i) Minimal CNS effects
ii) No anticonvulsant property
iii) No muscle relaxant property
iv) Tolerance development is minimal
v) Safe in pregnancy
vi) Withdrawal symptoms minimal

iii) Slow onset of action
iv) less effective in panic disorder

ii) Benzodiazepene inc frequency whereas barbiturates inc duration
iii) Benzodiazepere binds to GABA$_A$ b/w α_1 & gamma2 subunit Barbiturates bind to GABA$_A$ other than the site of barbiturates

PHARMACOLOGY TEST
SHORT ESSAY QUESTIONS(CNS)

Time allowed: 1 hour 15 min **Max Marks: 35**

Q1. a) Enumerate Benzodiazepines. How does Benzodiazepines differs from Barbiturates. 1+3
b) Write down the merits and demerits of Buspirone. → Pg 193 2
Q2. a) Give Mechanism of action and Clinical uses of Valproic acid. → Pg 207 3
b) Describe the Pharmacokinetics and Adverse effects of Phenytoin. 2+2
Q3. Define following terms with examples: 5
a) Minimum alveolar concentration → 209 b) Diffusional hypoxia. e) Dissociative anesthesia 1
c) Malignant hyperthermia d) Neuroleptanaesthesia 4
Q4. a) Enumerate Intravenous Anaesthetics
b) Describe the advantages and disadvantages of following drugs as General Anaesthetic 3
i) Nitrous oxide. → 2nd FPM ii) Propofol 1
Q5. a) Classify Antidepressants. → 244
b) Explain the result of concurrent administration of Fluoxetine(SSRI) with Phenelzine (MAO inhibitor). → 248 Serotonin syndrome 2
c) Write down the Mechanism of action of Imipramine (Tricyclic Antidepressant). 4
Q6. a) Tabulate the differences between typical and atypical antipsychotics. 1
b) Explain why regular monitoring of blood count is required during clozapine therapy. 1
c) Enumerate drugs used in the treatment of Status epilepticus.

i) Blood dyscrasia
ii) Agranulocytosis

↓
Diazepam
Lorazepam
Phenytoin

NAFEES ISHAQ
MBBS-F16-074

~~ether~~
Ketamine
propofol
Thiopental
midazolam

Q No 2 (A): VALPROIC ACID → Pg 207

MOA: Block Na channel, cause blockade of GABA-T, act on T type Ca^{++} channel. These varied mechanism provide broad spectrum against seizures.

USES: i) Generalized tonic clonic, myoclonic & partial seizures

Adverse effects: Nausea, weight gain, Alopecia, Teratogenic.

Q No 2 (B): PHENYTOIN

MOA: Block voltage gated Na+ channel in inactive state & slow rate of recovery

USES: Tonic clonic, partial seizure

Adverse effects: Ataxia, diplopia, Neuropathy, hyperplasia, excessive hair growth

Pharmacokinetics: i) Variable absorption

(iii) Bind to plasma protein

(iv) If a drug which have more affinity for plasma protein comes in the body, replace it & as a result phenytoin concentration inc in plasma.

(v) Metabolism of phenytoin is inc in presence of induser of liver metabolism.

Q No 3 (A):- Minimum Alveolar concentration:- The alveolar conc of an inhaled anesthetic that is required to prevent a response to a standardized painful stimulus in 50% of patient e.g:- Halothene 0.75% MAC, NO more than

(ii) Diffusional hypoxia:- NO absorbed during anesthia has to be excreted during recovery as it is very insoluble in blood, it rapidly diffu down a conc gradient into alveoli where it reduces partial pressure O_2 in alveoli making patient hypoxiamic

SHORT ESSAY QUESTIONS

FIRST TERM TEST OF PHARMACOLOGY

Time Allowed: 2 hours

Max Marks: 55

Q1a) Define following terms with example of each:

i) Bioavailability ii) Zero order kinetics iii) Tolerance 1.5+1.5+1.5

b) Describe factors affecting absorption of drugs. 2.5

c) What is the clinical significance of Volume of Distribution of Drugs? 2

Q2a) Give detail of pharmacological antagonism with its subtypes. 3

b) Enumerate different types of receptors with examples. Nafees 4

Q3. Write down the adverse effects and clinical uses of following drugs:

i) Atropine ii) Propranolol 4+4

Q4a) Enumerate indirectly acting cholinergic agonists. 2

b) Classify adrenergic antagonists on the basis of receptor selectivity. 3

c) What is Epinephrine Reversal Phenomenon. 1

Q5a) Classify antihypertensive drugs. 2.5

b) Give Mechanism of Action of Captopril. 2

c) Describe pharmacological effects of digoxin on cardiovascular system? 2.5

Q6a) Enumerate antianginal drugs. 2

b) What is mechanism of action of nitrates? 2

c) Describe the adverse effects of calcium channel blockers. 2

Q7a) Give classification of Antiarrhythmic drugs. 4

b) Enumerate various adverse effects of Amiodarone? 1.5

c) Write down the Mechanism of action of Quinidine 1.5

Q8. Compare and contrast loop diuretics with thiazide diuretics in terms of Mechanism of Action, Adverse Effects and Clinical Indications. 5

(B) Atropine:-

MOA:- Antagonist at all M receptor

Clinical uses:- Mydriatic, cycloplegic, Anti dote for cholinestrase, Antispasm
relax the
GI tract
& bladder
agent

Adverse effect:- blurred vision, dry mouth, tachycardia, constipation, urinary

ontraindication:- Glauma, Prosthatic hyperplasia.

(C) Atropine action on CVS:-

tachyc

103

At low dose it cause bradycardia & at high dose co

Adernoceptor:-

DEPARTMENT OF PHARMACOLOGY

TEST PHARMACODYNAMICS (SEQ's)

LLOWED: 50MIN TOTAL MARKS: 35

1. a. Give different types of receptors?
   b. Explain G protein coupled signaling receptor?
2. a. Give difference between tolerance and Tachyphylaxis?
   b. Enumerate factor effecting dose of drugs?
3. a. Compare and contrast between graded and quantal dose response curve?
   b. Explain therapeutic index with examples?
4. a. Give detail of pharmacological antagonism with example?
   b. Explain Pharmacogenetics with example?
5. Write short notes on:
   a. Spare Receptors
   b. Partial ~~Receptors~~ agonist

NAFEES

11. a) Enumerate clinical uses & adverse effects of Ciprofloxacins 397 K
b) Give the drug options for the treatment of hypnozite stage of Malaria 431 K

12 a) Enumerate NSAIDS(COX-1 & COX-2 Inhibitors)
b) Describe the pharmacological actions of Aspirin

13. Classify Oral Antidiabatic drugs? Discuss Mechanism of action of Sulfonylurea

14. a) Enumerate drugs used in the treatment of CCF
b) Give mechanism of action & uses of Methotrexate.

15 a) Write down the mechanism of action of :
i. Digoxin.
ii. Salbutamol

Q10 a) Classify Penicillins 4
b) Give clinical uses and adverse effects of Floroquinolones 2 3

Q11 a) Enumerate Anti Parkinsonian drugs 2
b) Give clinical uses and side effects of Levodopa CNS + Heart + 1 2 3

Q12 a) Enumerate NSAIDS(COX-1 & COX-2 Inhibitors) 2 3
b) Give mechanism of action of Isoniazid 2 2

Q13 a) ~~Enumerate four uses of oral contraceptives~~ MoA of Theophylline 2
b) Describe the mechanism of action of Local Anesthetics 3

Q14 a) Enumerate Four Benzodiazepines 2 2
b) Give Clinical uses of Morphine. + 1 3

Q15 a) Write down the mechanism of action of Digoxin and treatment of its toxicity 4 5

SHORT ESSAY QUESTIONS

FIRST TERM TEST OF PHARMACOLOGY

Time Allowed: 2 hours

Max Marks: 53

Q1.a)Define following terms with example of each: 1.5+1.5+1.5

i)Bioavailability ii) Zero order kinetics iii) Tolerance

b)Describe factors affecting absorption of drugs. 2.5

c)What is the clinical significance of Volume of Distribution of Drugs? 2

Q2.a)Give detail of pharmacological antagonism with its subtypes. 3

b)Enumerate different types of receptors with examples. 4

Q3. Write down the adverse effects and clinical uses of following drugs: 3

i)Atropine ii)Propranolol 4+4

Q4.a)Enumerate indirectly acting cholinergic agonists. 2

b)Classify adrenergic antagonists on the basis of receptor selectivity. 3

c)What is Epinephrine Reversal Phenomenon. 1

Q5a).Classify antihypertensive drugs. K 97,109 2.5

b)Give Mechanism of Action of Captopril. K 102-107 2

c)Describe pharmacological effects of digoxin on cardiovascular system? K 114 2.5

Q6a).Enumerate antianginal drugs. K 108, 111 2

b)What is mechanism of action of nitrates? K 105 2

c)Describe the adverse effects of calcium channel blockers. K 108, 111 4

Q7a)Give classification of Antiarrhythmic drugs. K 121, 130 1.5

b)Enumerate various adverse effects of Amiodarone? K 126, 131 1.5

c) Write down the Mechanism of action of Quinidine K 125, 130

Q8. Compare and contrast loop diuretics with thiazide diuretics in terms of Mechanism of Action, Adverse Effects and Clinical Indications. 5

Pharmacology & Therapeutics
Time Allowed: 1hr 10 Min

SEQ's Type
Total Marks: 70

1) a. Define bioavailability. Give three factors influencing bioavailability? — 4
   b. What is drug allergy? Give drug treatment of Anaphylactic shock? — 3
   c. What is therapeutic index? Give its clinical significance? — 3
2) a. What is the difference between tolerance and drug dependence? — 2
   b. Write short notes on: — 2+2+2+2
   i. Physiological antagonisms
   ii. Pachyphylaxis
   iii. Active principal of drugs
   iv. Merits of intravenous route
3) a. Classify beta blockers according to receptor selectivity. — 3
   b. Write five clinical uses of atropine. — 3
   c. Enumerate drugs used for treatment of benign prostatic hyperplasia? — 4
4) a. Enumerate drugs treatment of heart failure? — 3
   b. What are sign/ symptoms and treatment of digoxin toxicity? — 2
   c. Classify diuretics according to MOA with examples? — 3
   d. Eneumerate adverse effects and two contraindications of captopril? — 2
5) a. Eneumerate drugs used for treatment of Epilepsy? — 4
   b. Explain MOA of Phenytoin? Write down their adverse effects? — 3+3
6) a. Compare and cantrast between halothane and nitrous oxide? — 4
   b. Explain dissociative anesthesia? — 3
   c. Eneumerate drugs used in Preanesthetic medication? — 3
7) a. What are therapeutic indications of thiopental? → clinical use — 4
   b. Explain their MOA ? Give treatment of barbiturate poisoning? — 3+3

Thiopental

PHARMACOLOGY & THERAPEUTICS **MAX. MARKS: 70**

TIME ALLOWED: 70MIN

1. Name Azole Anti fungal Agents. Give their Mechanism of Action & Toxicity. 2+2+3
2. a) Enumerate 1st & 2nd line drugs used in Tuberculosis. 3
   b) Write down the Mechanism of Action & Adverse Effect of INH. 2+2
3. a) Classify drugs used in Ameobiasis. 3
   b) Give Mechanism of Action and Toxic effect of Metronidazole. 2+2
4. a) Enumerate drugs used for Nematodes. What is the MOA of Albendazole? 2+2
   b) Discuss how bacterial resistance is produced against antimicrobial agents. 3
5. What is MOA, Clinical Uses and Toxicity of Chloroquine. 2+2+3
6. Classify Anti Cancer drugs. What are Uses and Adverse Effects of Methotrexate? 3+2+2
7. Write short note on: 3+4
   a) Interferon b) Immunosuppressants
8. a) Define Bioavailability? What are the factors Affecting the bioavailability of the drug. 1+3
   b) What is zero order kinetics. Give its examples? 3
9. a) Define biotransformation. Enumerate phase II reactions of metabolism. 1+2
   b) What is enzyme induction. Give examples. 4
10. a) What is a receptor? Give different types of receptors? 1+2
    b) What is antagonism of the drug? Describe briefly pharmacological antagonism with examples. 1+3

Hyperkalemia.
Apnea.

→ Gra... nerve pain following ... by herpes zoster)① Gabapentin also an anti convulsant.

Adverse effects of Succinylcholine are:

1. HyperKalemia.
2. Muscle pain.
3. ↑ intragastric and intraocular pressure.

advantages of volatile liquids.

1. Halothane: - pleasant odor (Non-irritating vapor).
advantages • effective bronchodilator.

2. Enflurane: • pleasant odor (Non-irritating vapor).

Disadvantages: Halothane:
- Slow induction and recovery
- CV and respiratory depression.
- High metabolism.
- Greater side effects.

Enflurane:
- CV and respiratory depression
- Significant metabolism.

DEPARTMENT OF PHARMACOLOGY

SEQ's (Pharmacodynamics)

Time Allowed: 60 mins

Max Marks: 30

Q1. Define following terms with examples of each: 5

a) Agonist

b) Inert binding site

c) Spare receptors

d) Potency

e) Therapeutic index

Q2. What is meant by the term Tolerance. Briefly describe its mechanism 3

Q3. a) Enumerate various types of 2nd messengers. 4

b) Briefly describe the signaling mechanism of G protein coupled receptors. 3

Q4. In the presence of a full agonist, how a partial agonist acts as an antagonist? Explain.

Q5. Explain the following with examples:

a) Competitive Antagonism

b) Non competitive Antagonism

Q6. a) Define Drug Allergy. What are its manifestations.

c) Give drug treatment of anaphylactive shock.

Q-No: 9

a) Enumerate drugs in treatment of Amoebiasis. Metronidazole, Iodoquinol, Diloxanide → 381K 2
b) Explain mechanism of action of gentamycin. 3

Q-No: 10

a) Enlist first line anti tuberculous drugs. 3
b) Explain mechanism of action of rafampin → 394K 2

Q-No: 11

a) Enumerate clinical uses & adverse effects of Ciprofloxacins 388K 3
b) Give the drug options for the treatment of hypnozite stage of Malaria 00 2

Q-No: 12

a) Enlist drugs used for the treatment of asthma. 176K 3
b) Explain mechanism of action of aminophylline. 176K 2

Q-No: 13

a) Write down the difference between aspirin and acetaminophen. 3
b) Enlist antiplatelet drugs. 276K + 286K 2

Q-No: 14

a) Classify Antidepressant drugs.
b) Give clinical uses of Morphine 00 255K

Q-No: 15

a) Enumerate drugs used in the treatment of CCF 00
b) Give mechanism of action & uses of Methotrexate 450K

Pharmacology & Therapeutics

Topics: ANS & Blood

Time Allowed: 1hour

Max Marks: 45

1. a) Enumerate indirectly acting cholinergic drugs.	4
b) Write down treatment of organophosphate poisoning.	3
c) Give therapeutic classification of anti cholinergic drugs.	3.5
d) Enumerate uses & adverse effect of Atropine.	3.5
e) Give difference between heparin and warfarin.	3.5
f) Write down mechanism of action of Aspirin as antiplatelet drug.	3.5
2. Write short notes on:	(3.5+3.5+3.5+3.5)
a) Pilocarpine b) Ganglion blockers c) Streptokinase d) Abciximab	5
3. a) Explain MOA of Statin	5
b) Enumerate antihyperlipidemic drugs.	
4. a. Describe Adverse Effects of Succinylcholine?	4
b. Enumerate their Adverse Effects?	2
5. a. Give bacterial spectrum of Macrolides?	5
b. Describe Adverse Effects of Chloramphanicol & Sulfonamides?	

NAFEES

Hyperkalemia.
Apnea.

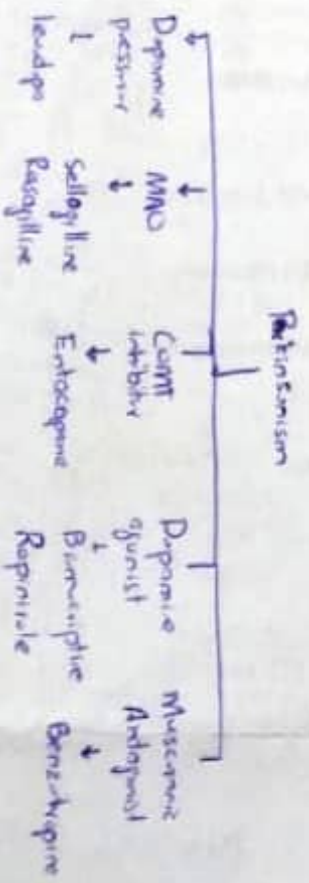
→ Shingles pain following nerve pain by herpes zoster)) Gabapentin also an anti convulsant.

Adverse effects of Succinylcholine are:

1. Hyperkalemia.
2. Muscle pain.
3. ↑ intragastric and intraocular pressure.

(ii) Activated Charcoal is given
(iii) Gastric decontamination
(iv) Enhancement of urination.

Q.No 3 (A)



2nd page

NO

Advantages
(i) Non irritant
(ii) Speed induction & recovery
(iii) No nausea & vomiting
(iv) Very potent to analgesic
(v) Non toxic to liver, kidney

Disadvantages
(i) Not potent alone
(ii) Hypoxia
(iii) Inhibit B12 metabolism
(iv) Abuse at risk.

Nitric oxide	Halothane
(i) It is a gas	Volatile liquid
(ii) Insoluble	Soluble
(iii) ↑ Blood pressure	↓ B.P
(iv) 100% MAC	0.75% MAC
(v) Weak Anesthetic	Potent Anesthetic
(vi) High partial pressure	low partial pressure.

Q.No 4 (A)

(i) Barbiturates (thiopental)
(ii) Dissociative (Ketamine)
(iii) Opaid (Fentanyl)
(iv) Benzodiazepine (Midazolam)

(B)

HALOTHANE

Advantages
(i) Non inflammable
(ii) Non irritant
(iii) Potent & speedy induction & recovery
(iv) Control hypotension
(v) Inhibit intestine & uterine contraction

Disadvantage
(i) Special apparatus
(ii) Poor analgesic