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2021

M.Pharm. 1st Semester (Regular) Examination

Pharmacology

ADVANCED PHARMACOLOGY – I

(New Regulation) (W.e.f. 2017-18)

Full Marks – 75

Time – Three hours

The figures in the margin indicate full marks for the questions.

SECTION – A

(Attempt all the questions)

1. Answer the following MCQ : (20 × 1 = 20)
- (i) Distribution of drugs to specific tissues
- (a) Is independent of blood flow to the organ
 - (b) Is independent of the solubility of the drug in that tissue
 - (c) Depends on the unbound drug concentration gradient between blood and tissue
 - (d) Is increased for drugs that are strongly bound to plasma proteins
- (ii) A drug that binds to a cell receptor and causes a response is called an
- (a) Agonist
 - (b) Antagonist
 - (c) Receptor blocker
 - (d) None of the above
- (iii) If gut motility is increased then
- (a) Drug absorption is decreased
 - (b) Drug absorption is increased
 - (c) Drug absorption is not effected
 - (d) None of the above

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- (iv) Which of the following CNS Neurotransmitters is excitatory on the individual neurons and causes decrease in potassium conductance
- (a) Dopamine (b) Acetylcholine
(c) GABA (d) Glycine
- (v) Local anaesthetic molecule consists of
- (a) Lipophilic group linked by an ester or amide chain
(b) Lipophilic group linked by an ester or amide chain to an amine substitute
(c) Lipophilic group linked to an amine substitute
(d) None of the above
- (vi) Zolpidem is used as
- (a) Anticonvulsant drug
(b) Anti-anxiety drug
(c) Sedative and hypnotic drug
(d) Myorelaxant drug
- (vii) 'Fight or flight' state can be described as
- (a) Sympathetic active; para-sympathetic quiescent
(b) Sympathetic active; para-sympathetic active
(c) Sympathetic quiescent; para-sympathetic active
(d) None of the above
- (viii) The ciliary muscle of iris has predominant
- (a) Sympathetic innervation
(b) Parasympathetic innervation
(c) Somatic innervation
(d) Mixture of all the above
- (ix) Fibrinolysis is mainly carried out by
- (a) Tissue – type plasminogen activator
(b) Urokinase – type plasminogen activator
(c) Both (a) and (b)
(d) None of the above
- (x) In hypertension which drug besides lowering blood pressure arrests and even reverses cardiac hypertrophy
- (a) ACE inhibitors (b) Betablockers
(c) Calcium channel blockers (d) Diuretics

- (xi) If a fibrinolytic drug is used for treatment of acute myocardial infarction, the adverse drug effect that is most likely to occur is
- (a) Acute renal failure
 - (b) Development of antiplatelet antibodies
 - (c) Encephalitis secondary to liver dysfunction
 - (d) Hemorrhagic stroke
- (xii) Effect of decreased vitamin K on action of warfarin is
- (a) Enhanced anticoagulatory effect
 - (b) Decreased anticoagulatory
 - (c) No effect
 - (d) Unpredictable effect
- (xiii) What equation describes the rate of drug dissolution from a tablet?
- (a) Fick's law
 - (b) Henderson – Hasselbach equation
 - (c) Law of mass action
 - (d) Michaelis – Menten equation
- (xiv) The duration of action of a drug is dependent of its
- (a) Plasma and tissue binding
 - (b) Metabolism
 - (c) Tubular filtration and secretion
 - (d) All the above
- (xv) cAMP is an example of
- (a) Neurohormone
 - (b) Neuromodulator
 - (c) Neuromediator
 - (d) Neurotransmitter
- (xvi) The inhalation anesthetic with the fastest onset of action is
- (a) Enflurane
 - (b) Isoflurane
 - (c) Nitric oxide
 - (d) Nitrous oxide
- (xvii) Following is a tertiary amine anti-muscarinic drug used for Parkinson's disease
- (a) Benztropine
 - (b) Dicyclomine
 - (c) Pirenzepine
 - (d) Tropicamide
- (xviii) Morphine is contraindicated in head injury because
- (a) It does not relieve the pain of head injury
 - (b) It can raise intracranial tension
 - (c) It can cause constipation
 - (d) It is liable to cause addiction

(xix) Earliest sign of aspirin toxicity is

- (a) Tinnitus
- (b) Metabolic acidosis
- (c) Reye syndrome
- (d) Respiratory depression

(xx) Myocardial oxygen demand is increased by all of the following factors except

- (a) Exercise
- (b) Smoking
- (c) Cold temperature
- (d) Propranolol

SECTION – B

2. Answer any Seven questions:

(7 × 5 = 35)

- (a) Write a brief note on renal clearance.
- (b) Briefly describe the significance of plasma protein binding.
- (c) Write a note on cyclic GMP signaling pathway.
- (d) Write a brief note on neuromuscular blocking agents.
- (e) Differentiate between Narcotic and Non- narcotic analgesics.
- (f) Differentiate between General and local anaesthetics.
- (g) Write a brief note on coagulant and anticoagulant.
- (h) Briefly describe the pharmacology of antihistaminic drugs.
- (i) Briefly describe the physiological and pathological role of histamine.

3. Answer any two questions.

(2 × 10 = 20)

- (a) Enumerate the signal transduction mechanism for nuclear hormone receptor.
- (b) Discuss the modes of permeation and transport with their influencing factors.
- (c) Write notes on any two of the following
 - (i) Antiepileptic drugs
 - (ii) Fibrinolytics and anti platelet drugs
 - (iii) Drugs for hyperlipidemia