UNIVERSITY OF THE PUNJAB

Second Prof. A/2015
Examination: Doctor of Pharmacy (Pharm.D.)

Roll No. .....

Subject: Pharmacology & Therapeutics-I
PAPER: 2

TIME ALLOWED: 3 hrs.
MAX. MARKS: 100

NOTE: Attempt any FIVE questions. All questions carry equal marks.

Q. # 1 Define the following terms:

- Pharmacokinetics and pharmacodynamics. 5
- Agonist, antagonist and partial agonist. 5
- Volume of distribution and clearance of drug. 5
- Drug receptor and mechanism of action of drug. 5

Q. # 2 What is biotransformation? Discuss phase 1 and phase II metabolic reactions. 20

Q.# 3. Classify antimuscarinic drugs. Discuss ATROPINE with respect to its mechanism of action, effects on different organ/systems and toxicity. 20

Q.# 4. Classify antihyperlipidemic drugs. Discuss the pharmacology of SIMVASTATIN. 20

Q. # 5. Classify anti-ulcer drugs. Discuss the mechanism of action, therapeutic uses and side effects of PROTON PUMP INHIBITOS. 20

Q. # 6. Classify beta adrenergic blockers. Discuss the mechanisms of action, therapeutic uses, side effects and contra-indications of PROPRANOLOL. 20

Q.# 7. Write shot notes on:

a. Digoxin. 7
b. Prostaglandians. 7
c. Irritant purgatives. 6

UNIVERSITY OF THE PUNJAB

Second Prof. A/2016
Examination: Doctor of Pharmacy (Pharm.D.)

Roll No. .....

Subject: Pharmacology & Therapeutics-I **TIME ALLOWED: 3 hrs.**
PAPER: 2 (Old & New Course) **MAX. MARKS: 100**

NOTE: Attempt any FIVE questions. All questions carry equal marks.

Q. # 1 What are the different classes of receptors. Discuss G-Protein Coupled Receptors (GPCRs) in detail. 20

Q. # 2 What is bioavailability? What factors can modify the bioavailability of the drug. 20

Q. # 3 Classify diuretics. Describe mechanism of action, effects on renal hemodynamics, adverse effects and therapeutic uses of Spironolactone. 20

Q. # 4 Classify antimuscarinic drugs. Discuss mechanism of action, pharmacological properties, toxicity and therapeutic uses of Atropine. 20

Q. # 5 What is asthma? Classify Anti-Asthmatic drugs and discuss pharmacology of Leukotriene antagonist and IgE antibodies in detail. 20

Q. # 6 Classify direct acting sympathomimetics. Discuss Epinephrine with respect to its mechanism of action, effects on different organ\system, toxicity and contraindication. 20

Q. # 7 Write notes on:

a. Nitroglycerine 10

b. Irritant laxatives 10

UNIVERSITY OF THE PUNJAB

Second Prof. 2nd A/2016
Examination: Doctor of Pharmacy (Pharm.D.)

Roll No. .....

Subject: Pharmacology & Therapeutics-I **TIME ALLOWED: 3 hrs.**
PAPER: 2 (Old & New Course) **MAX. MARKS: 100**

NOTE: Attempt any FIVE questions. All questions carry equal marks.

Q. # 1 Describe biotransformation of drugs and discuss phase I and phase II reactions. 20

Q. # 2 Describe main classes of receptors and discuss ligand-gated ion channels thoroughly. 20

Q. # 3 Classify β- adrenergic blockers. Discuss mechanism of action, therapeutic uses, side effects and contraindications of Propranolol. 20

Q. # 4 Classify muscarinic receptor agonists. Describe mechanism of action therapeutic uses and adverse effects of these agents. 20

Q. # 5 Define autacoids ? Give in detail the effects of histamine and antihistamine on different organs. 20

Q. # 6 Classify anti-ulcer drugs and enumerate detailed pharmacology of these dugs. 20

Q. # 7 Write short notes on:

a. Prazosin 10

b. Digoxin 10

UNIVERSITY OF THE PUNJAB

Second Prof: A/2017
Examination: Doctor of Pharmacy (Pharm.D.)

Roll No. .....

Subject: Pharmacology & Therapeutics-I
PAPER: 2 (Old & New Course)

TIME ALLOWED: 3 hrs.
MAX. MARKS: 100

NOTE: Attempt any FIVE questions. All questions carry equal marks.

Q. 1 What is biotransformation of drug. Discuss Phase I and Phase II reactions with examples. **20**

Q. 2 Classify Parasympathomimetics. Give mechanism of action, therapeutic uses and toxicity of Physostigmine. **20**

Q. 3 Classify receptors. Give detailed account of Ligand-gated ion channels. **20**

Q. 4 (a) Define emesis. Give the mechanism of action and therapeutic uses of antiemetic drugs. **10**

(b) Write down the pharmacology of proton pump inhibitors. **10**

Q. 5 Classify anti-asthmatic drugs. Give the pharmacology of leukotriene receptor antagonists. **20**

Q. 6 Classify Sympathomimetics. Give the pharmacology of Epinephrine. **20**

Q. 7 (a) Describe the mechanism of action and therapeutic uses of Amiodarone. 10

(b) Discuss the pharmacology of Captopril. 10

UNIVERSITY OF THE PUNJAB

Second Prof: 2nd Annual - 2017
Examination: Doctor of Pharmacy (Pharm.D.)

Roll No. .....

Subject: Pharmacology & Therapeutics-I
PAPER: 2 (Old & New Course)

TIME ALLOWED: 3 hrs.
MAX. MARKS: 100

NOTE: Attempt any FIVE questions. All questions carry equal marks.

Q. 1 Discuss G-Protein coupled receptors in details. **20**

Q. 2 What is drug absorption? Discuss different ways by which drug can be transported across the membranes. **20**

Q. 3 Classify antimuscarinc drugs. Give mechanism of action, therapeutic uses and toxicity of Atropine. **20**

Q. 4 Classify sympatholytic drugs. Discuss Propranolol in detail. **20**

Q. 5 (a) Discuss H2 receptor antagonists. **10**

(b) Give the pharmacology of anti-diarrheal drugs. **10**

Q. 6 What is congestive heart failure. Give the pharmacology of Digoxin. **20**

Q. 7 Write note on the following:

(a) Potassium sparing diuretics **10**

(b) Salbutamol **10**

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UNIVERSITY OF THE PUNJAB

Second Prof:Annual – 2018
Examination: Doctor of Pharmacy (Pharm.D.)

Roll No. .....

Subject: Pharmacology & Therapeutics-I (New Course)
PAPER: 2 (Part – II)

TIME ALLOWED: 2 Hrs. & 30 min.
MAX. MARKS: 80

Attempt this Paper on Separate Answer Sheet provided.

Attempt any Four questions. Each question carry equal marks.

Q.No.2.Define Angina Pectoris? Explain in detail the mechanism of action of Antianginal drugs? (20)

Q.No.3.What do you understand by Cardiac Arrhythmias? Discuss various kinds of Arrhythmias? Explain Anti arrhythmic drugs in detail? (20)

Q.No.4.Describe the main classes of receptors. Discuss ligand-gated ion channels. (20)

Q.No.5.What are the different classes of receptors. Discuss G Protein Coupled Receptors (GPCRs). (20)

Q.No.6.Classify bronchodilators? Discuss in detail pharmacology of beta 2 agonists and methylxanthines? (20)

Q.No.7.Give the mechanism of action, therapeutic uses and adverse effects of the followings (5+5+5+5)

I. Prazosine
II. Dobutamine
III. Succinylcholine
IV. Ephedrine

UNIVERSITY OF THE PUNJAB

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Roll No. .....

Second Prof:Annual – 2018

Examination: Doctor of Pharmacy (Pharm.D.)

Subject: Pharmacology & Therapeutics-I (New Course)
PAPER: 2 Part – I (Compulsory)

TIME ALLOWED: 30 min.
MAX. MARKS: 20

Attempt this Paper on this Question Sheet only.

Please encircle the correct option. Each MCQ carries 1 Mark. This Paper will be collected back after expiry of time limit mentioned above.

Q.NO.1 Select the best Option (20)

1.As an Antiepileptic drug, Phenytoin is most similar in action to which one of the following drugs?

(A) Digoxin
(B) Propafenone
(C) Lidocaine
(D) Sotalol

2.The following drugs when combined with ACE inhibitors may produce troublesome problems EXCEPT

a. Theophylline
b. Potassium supplements
c. Spironolactone
d. Lithium

3.Which of the following calcium channel blockers is excreted predominantly in the faeces?

a. Nifedipine
b. Felodipine
c. Diltiazem
d. Nimodipine

4.Which of the following increases the risk of digoxin induced arrhythmias?

a. Hyperkalaemia
b. Hypercalcaemia
c. Hypermagnesaemia
d. Hyperuricaemia

5.The nitrates

a. Have an antianginal effect via vasodilation of arterioles only
b. Serve to increase preload
c. Have a direct effect on cardiac muscle to cause a decrease in anginal symptoms
d. Are contraindicated in the presence of increased intracranial pressure

6.The following include major actions of digoxin on cardiac electrical functions EXCEPT

a. Decreased PR interval on ECG
b. Decreased conduction velocity at the AV node
c. Increased automaticity of the atrial muscle
d. Decreased effective refractory period in purkinje system/ventricles

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7. Receptors are usually

A) lipids
B) proteins
C) DNA
D) Carbohydrates

8.Factors that may cause variation in drug responsiveness

A) changes in the number or function of receptors
B) tachyphylaxis
C) idiosyncratic drug responses
D) hypersensitivity reactions
E) all of the above

9.Major role of receptors is to

A) determine rate of drug elimination
B) determine drug action selectivity
C) provide a means of drug distribution
D) act as drug storage sites

10.Ligand gated ion channel receptors include all of the following EXCEPT

A) GABA
B) Glycine
C) Glutamate
D) Muscarinic

11.Which of the following acts on intracellular receptors

A) Serotonin
B) Corticosteroids
C) GABA
D) Insulin

12.Machanism of action of Acarbos

A. Inhibition of alpha-glucosidase enzyme
B. Decrease insulin resistance
C. Activate AMP-activated protein kinase enzyme
D. Modulate β-cell insulin release

13. What is the relative receptor affinity of Dobutamine

A. $\beta1 = \beta2$
B. $\beta2 > \beta1$
C. $\beta1 > \beta2 >>> \alpha$
D. $\beta2 > \beta1 >>> \alpha$

14.Which one of the following drugs facilitate cessation of cigarette smoking

A. Dobutamine
B. Clonidine
C. Ephedrine
D. Tizanidine

15.Propranolol is contraindicated in

A. Pregnancy
B. Asthma
C. Liver cirrhosis
D. Renal disease

16.Epinephrine causes

A. Increase systolic and decrease diastolic B.P
B. Increase both systolic and diastolic B.P
C. Decrease cardiac out put
D. Decrease stroke volume

17. The characteristic of organophosphate drugs is

A. water soluble
B. Lipid insoluble
C. Highly lipid soluble
D. Water insoluble

18.Which of the following class of the drugs is NOT a bronchodilator

A.Beta 2 agonists
B.Leukotriene receptor antagonist
C.Mast cell stabilizers
D.Corticosteroids

19.Proton pump inhibitors block one of the following receptors in parietal cell

A.H^+-K^+ ATPase pump
B.Na^+-K^+ ATPase pump
C.Na^+-Cl^- ATPase pump
D.H^+- Na^+ ATPase pump

20.Which of the following anti-emetic inhibits dopamine receptors

A.Omeprazole
B.Ranitidine
C.Metoclopramide
D.Ondansetron

UNIVERSITY OF THE PUNJAB

Second Prof: 2nd Annual – 2018

Examination: Doctor of Pharmacy (Pharm.D.)

Roll No. .....

Subject: Pharmacology & Therapeutics-I
PAPER: 2 Part – II (New Course)

MAX. TIME: 2 Hrs. 30 Min.
MAX. MARKS: 80

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

NOTE: ***ATTEMPT ANY FOUR QUESTIONS. EACH QUESTION CARRIES EQUAL MARKS.***

Q.No.2.What do you understand by Hypertension? Classify Antihypertensive Drugs? Explain Calcium Channel blockers & ACE Inhibitors in detail? (20)

Q.No.3 (A) what do you understand by cardiac Failure? Explain Digitalis Glycosides in detail? (10)
(B) Discuss the mechanism of action of Class I & Class II Antiarrhythmic drugs? (10)

Q.No.4 (A) Discuss the pharmacology of Proton pump inhibitors? (10)
(B) Classify the drugs used in constipation and discuss prokinetic agents in detail? (10)

Q.No.5.Define pharmacokinetics. Describe the absorption of drugs. State the factors which can affect the absorption of drugs. (20)

Q.No.6 .Discuss the structure and signaling of kinase-linked receptors. Give examples. (20)

Q.No.7.Give the mechanism of action, therapeutic uses and adverse effects of the followings(5+5+5+5)

I. Physostigmine
II. Phenoxybenzamine
III. Pilocarpine
IV. IV.Reserpine

UNIVERSITY OF THE PUNJAB

Second Prof: 2nd Annual – 2018

Examination: Doctor of Pharmacy (Pharm.D.)

Roll No. in Fig. .....

Roll No. in Words. .....

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Signature of Supdt.:

Subject: Pharmacology & Therapeutics-I

PAPER: 2 Part – I (Compulsory) (New Course)

MAX. TIME: 30 Min.

MAX. MARKS: 20

Attempt this Paper on this Question Sheet only.
Please encircle the correct option. Division of marks is given in front of each question.
This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the right answer cutting and overwriting is not allowed. (20x1=20)

1.Which of the following calcium channel blockers is excreted predominantly in the faeces?

A. Nifedipine
B. Felodipine
C. Diltiazem
D. Nimodipine

2.Which of the following increases the risk of digoxin induced arrhythmias?

A. Hyperkalaemia
B. Hypercalcaemia
C. Hypermagnesaemia
D. Hyperuricaemia

3.The nitrates

A. Have an antianginal effect via vasodilation of arterioles only
B. Serve to increase preload
C. Have a direct effect on cardiac muscle to cause a decrease in anginal symptoms
D. Are contraindicated in the presence of increased intracranial pressure

4.The following include major actions of digoxin on cardiac electrical functions EXCEPT

A. Decreased PR interval on ECG
B. Decreased conduction velocity at the AV node
C. Increased automaticity of the atrial muscle
D. Decreased effective refractory period in purkinje system/ventricles

5.Methyl dopa

A. Lowers the heart rate and cardiac output more than clonidine does
B. Causes reduction in renal vascular resistance
C. Has minimal CNS Side effects.
D Has 80% bioavailability

6.An example of a receptor which is a structural protein

A) Na/K ATPase
B) Acetylcholinesterase
C) tubulin
D) phospholipase C

7.Example(s) of second messenger effect(s)

A) Increases in cAMP intracellular concentration
B) Changes in intracellular calcium concentration
C) Phosphoinositide effects
D) All the above

8.EC_{50} mainly reflexs a drug's

A) Maximal effect
B) Potency
C) Lethality
D) Ease of elimination
E) Safety

9. Pharmacokinetic does include

A) Mechanism of action
B) New drug development
C) Study of therapeutic effects
D) Study of metabolism and excretion of drugs

10. Main mechanism of the most drugs' absorption in GI tract is

A) Active Transport
B) Filtration
C) Endocytosis
D) Passive diffusion

11. What kind of substances can't permeate membranes by passive diffusion?

A) Hydrophilic substances
B) Hydrophobic substances
C) Lipid soluble
D) Non-ionized substances

12. The characteristic of organophosphate drugs is

A.water soluble
B. Lipid insoluble
C.Highly lipid soluble
D.Water insoluble

13. Duration of action of Pyridostigmine is

A. 5 - 15 minutes
B 4 - 6 hours
C.15 - 20 hour
D.100 hours

14. Muscarinic M_3 receptors are located in

A.Myocardium smooth muscle
B.Brain
C.Skeletal muscles
D.Glands

15. α_2 - receptors are located on

A.Platelets
B.Lipocytes smooth muscles
C.Presynaptic adrenergic nerve terminal
D.All of the above

16.Glaucoma is treated with

A.Atropine
B.Cholinesterase inhibitor
C.β-receptor blockers
D.Both B and C

17.Beta 2 agonists increase the concentration of ..... in the cell of the smooth muscle of bronchi

A.Cyclic AMP
B.Cyclic GMP
C.Nitrous oxide
D.Adenosine

18.One of the following is a prominent side effect of Cimetidine

A.Atrial fibrillation
B.Ulcers
C.Gynecomastia
D.Esophagitis

19.Misoprostol is a congener of

A.Prostaglandin I
B.Prostaglandin E
C.Prostaglandin G
D.None of the above

20.Montelukast blocks

A.Lipooxygenase
B.Prostaglandins
C.Leukotirene receptors
D.Arachidonic acid

UNIVERSITY OF THE PUNJAB

Second Prof: 2nd Annual – 2018

Examination: Doctor of Pharmacy (Pharm.D.)

Roll No. .....

Subject: Pharmacology & Therapeutics-I (Old Course)
PAPER: 2

MAX. TIME: 3 Hrs.
MAX. MARKS: 100

Attempt this Paper on Separate Answer Sheet provided.

Attempt any Five questions. Each question carry equal marks.

Q.No.1.Describe the biotransformation of drugs. Discuss phase I and II reactions. (20)

Q .No.2 .Define pharmacokinetics. Describe the absorption of drugs. State the factors which can affect the absorption of drugs. (20)

Q.No.3.Define Angina Pectoris? Explain in detail the mechanism of action of Antianginal drugs? (20)

Q.No.4.What do you understand by Cardiac Arrhythmias? Discuss various kinds of Arrhythmias? Explain Anti arrhythmic drugs in detail? (20)

Q.No.5.(A) Define emesis? Discuss the pharmacology of 5HT3 receptor antagonist.(10)
(B) Classify anti-histamines and discuss their pharmacology? (10)

Q.No.6 .(A) Give the therapeutic uses of drugs affecting parasympathetic nervous system. (10)
(B) Discuss the pharmacological actions, therapeutic uses and toxicity of atropine. (10)

Q.No.7.Write short Notes on the followings (5+5+5+5)

I. Prazosine
II. Dobutamine
III. Succinylcholine
IV. Ephedrine

UNIVERSITY OF THE PUNJAB

Doctor of Pharmacy (Pharm.D.) Second Prof: Annual–2019

Subject: Pharmacology & Therapeutics-I (New Course)
Paper: 2 Part – I (Compulsory) **Time: 30 Min. Marks: 20**

Roll No. in Fig. .....
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Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.
Division of marks is given in front of each question.
This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct option. **(20x1=20)**

i. A drug that stimulates β 1 and β 2adreneceptors can be expected to cause:
   a. Decrease in heart rate
   b. A decrease in total peripheral resistance
   c. A constriction of airway smooth muscle resistance
   d. A decrease in renin release

ii. Which of the following drugs can be used to reduce intraocular pressure in the treatment of glaucoma?
   a. Pilocarpine b. Acetazolamide
   c. Neostigmine d. All of the above

iii. Clonidine and alpha-methyldopa act as agonists at alpha2-adrenoceptors to cause:
   a. A sustained increase in mean arterial pressure
   b. An increase in intestinal motility
   c. A CNS-mediated decrease in blood pressure
   d. An increase in myocardial contractility

iv. Which of the following drugs is the shortest acting acetylcholinesterase inhibitor?
   a. Neostigmine b. Physostigmine
   c. Edrophonium d. Echothiophate

v. Poisoning with Malathion insecticide is best managed by administration of which one of the following agents?
   a. Physostigmine b. Bethanechol
   c. Pilocarpine d. Atropine

vi. Angina associated with coronary vasospasm:
   a. Exertional angina b. Prinzmetal's angina
   c. Stable Angina d. All of these

vii. Effective anti-anginal drug(s):
   a. Propranolol b. Timolol
   c. Esmolol d. All of these

viii. Half life of Nitric Oxide is:
   a. About 5 Sec b. Half Min
   c. Ten Min d. About an Hour

ix. Cardio selective beta blocker is:
   a. Propranolol b. Metoprolol
   c. Nadolol d. None of these

x. Most common symptom of heart failure:
   a. Tachycardia b. Oligouria
   c. Dyspnea d. Hepatomegaly

xi. A drug that binds to a cell receptor and causes a response is called an:
   a. Agonist b. Antagonist
   c. Receptor blocker d. Inverse agonist

P.T.O.

xii. Receptors for _____ are DNA-binding proteins
   a. Steroids
   b. Vitamin D
   c. Retinoids
   d. All the above

xiii. Drugs interact with their receptors sites by forming.
   a. Ionic bonds
   b. Hydrogen bonds
   c. Van der Waals bond
   d. All the above

xiv. The rate of drug absorption is greatest in
   a. The small intestine
   b. The large intestine
   c. The stomach

xv. An antagonist has:
   a. Intrinsic activity and no affinity
   b. Only intrinsic activity and no affinity
   c. No intrinsic activity and no affinity
   d. Affinity same as agonist and devoid of intrinsic activity

xvi. Which of the following has overdose toxicity that includes insomnia, arrhythmias, and convulsions?
   a. Aminophyline
   b. Cromolyn
   c. Epinephrine
   d. Ipratropium

xvii. Drugs that can dilate bronchi during an acute asthmatic attack include all of the following except.
   a. Epinephrine
   b. Terbutaline
   c. Nedocromil
   d. Theophyline

xviii. A drug administered by inhalation of powder as a prophylactic for asthma is:
   a. Ephedrine
   b. Disodium cromolyn
   c. Isoproterenol
   d. Epinephrine

xix. Which of the following is most effective in the treatment of peptic ulcer disease?
   a. Bromocriptine
   b. Cimetidine
   c. Ergotamine
   d. Ipratropium

xx. All of the following agents are considered close to ideal laxatives except:
   a. Emollient laxatives
   b. Bulk-forming laxatives
   c. Fiber
   d. Stimulant laxatives

UNIVERSITY OF THE PUNJAB

Roll No. .....

Doctor of Pharmacy (Pharm.D.) Second Prof: Annual–2019

Subject: Pharmacology & Therapeutics-I (New Course)
Paper: 2 Part – II **Time: 2 Hrs. 30 Min. Marks: 80**

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Note: Attempt any *FOUR* questions. Each question carries equal marks.

Q.2. What is biotransformation of a drug. Discuss Phase I and II reactions of metabolism of drugs. (20)

Q.3. Classify anti-asthma drugs. Write in detail pharmacology of theophylline. (20)

Q.4. Describe types of cholinergic receptors, their distribution and signal transduction pathways. Classify antimuscarinic drugs and explain their therapeutic uses and adverse effects. (20)

Q.5. Define Angina Pectoris. What are the major types of Angina? Classify Anti-anginal drugs and discuss the Nitrates in detail. (20)

Q.6. a) Classify adrenergic receptors. steps of their signal transduction pathways, distribution of adrenergic receptors in body and therapeutic uses of adrenergic agonists and antagonists. (10)

b) Illustrate and explain mechanism of control of pupil diameter, accommodation and intraocular pressure. Also describe ocular pharmacology of cholinergic and adrenergic drugs. (10)

Q.7. a) Classify receptors. Give a comprehensive account of ionotropic receptors. (10)

b) Give the classification of diuretics. Explain mechanism of action, uses. adverse effects and toxicity of Furosemide. (10)

UNIVERSITY OF THE PUNJAB

Doctor of Pharmacy (Pharm.D.) 2nd Prof: Annual–2021

Roll No. .....

Subject: Pharmacology & Therapeutics-I (New Course)

Paper: 2 Part – II

Time: 2 Hrs. 30 Min. Marks: 80

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Note: Attempt any *FOUR* questions. Each question carries equal marks.

Q 2. (a) Describe synthesis, storage and release of NOR-ADRENALINE from adrenergic neurons and various drugs affecting the pathways. (10)

(b) Classify the different types of adrenergic receptors. Explain their signal transduction pathways. Describe MOA, pharmacokinetics, adverse effects, contraindications and therapeutic uses of EPINEPHRINE (10)

Q 3. Define hypertension and its stages. Classify antihypertensive drugs and discuss role of DIURETICS & ANGIOTENSIN II RECEPTOR BLOCLERS in detail. (20)

Q4. Classify ANTICHOLINERIGC drugs. Describe MOA, pharmacological properties, therapeutic uses, adverse effects, drug interactions of atropine. (20)

Q5. Define biotransformation of drugs? Describes Phase-I and Phase-II reactions with examples. (20)

Q6. Discuss briefly

a) Cholinergic receptors with their distribution (5)
b) Ligand-gated ion channels (5)
c) Treatment of organophosphorus poisoning (5)
d) Therapeutic uses of atropine (5)

Q 7. Classify the drugs used in the treatment of bronchial asthma. Explain mechanism of action, adverse effects, contraindications and therapeutic uses of BETA-2 ADRENERGIC AGONISTS. (20)

UNIVERSITY OF THE PUNJAB

Doctor of Pharmacy (Pharm.D.) 2nd Prof: Annual–2021

Subject: Pharmacology & Therapeutics-I (New Course)

Paper: 2 Part – I (Compulsory) Time: 30 Min. Marks: 20

Roll No. in Fig. .....

Roll No. in Words. .....

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Signature of Supdt.:

Attempt this Paper on this Question Sheet only.
Division of marks is given in front of each question.
This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the right answer cutting and overwriting is not allowed. (20x1=20)

i. Biological barriers include all except:

a) Renal tubules b) Cell membranes
c) Capillary walls d) Placenta

ii. Bisacodyl frequently can cause?

a) Abdominal cramps b) Constipation
c) Skin rashes d) Dizziness

iii. Indicate a cholinomimetic agent, which is related to direct-acting drugs?

a) Edrophonium b) Physostigmine
c) Carbachol d) Isoflurophate

iv. Acetylcholine is not used in clinical practice because?

a) It is very toxic b) The doses required are very high
c) It is very rapidly hydrolyzed d) It is very costly

v. Which of the following direct-acting cholinomimetics has the shortest duration of action?

a) Acetylcholine b) Methacholine
c) Carbachol d) Bethanechol

vi. As an antiepileptic drug, Phenytoin is most similar in action to which one of the following drugs?

a) Digoxin b) Propafenone
c) Lidocaine d) Sotalol

vii. If an agonist can produce submaximal effects and has moderate efficacy it's called?

a) Partial agonist b) Antagonist
c) Agonist-antagonist d) Full agonist

viii. Insulin preparations that contain a modifying protein include?

a) Isophane insulin (NPH) b) Regular insulin
c) Ultralente insulin d) All

ix. The common and dose related side effect of salbutamol is?

a) Muscle tremor b) Rise in blood pressure
c) CNS stimulation d) Rise in blood sugar

x. Volatile drug may be best administered by:

a) Oral route b) Inhalation
c) Sublingual route d) Intrathecal route

P.T.O.

xi. Beta adrenoreceptor subtypes is contained in all of the following tissues EXCEPT:

a) Bronchial muscles
b) Heart
c) Pupillary dilator muscle
d) Fat cells

xii. Which of the following effects is associated with beta3-receptor stimulation?

a) Lipolysis
b) Decrease in platelet aggregation
c) Bronchodilation
d) Tachycardia

xiii. Which of the following cholinomimetics is commonly used in the treatment of glaucoma?

a) Pilocarpine
b) Lobeline
c) Phenylephrine
d) Norepinephrine

xiv. Which of the following was drug of choice in emergency treatment of the arrhythmias:

a) Lidocaine
b) Procainamide
c) Flecainide
d) Mexiletine

xv. Atropine when applied topically to the eye, would induce:

a) Cycloplegia
b) Mydriasis
c) Both a & b
d) None

xvi. Verapamil and diltiazem are more effective against

a) Supraventricular tachycardia
b) Ventricular arrhythmia
c) Atrial arrhythmia
d) Hypotension

xvii. 4. In prehypertension the value of the systolic pressure is:

a) A) 80-89 mm Hg
b) B) 140-159 mm Hg
c) >160 mm Hg
d) 120-139 mm Hg

xviii. First line drug for hypertension when concomitant disease is present:

a) Diuretics
b) Calcium channel blockers
c) β adrenoceptor blockers
d) ACE inhibitors

xix. Risk of digoxin induced arrhythmias is increased in?

a) Hyperkalaemia
b) Hypercalcaemia
c) Hypermagnesaemia
d) All

xx. Phentolamine is a:

a) Alpha-1 receptor antagonist
b) Beta-2 receptor antagonist
c) Both a & b
d) None