILABLE  
ON FLIPKART

~~Rs.399/-~~  
Rs.299/-  
ONLY



CASH  
ON DELIVERY  
AVAILABLE

Best PYQ Book for Question Practice  
COD Available





**JULY BATCH**

# PHARMACIST

**ONLINE  
LIVE CLASSES**

**ON STUDENTS**

**DEMAND CLASSES EXTEND**

**LIVE CLASSES STARTING  
FROM -  
22<sup>ND</sup> JULY 2024**

## **MISSION**

**DSSSB , RRB , SEPOY , AIMS ,  
CGHS ESIC , JSSC & OSSSC**



**6395596959**

**Connect for admission related queries**

**DAILY UPDATES**



जुड़िए **PHARMACY INDIA**  
के साथ.....

**WHATSAPP & TELEGRAM SE JUDNE KE LIYE  
ICONS PAR CLICK KARE**



**WhatsApp**

