



BRAINWARE UNIVERSITY

Term End Examination 2021 - 22

Programme – Bachelor of Optometry

Course Name – Basic & Ocular Pharmacology

Course Code - BOPTO405

(Semester IV)

Time allotted : 1 Hrs.15 Min.

Full Marks : 60

[The figure in the margin indicates full marks.]

Group-A

(Multiple Choice Type Question)

1 x 60=60

Choose the correct alternative from the following :

- (1) Study of drug in humans is termed:

a) Pharmacy	b) Clinical Pharmacology
c) Experimental Pharmacology	d) Toxicology
- (2) Pharmacodynamics deals with the study of:

a) Mechanism of action of drug	b) Interaction with receptor
c) Toxic effect of drug	d) Metabolism of drug
- (3) Enteric – coated tablets :

a) Have particles of drug covered with coating	b) Increase gastric irritation
c) Enhance absorption of drug	d) Disintegrate in intestine
- (4) Which of the following factor does not alter bioavailability of a drug?

a) State of ionization	b) Route of administration
c) Degree of plasma protein binding	d) Vascularity at site of administration
- (5) All of the following parameters can be considered directly to calculate the dose in a child except:

a) Age	b) Weight
c) Body surface area	d) Sex
- (6) Essential drugs are:

a) Life saving drugs	b) Drugs that meet the priority health care needs of the population
c) Drugs that must be present in the emergency bag of a doctor	d) Drugs that are listed in the pharmacopoeia of a country
- (7) In addition to slow intravenous infusion, which of the following routes of administration allows for titration of the dose of a drug with the response:

a) Sublingual	b) Transdermal
c) Inhalational	d) Nasal insufflation

- (8) Compared to subcutaneous injection, the intramuscular injection of drugs:
- Is more painful
 - Produces faster response
 - Is unsuitable for depot preparations
 - Carries greater risk of anaphylactic reaction
- (9) Majority of drugs cross biological membranes primarily by:
- Passive diffusion
 - Facilitated diffusion
 - Active transport
 - Pinocytosis
- (10) Active transport of a substance across biological membranes has the following characteristics except:
- It is specific
 - It is pH dependent
 - It is saturable
 - It requires metabolic energy
- (11) If the total amount of a drug present in the body at a given moment is 2.0 g and its plasma concentration is 25 µg/ml, its volume of distribution is:
- 100 L
 - 80 L
 - 60 L
 - 50 L
- (12) Biotransformation of drugs is primarily directed to:
- Activate the drug
 - Inactivate the drug
 - Convert lipid soluble drugs into nonlipid soluble metabolites
 - Convert nonlipid soluble drugs into lipid soluble metabolites
- (13) A prodrug is:
- The prototype member of a class of drugs
 - The oldest member of a class of drugs
 - An inactive drug that is transformed in the body to an active metabolite
 - A drug that is stored in body tissues and is then gradually released in the circulation
- (14) The most commonly occurring conjugation reaction for drugs and their metabolites is:
- Glucuronidation
 - Acetylation
 - Methylation
 - Glutathione conjugation
- (15) Microsomal enzyme induction can be a cause of:
- Tolerance
 - Physical dependence
 - Psychological dependence
 - Idiosyncrasy
- (16) Receptors perform the following function/functions:
- Ligand recognition
 - Signal transduction
 - Both ligand recognition and signal transduction
 - Disposal of agonists and antagonists
- (17) Down regulation of receptors can occur as a consequence of:
- Continuous use of agonists
 - Continuous use of antagonists
 - Chronic use of CNS depressants
 - Denervation
- (18) 'Drug efficacy' refers to:
- The range of diseases in which the drug is beneficial
 - The maximal intensity of response that can be produced by the drug
 - The dose of the drug needed to produce half maximal effect
 - The dose of the drug needed to produce therapeutic effect
- (19) The therapeutic index of a drug is a measure of its:
- Safety
 - Potency
 - Efficacy
 - Dose variability
- (20) An undesirable effect of a drug that occurs at therapeutic doses and can be predicted from its pharmacological actions is called:
- Side effect
 - Toxic effect
 - Allergic reaction
 - Idiosyncrasy
- (21) Which of the following is a type B (unpredictable) adverse drug reaction:

- a) Side effect
c) Idiosyncrasy
- b) Toxic effect
d) Physical dependence
- (22) Which of the following organs is innervated only by parasympathetic nerves:
- a) Iris muscles
c) Sweat glands
- b) Ciliary muscle
d) Splenic capsule
- (23) The sympathetic and parasympathetic systems exert functionally opposite influences on the following parameters except:
- a) Heart rate
c) Pupil diameter
- b) Atrial refractory period
d) Intestinal motility
- (24) The major postjunctional cholinergic receptor is of the muscarinic type at the following site:
- a) Postganglionic parasympathetic
c) Autonomic ganglia
- b) Adrenal medulla
d) Neuromuscular junction
- (25) The cardiac muscarinic receptors:
- a) Are of the M1 subtype
c) Are selectively blocked by pirenzepine
- b) Are of the M2 subtype
d) Function through the PIP2 → IP3/DAG pathway
- (26) The smooth muscle structure that is relaxed by cholinergic drugs is:
- a) Colon
c) Major bronchi
- b) Gastric fundus
d) Bladder trigone
- (27) Pilocarpine reduces intraocular tension in open angle glaucoma by:
- a) Contracting sphincter pupillae
c) Reducing aqueous formation
- b) Increasing tone of ciliary muscle
d) Enhancing uveo-scleral outflow
- (28) The following is an α_2 adrenergic agonist used as eyedrops to lower intraocular pressure:
- a) Brinzolamide
c) Brimonidine
- b) Bambuterol
d) Latanoprost
- (29) Agonistic action on which of the following adrenergic receptors located on ciliary epithelial cells reduces aqueous secretion:
- a) β_1 receptor
c) α_1 receptor
- b) β_2 receptor
d) α_2 receptor
- (30) To be used as a topically applied ocular beta blocker a drug should have the following properties except:
- a) Strong local anaesthetic activity
c) High ocular capture
- b) High lipophilicity
d) Low systemic activity
- (31) Which of the following is a prodrug of adrenaline used topically in glaucoma:
- a) Brimonidine
c) Phenylpropanolamine
- b) Dipivefrine
d) Dorzolamide
- (32) Which is the most important drug in the treatment of organophosphate poisoning:
- a) Atropine sulfate
c) Diazepam
- b) Pralidoxime
d) Adrenaline
- (33) Atropine produces the following actions except:
- a) Tachycardia
c) Dryness of mouth
- b) Mydriasis
d) Urinary incontinence
- (34) The following mydriatic does not produce cycloplegia:
- a) Phenylephrine
c) Cyclopentolate
- b) Tropicamide
d) Homatropine
- (35) The mydriatic incapable of producing cycloplegia sufficient for refraction testing in children is:
- a) Atropine
- b) Hyoscine

- c) Homatropine
- d) Cyclopentolate
- (36) Atropine is contraindicated in:
- a) Pulmonary embolism
- b) Digitalis toxicity
- c) Iridocyclitis
- d) Raised intraocular tension
- (37) The following type/types of noradrenaline uptake is blocked by reserpine:
- a) Axonal uptake
- b) Granular uptake
- c) Extraneuronal uptake
- d) All of the above
- (38) The following action of adrenaline is not mediated by β receptors:
- a) Dilatation of blood vessels
- b) Dilatation of pupil
- c) Bronchodilation
- d) Renin release from kidney
- (39) Adrenaline is inactive orally because it is:
- a) Not absorbed from the gastrointestinal tract
- b) Destroyed by gastric acid
- c) Completely metabolized in the intestinal mucosa and liver before reaching systemic circulation
- d) Taken up by adrenergic nerve endings of the intestinal wall, liver and lungs
- (40) Ephedrine is similar to adrenaline in the following feature:
- a) Potency
- b) Inability to penetrate blood-brain barrier
- c) Duration of action
- d) Producing both α and β adrenergic effects
- (41) The following is a pressor peptide that can be generated both in circulation as well as locally in certain tissues:
- a) Bradykinin
- b) Angiotensin
- c) Kallidin
- d) Plasmin
- (42) Captopril produces greater fall in blood pressure in:
- a) Diuretic treated patients
- b) Patients having low plasma renin activity
- c) Sodium replete normotensive individuals
- d) Untreated CHF patients
- (43) Enalapril differs from captopril in the following features except:
- a) It is dose to dose more potent
- b) Its oral absorption is not affected by food in stomach
- c) It acts more rapidly
- d) It has longer duration of action
- (44) The antihypertensive action of calcium channel blockers is characterized by the following except:
- a) Delayed onset; blood pressure starts falling after 1–2 weeks therapy
- b) Lack of central side effects
- c) No compromise of male sexual function
- d) Safety in peripheral vascular diseases
- (45) Persistent dry cough may occur as a side effect of the following antihypertensive drug:
- a) Enalapril
- b) Atenolol
- c) Diltiazem
- d) Methyldopa
- (46) Angiotensin converting enzyme inhibitors are contraindicated in:
- a) High renin hypertensives
- b) Diabetics
- c) Congestive heart failure patients
- d) Pregnant women
- (47) At equinatriuretic doses which diuretic causes the maximum K^+ loss:
- a) Furosemide
- b) Hydrochlorothiazide
- c) Acetazolamide
- d) Amiloride
- (48) The following is not itself an efficacious diuretic, and is used only as an adjuvant/corrective to other diuretics:
- a) Acetazolamide
- b) Metolazone
- c) Spironolactone
- d) Indapamide
- (49) The minimal alveolar concentration of an inhalational anaesthetic is a measure of its:

- a) Potency
c) Diffusibility
- b) Therapeutic index
d) Oil: water partition coefficient
- (50) The minimal alveolar concentration (MAC) of halothane is:
a) 0.75
c) 0.075
- b) 0.25
d) 0.0075
- (51) The following is true about actions of ethylalcohol:
a) It exerts anticonvulsant action followed by lowering of seizure threshold
c) It increases confidence and reduces number of errors
- b) It lowers pain threshold
d) It increases heat production and helps to keep warm in cold weather
- (52) Regular low-to-moderate alcohol consumption is associated with:
a) Lower incidence of coronary artery disease
c) Physical dependence
- b) Myocardial depression
d) Wernicke's encephalopathy
- (53) Select the drug that has been found to reduce alcohol craving and chances of resumed heavy drinking by alcoholics after they have undergone a detoxification programme:
a) Chlordiazepoxide
c) Methadone
- b) Chlorpromazine
d) Naltrexone
- (54) Barbiturates exert the following actions except:
a) Anticonvulsant
c) Antianxiety
- b) Analgesic
d) Respiratory depressant
- (55) Hypnotic dose of diazepam produces the following action:
a) Tachycardia
c) Hyperalgesia
- b) Constipation
d) Decreased nocturnal gastric secretion
- (56) Widespread and prolonged use of an antibiotic leads to emergence of drug resistant strains because antibiotics:
a) Induce mutation in the bacteria
c) Allow resistant strains to propagate preferentially
- b) Promote conjugation among bacteria
d) All of the above
- (57) The most important mechanism of concurrent acquisition of multidrug resistance among bacteria is:
a) Mutation
c) Transduction
- b) Conjugation
d) Transformation
- (58) Drug destroying type of bacterial resistance is important for the following antibiotics except:
a) Cephalosporins
c) Chloramphenicol
- b) Tetracyclines
d) Aminoglycosides
- (59) The following strategy will promote rather than curb emergence of antibiotic resistant micro-organisms:
a) Whenever possible use broad spectrum antibiotics
c) Prefer short and intensive courses of antibiotics
- b) Prefer a narrow spectrum antibiotic to a broad spectrum one if both are equally effective
d) Use antibiotic combinations for prolonged therapy
- (60) A 20 year old female with chronic open angle glaucoma, 24 weeks pregnant, was prescribed a drug that decreased the production of her aqueous humor. Which of one of the following drugs is contraindicated in her case ?
a) Apraclonidine
c) Acetazolamide
- b) Tropicamide
d) timolol