Question Paper

Exam Date & Time: 24-May-2024 (10:00 AM - 01:00 PM)

MANIPAL ACADEMY OF HIGHER EDUCATION

Pharmacology - I [PHA-BP404T-S1]

Marks: 75 **Duration: 180 mins.**

I Multiple Choice Questions (MCQs)

Answer all the questions. Section Duration: 30 mins

1) Paracetamol undergoes (1)

- Glucuronide conjugation
- Glutathione conjugation
- Glycine conjugation
- Acetylation

2) This drug is classified as a human teratogen (1)

- Paracetamol
- Piperazine
- Phenytoin
- Penicillin

3) Which of the following local anesthetic is more likely to cause cardiac toxicity? (1)

- Lignocaine
- Bupivacaine
- Prilocaine
- Ropivacaine

4) This is the drug effective for absence seizures (1)

- Phenytoin
- Phenobarbitone
- Carbamazepine
- Ethosuximide

5) Which route of drug administration delivers medication directly into the space surrounding the spinal cord for pain management or anesthesia? (1)

- Intravenous injection
- Intrathecal injection
- Intracardiac injection
- Intramuscular injection

6) Which of the following best describes the term "affinity" in pharmacodynamics? (1)

- The ability of a drug to bind to a specific receptor.
- The ability of a drug to activate a receptor.
- The duration of action of a drug

The rate at which a drug is metabolized in the body.

7) Which of the following drugs is a tertiary amine anticholinergic agent that is used to treat motion sickness and nausea? (1)

Scopolamine
Atropine
Neostigmine
Pralidoxime

8) Which of the following preanesthetic agents is a dissociative anesthetic that acts primarily through antagonism of the NMDA receptor? (1)

Midazolam
Propofol
Ketamine
Etomidate

9) 9. This antipsychotic drug causes marked incidence of agranulocytosis (1)

Chlorpromazine
Clozapine
Aripiprazole
Ziprasidone

10) Aspirin blocks the uricosuric action of _____ and decreases tubular secretion of methotrexate (1)

Propranolol
Promethazine
Probenecid
Prochlorperazine

11) Noradrenaline has no effect on (1)

beta-2 receptor
beta-1 receptor
alpha-2 receptor
alpha-1 receptor

12) Which of the following receptors is primarily targeted by benzodiazepines to produce their sedative-hypnotic effects? (1)

Dopamine receptors
NMDA receptors
GABA-A receptors
Serotonin receptors

13) This is not a side effect of conventional tricyclic antidepressant (1)

Cardiac arrhythmia
Mental confusion
Salivation
Urinary retention

14) Which of the following is an example of a second messenger involved in intracellular signaling pathways activated by receptor stimulation? (1)

Dopamine
cAMP (cyclic adenosine monophosphate)

Glutamate
Acetylcholine

15) Which of the following conditions is characterized by a deficiency of acetylcholine (ACh) due to autoimmune destruction of nicotinic receptors at the neuromuscular junction? (1)

Myasthenia gravis
Parkinson's disease
Alzheimer's disease
Multiple sclerosis

16) Which enzyme is primarily responsible for metabolizing alcohol into acetaldehyde in the liver? (1)

Alcohol dehydrogenase
Aldehyde dehydrogenase
Cytochrome P450
Catalase

17) Which statement is true for anxiolytic drugs? (1)

Do not produce extrapyramidal side effects
Do not produce physical dependence
Do not have anticonvulsant property
Has therapeutic effect for schizophrenia

18) This is a carbonic anhydrase inhibitor used for the treatment of glaucoma (1)

Timolol
Latanoprost
Dipivefrine
Dorzolamide

19) Which of the following is a primary function of oximes in cases of organophosphate poisoning? (1)

Inhibition of acetylcholinesterase
Stimulation of nicotinic receptors
Blocking of muscarinic receptors
Reversal of AChE inhibition by phosphorylated enzymes

20) Developed as an antiviral drug, was found to benefit Parkinsonism (1)

Levodopa
Amantadine
Tolcapone
Selegiline

II Long Answers

Answer all the questions.

1) Classify antiepileptics with suitable examples. Describe the mechanism of action of phenytoin. Discuss its pharmacokinetics and adverse effects. List its clinical uses (10)

2) Describe any three different molecular mechanisms underlying receptor-ligand interactions associated with Acetylcholine (10)

III Short Answers

Answer all the questions.

1)	Discuss five important factors affecting drug absorption. Give an example each	(5)
2)	Detail the types of tests performed during preclinical studies in drug development	(5)
3)	Explain the pharmacological actions of Adrenaline on heart, blood vessels, respiration, eye and metabolic system	(5)
4)	Describe the mechanism of action of lithium. List its clinical uses and adverse effects	(5)
5)	Classify various routes of drug administration. What are the advantages and disadvantages of the sublingual route?	(5)
6)	Explain the mechanism of action of cholinesterase inhibitors and their therapeutic significance in the treatment of myasthenia gravis	(5)
7)	With a neat diagram explain the mechanism of action of diazepam	(5)

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