

Brahmanbaria Medical College
1st Term Final Examination, July 2023
Subject: Department of Pharmacology and Therapeutics (SAQ)
Full Marks: 80 Time: 2 hours and 30 minutes
All questions carry equal marks (4)
Answer any 5 (five) questions from each group
Use separate answer script for each group

Group A

1. Enlist the processes of drug absorption. Describe important six factors that may influence the movement of drug across the biological membrane. (1+3)
2. Define biotransformation. Enumerate important six factors that influence biotransformation. (1+3)
3. Describe the signal transduction mechanisms that follows drug receptor interaction. (4)
4. Enumerate the clinical significance of plasma protein binding of a drug and drug-drug interactions. (1+3)
5. Compare between type A and type B adverse drug reactions. What is the role of a physician after encountering a case of adverse drug reaction? (2+2)
6. Explain: (2+2)
 - i. Role of alteration of urinary pH in drug elimination
 - ii. Plasma half-life varies when drug elimination follows zero-order kinetic

Group B

1. Outline the adrenergic neurotransmission with clinically important drugs modulating the transmission. (4)
2. Enumerate the Atropine substitutes. Describe the role of Atropine and pralidoxime in OPC poisoning. (2+2)
3. Enumerate the dose dependent effects of Dopamine on blood vessel. Compare Dopamine with Dobutamine. (3+1)
4. Enlist the clinically used β -blockers. Why Bronchospasm occurs after β -blocker therapy in asthmatic patient.
5. List anti-glaucoma drugs with their role in glaucoma. (4)
6. Explain:
 - i. Role of Phenoxybenzamine in pheochromocytoma
 - ii. Role of Edrophonium and Neostigmine in myasthenia gravis

Group: C

1. Categorize diuretics according to their sites and mechanism of action. What is the role of thiazide diuretics in hypertension? How thiazide produces hyperglycemia? (1.5+1.5+1)
2. Draw a flow chart showing pathophysiology of Heart Failure with drugs reversing the condition. (4)
3. Mention clinically important antihypertensive drugs. Compare Glyceryl tri nitrate, Bisoprolol and Diltiazem as anti anginal drugs. (1.5+2.5)
4. Justify the use of low-dose Aspirin in the management of thromboembolic disease. Compare and contrast Streptokinase & alteplase as fibrinolytic agent. (1.5+2.5)
5. Enlist the lipid lowering agents available in Bangladesh. Write down the role of bile acid binding resins in cholastasis. (1.5+2.5)
6. Explain: (2+2)
 - i. Enoxaparin can be given from out-patient department
 - ii. Anticoagulant effect of warfarin is delayed

Group: D

1. Classify oral antidiabetic drugs. Compare DPP-4 inhibitors and Na-glucose co-transporter inhibitors as antidiabetic agents. (2+2)
2. Enlist the receptors that present in the uterus and drugs acting on that receptor. Compare between Oxytocin, Prostaglandin and Ergometrine as uterine stimulant. (1.5+2.5)
3. Write down different insulin preparations including their formulation, duration of action and indication? Mention the difference between newer insulin from older insulin. (3+1)
4. Discuss the permissive effect and anti inflammatory effect of glucocorticoids. What are the precautions to be taken before glucocorticoid use and why? (2+2)
5. Compare estrogen-progesterone combined pill and progesterone only pill as contraceptives. What are the contraindication of combined oral pill? (2.5+1.5)
6. Write short notes on: (2+2)
 - i. Insulin Resistance
 - ii. Hormone Replacement Therapy

Brahmanbaria Medical College
1st Term Final Examination July 2023

Subject: Department of Pharmacology and Therapeutics (MCQ)
Full Marks: 20

Time: 30 minutes

All questions carry equal marks

Use OMR (Optical Mark Recognition) sheet as answer script

Fill up the appropriate circle in OMR sheet for true or false answer

Q.1	Which of the following types of drugs will have maximum oral bioavailability?		Q.6	Physiological changes that could happen when a person is attacked by a grizzly bear-	
	a)	Drugs with high first-pass metabolism		a)	Increase in heart rate
	b)	Highly hydrophilic drugs		b)	Increase in gastric motility
	c)	Largely hydrophobic, yet soluble in aqueous solutions		c)	Increase in lacrimation
	d)	Highly lipid soluble drugs		d)	Increase blood pressure
	e)	Chemically unstable drugs	e)	Constriction of the pupil	
Q.2	If 10 mg of naproxen produces the same analgesic response as 100 mg of ibuprofen, which of the following statements is/are correct?		Q.7	Which of the following is correct regarding ganglion blocking drugs?	
	a)	Naproxen is more efficacious than is ibuprofen		a)	Sympathetic ganglia blocker could ↓ BP
	b)	Naproxen is more potent than ibuprofen		b)	Nondepolarizing ganglion blocker is Atropine
	c)	Naproxen is a full agonist, and ibuprofen is a partial agonist		c)	Parasympathetic ganglia blocker could ↓ HR
	d)	Pain relieving capacity is same for both drugs		d)	Receptors at both sympathetic and parasympathetic ganglia are of the nicotinic type
	e)	Naproxen is a competitive antagonist		e)	Nondepolarizing ganglion blocker is Nicotine
Q.3	Which of the following statement (s) correctly describe receptors up-regulation-		Q.8	The systemic side effects of Pilocarpine include-	
	a)	Use of an agonist is responsible for upregulation		a)	Constipation
	b)	Use of a partial agonist can cause upregulation		b)	Excessive sweating
	c)	Use of an antagonist can cause upregulation		c)	Urinary urgency
	d)	Receptors upregulation occur when receptor activation is lower than normal		d)	Bronchial spasm
	e)	Sudden stoppage of an receptors upregulating agent may precipitate the disease process		e)	Dry mouth
Q.4	Drugs that undergo glucuronide conjugation-		Q.9	Correct statement about tachyphylaxis is/are-	
	a)	Pethidine		a)	Direct sympathomimetics involved
	b)	Morphine		b)	Due to depletion of neurotransmitter in the vesicle
	c)	Chloramphenicol		c)	Ephedrine tachyphylaxis reversed with Dopamine
	d)	Paracetamol		d)	Indirect sympathomimetics involved
	e)	Isoniazide		e)	It is an anaphylactic reaction
Q.5	Type B adverse effects-		Q.10	Physiological events mediated by a-adrenoceptors include	
	a)	Are not common to all		a)	Increase heart rate

	b)	Are Predictable		b)	Hypokalemia
	c)	Include anaphylaxis		c)	Peripheral arteriolar constriction
	d)	Are dose dependent		d)	Bronchoconstriction
	e)	Are related to their pharmacological action		e)	Cardiac arrhythmia
Q.11	Thiazide diuretics causes-		Q.16	All of the following are the side effects of steroid-	
	a)	Hyperkalemia		a)	Hypoglycemia
	b)	Hypokalemia		b)	Osteoporosis
	c)	Hyperglycemia		c)	Gastritis
	d)	Osteoporosis		d)	Delay wound healing
	e)	Nephrolithiasis		e)	Autoimmune Response
Q.12	Insulin-		Q.17	Following drugs can be used in glaucoma-	
	a)	Output by the pancreas is 30-40 units only		a)	Physostigmine
	b)	Antibodies develop in all patients treated with animal insulin		b)	Acetylcholine
	c)	Activity does not differ as between human and animal forms		c)	Tropicamide
	d)	Stored in the liver		d)	Neostigmine
	e)	Is a polypeptide		e)	Pilocarpine
Q.13	Following statements are correct-		Q.18	Drugs showing intrinsic sympathomimetic activity (ISA)-	
	a)	β blockers can be used in hypothyroidism		a)	Propranolol
	b)	β blockers can be used in chronic heart failure		b)	Acebutolol
	c)	Minoxidil can be used in male pattern baldness		c)	Metoprolol
	d)	Verapamil causes constipation		d)	Labetalol
	e)	Amlodipine effective for raynauds phenomenon		e)	Bisoprolol
Q.14	Following are not an adverse effect of ACE inhibitors-		Q.19	In Combined Oral Contraceptive pill, Estrogen-	
	a)	Cough		a)	Inhibit release of luteinising hormone
	b)	Hypokalaemia		b)	Inhibit release of follicle stimulating hormone
	c)	Angioneurotic edema		c)	Cause increased risk of blood clotting
	d)	Skin rash		d)	Cause thickening of cervical mucus
	e)	Hyperuricemia		e)	Inhibit ovulation
Q.15	Predominantly triglyceride lowering agents-		Q.20	Following are parenteral iron preparation-	
	a)	Rosuvastatin		a)	Iron polymaltose complex
	b)	Fenofibrozil		b)	Iron dextran
	c)	Ezetimibe		c)	Iron sucrose complex
	d)	Fenofibrate		d)	Iron gluconate
	e)	Colestipol		c)	Iron sodium gluconate complex

Brahmanbaria Medical College

Term-II Examination 2023

Subject: Department of Pharmacology and Therapeutics (MCQ)

Full Marks: 20

Time: 20 minutes

Write 'T' for True or 'F' False on left side of each stem of each question

Q.1	Tolerance develops to all of the following actions of morphine-		Q.6	All of the following are adverse effects of steroid-	
	a)	Constipation		a)	Growth retardation
	b)	Nausea & vomiting		b)	Hypotension
	c)	Euphoria		c)	Fragile skin
	d)	Analgesia		d)	Hypoglycemia
e)	Miosis	e)	Osteoporosis		
Q.2	Volatile liquids used as inhalation anesthetics are		Q.7	Which of the following is not an autacid?	
	a)	Enflurane		a)	Histamine
	b)	Nitrous oxide		b)	Lipoprotein
	c)	Ether		c)	Prostaglandin
	d)	Halothane		d)	Leukotriene
e)	Cyclopropane	e)	Serotonin		
Q.3	Following statements about benzodiazepines are-		Q.8	Following agents have antihistamine with antiemetic property-	
	a)	It acts as GABA agonist		a)	Ondansetron
	b)	Diazepam is a short acting benzodiazepine		b)	Meclizine
	c)	Diazepam causes lesser respiratory depression than Midazolam		c)	Loratadine
	d)	Nitrazepam is metabolized in the liver		d)	Promethazine
e)	Diazepam has higher abuse potential than midazolam	e)	Diphenhydramine		
Q.4	Drugs for generalized seizure include-		Q.9	Following drugs doesn't cause hypoglycemia-	
	a)	Carbamazepine		a)	Acarbose
	b)	Sodium valproate		b)	Insulin
	c)	Phenytoin		c)	Glimeperide
	d)	Lamotrizine		d)	Nateglinide
e)	Ethusuximide	e)	Metformin		
Q.5	All of the following drugs are sodium channel blocker-		Q.10	Natural glucocorticoids are-	
	a)	Lamotrigine		a)	Hydrocortisone
	b)	Phenytoin		b)	Triamcenolone
	c)	Cabamazepine		c)	Prednisolone
	d)	Ethusuximide		d)	Testosterone
e)	Progabide	c)	Aldosterone		

Q.1 11	Morphine is used in the treatment of following condition-		Q.1 6	Drugs that may be useful in prevention of recurrent migraine include-	
	a)	Asthma		a)	Propranolol
	b)	Left ventricular failure		b)	Verapamil
	c)	Kyphoscoliosis		c)	Pizotifen
	d)	Myocardial infarction		d)	Methysergide
e)	COPD	e)	Aspirin		
Q.1 12	Following statements about Zafirlukast are correct-		Q.1 7	First generation cephalosporin ineffective against-	
	a)	It inhibit lipooxygenase pathway		a)	Klebsiella
	b)	It decreases the frequency of asthma attack		b)	Bacteroid
	c)	It blocks leukotriene receptor		c)	Neisseria
	d)	It is effective in acute bronchial asthma		d)	Haemophilus
e)	It can be administered orally	e)	E.coli		
Q.1 13	Superinfection is common in-		Q.1 8	Methicillin resistant staphylococcus aureus can be treated by-	
	a)	Narrow spectrum antibiotics		a)	Fusidic acid
	b)	Immunocompromised host		b)	Vancomycin
	c)	Broad spectrum antibiotics		c)	Benzylpenicillin
	d)	Nutritional deficiency		d)	Rifampicin
e)	Immunocompetent patient	e)	Cloxacillin		
Q.1 4	Adverse effects of chlorpromazine are-		Q.1 9	Following drugs show disulfiram like reaction with alcohol-	
	a)	Hypertension		a)	Tetracycline
	b)	Amenorrhoea		b)	Ampicillin
	c)	Angioedema		c)	Griseofulvin
	d)	Osteoporosis		d)	Cefotetan
e)	Parkinson's disease	e)	Metronidazole		
Q.1 5	Following anti-tubercular drugs are hepatotoxic-		Q.2 0	Following drugs are nephrotoxic-	
	a)	Pyrazinamide		a)	Cyclosporine
	b)	Isoniazid		b)	Amphotericin B
	c)	Rifampicin		c)	Amikacin
	d)	Ethambutol		d)	Cetirizine
e)	Streptomycin	e)	Fluticasone		