

Time: 3 Hours

Marks: 80

Q.1 Choose the appropriate option for following multiple choice based questions.

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1. What is characteristic of the oral route?

- a) Fast onset of effect
- b) Absorption depends on GI tract secretion and motor function
- c) A drug reaches the blood passing the liver
- d) The sterilization of medicinal forms is obligatory

2. Which of the following processes proceeds in the second phase of biotransformation?

- a) Acetylation
- b) Reduction
- c) Oxidation
- d) Hydrolysis

3. 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

4. Give the definition for a therapeutical dose:

- a) The amount of a substance to produce the minimal biological effect
- b) The amount of a substance to produce effects hazardous for an organism
- c) The amount of a substance to produce the required effect in most patients
- d) The amount of a substance to accelerate an increase of concentration of medicine in an organism

5. The increase of second messengers' (cAMP, cGMP, Ca²⁺ etc.) concentration leads to:

- a) Inhibition of intracellular protein kinases and protein phosphorylation
- b) Proteinkinases activation and protein phosphorylation
- c) Blocking of interaction between a receptor and an effector
- d) Antagonism with endogenous ligands

6. The term "chemical antagonism" means that:

- a) Two drugs combine with one another to form an inactive compound
- b) Two drugs combine with one another to form a more active compound
- c) Two drugs combine with one another to form a more water soluble compound
- d) Two drugs combine with one another to form a more fat soluble compound

7. Which of the following cholinomimetics activates both muscarinic and nicotinic receptors?

- a) Lobeline
- b) Pilocarpine
- c) Nicotine
- d) Bethanechol

8. Atropine causes:

- a) Miosis, a reduction in intraocular pressure and cyclospasm
- b) Mydriasis, a rise in intraocular pressure and cycloplegia
- c) Miosis, a rise in intraocular pressure and cycloplegia
- d) Mydriasis, a rise in intraocular pressure and cyclospasm

9. Which of the following effects is associated with beta 3 -receptor stimulation?

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

10. Which of the following direct-acting drugs is a relatively pure alpha agonist, an effective mydriatic and decongestant and can be used to raise blood pressure?

- a) Epinephrine
- b) Norepinephrine
- c) Phenylephrine
- d) Ephedrine

11. Which of the following drugs is a nonselective alpha receptor antagonist?

- a) Prazosin
- b) Phentolamine
- c) Metoprolol
- d) Reserpine

12. This drug is a Class II antiarrhythmic drug:

- a) Flecainide
- b) Propranolol
- c) Lidocaine
- d) Verapamil

13. Which of the following antianginal agents is a potassium channel opener:

- a) Dipyridamole
- b) Validol
- c) Atenolol
- d) Minoxidil

14. This drug reduces blood pressure by acting on vasomotor centers in the CNS:

- a) Labetalol
- b) Clonidine
- c) Enalapril
- d) Nifedipine

15. This drug is contraindicated in patients with bronchial asthma:

- a) Propranolol
- b) Clonidine
- c) Enalapril
- d) Nifedipine

16. Choose the group of antihypertensive drugs which diminishes the metabolism of bradykinin:

- a) Ganglioblockers
- b) Alfa-adrenoblockers
- c) Angiotensin-converting enzyme inhibitors
- d) Diuretics

17. The reason of diuretics administration for hypertension treatment is:

- a) Block the adrenergic transmission
- b) Diminishing of blood volume and amount of Na⁺ ions in the vessels endothelium
- c) Depression of rennin-angiotensin-aldosterone system
- d) Depression of the vasomotor center

18. The drug is the least potent diuretic:

- a) Osmotic diuretics
- b) Loop diuretics
- c) Thiazide diuretics
- d) Potassium-sparing diuretics

19. These agents must be given parenterally because they are not absorbed when given orally:

- a) Osmotic diuretics
- b) Loop diuretics
- c) Thiazide diuretics
- d) Potassium-sparing diuretics

20. Spironolactone acts at this nephron site:

- a) Proximal convoluted tubule
- b) Ascending thick limb of the loop of Henle
- c) Distal convoluted tubule
- d) Collecting duct

Q. 2 A-Answer any one question

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1. A. Describe the mode of action, therapeutic use and adverse reactions of Clonidine

B. Mention the different classes of drugs used as antihypertensive? Discuss the mechanism of action and unwanted effects of enalapril, nifedipine and atenolol.

2. Classify Receptors with examples. Signal transduction mechanism of Tyrosine kinase receptors.

Q. 2 B -Answer any Four question

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1. Write biosynthesis, storage, release, uptake and metabolism of neurotransmitter of Sympathetic nervous system indicate the sites of action for the drugs on the sympathetic Nervous system.

2. Classify antiarrhythmic drugs. Give an account of the pharmacology of quinidine.

3. Classify cholinergic drugs with examples. Describe the pharmacology actions, -therapeutic uses and adverse effects of Bethanechol and Neostigmine.

4. A. Routes of drug administration with special reference to their advantages and disadvantages.

B. What is Bioavailability? Elaborate on factors affecting bioavailability.

5. Describe the Pathophysiology and drug therapy for any three:

- a) Glaucoma.
- b) Myasthenia gravis
- c) Organophosphate poisoning
- d) Atropine poisoning
