

Part- 'A'

341452(41)

**B. Pharmacy (Fourth Semester) Examination,
Nov.-Dec. 2019**

(PCI Scheme)

(Pharmacy Branch)

MEDICINAL CHEMISTRY-I

Theory (BP402T)

Time Allowed : Three hours

Maximum Marks : 75

Note : This questions paper contains three parts (A), (B) and (C). Part (A) contains 20 MCQ's of 1 mark each. All questions are compulsory in part A. Part (B) contains 3 long answer questions carry 10 marks each. Attempt only two questions from part B. Part C contain 9 short answer questions carry 5 marks each. Attempt any seven questions from Part C.

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1. Multiple choice questions. Solve all questions. 20×1=

- (i) Medicinal Chemistry is a science whose roots are interlinked with :
- (a) Chemistry and Biology
 - (b) Chemistry and Physics
 - (c) Technology and Biology
 - (d) None of the above
- (ii) The most important Physico-Chemical properties affecting drug action is :
- (a) Partition coefficient
 - (b) Solubility
 - (c) Chelation
 - (d) All of the above
- (iii) pKa is parameter which indicates the :
- (a) Strength of drug as acid base reaction in water
 - (b) Aqueous base in phosphate buffer
 - (c) Hydrophilic and lyphophilic character
 - (d) All of the above

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(iv) To which class of compound do adrenaline, nor-adrenaline and dopamine belongs :

- (a) Phenyl ethylamines
- (b) Barbiturates
- (c) Catecholamine
- (d) Adrenergics

(v) Muscarinic receptor is :

- (a) G-protein coupled receptor
- (b) An ion channel
- (c) A kinase linked receptor
- (d) An intracellular receptor

(vi) The anesthetic, which is used in intravenously is :

- (a) Kitamine
- (b) Halothane
- (c) Nitrous oxide
- (d) All of the above

(vii) Which NSAID is pro drug :

- (a) Ibuprofen

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(b) Aspirin

(c) Acetaminophen

(d) Nabumetone

(viii) Aspirin is converted into salicylic acid in the body by following reaction :

- (a) Hydrolysis
- (b) Oxidation
- (c) Reduction
- (d) Substitution

(ix) The most effective drug in status epileptics in adults is :

- (a) Carbamazepine
- (b) Diazepam
- (c) Ethosuximide
- (d) Clozapine

(x) Sodium valproate is very effective against all of the following excepts :

- (a) Absence seizures

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- (b) Myoclonic seizures
 - (c) Partial seizures
 - (d) Generalized tonic-clonic seizures
- (xi) Hypnotic drugs are used to treat :
- (a) Sleep disorders
 - (b) Psychosis
 - (c) Parkinson's disease
 - (d) Heart diseases
- (xii) Which of the following belongs to long acting barbiturates : <http://www.csvtuonline.com>
- (a) Phenobarbital
 - (b) Thiopental
 - (c) Pentobarbital
 - (d) All of the above
- (xiii) Which of following is natural chemical messenger for adrenergic receptor :
- (a) Acetylcholine
 - (b) Dopamine

- (c) Serotonin
 - (d) Nor adrenaline
- (xiv) Muscarinic sub receptors are types :
- (a) 3
 - (b) 4
 - (c) 5
 - (d) 2
- (xv) Anti psychotic drugs are also known as :
- (a) CNS depressants
 - (b) CNS stimulants
 - (c) Neuroleptics drugs
 - (d) Anti depressants
- (xvi) Epilepsy is disorder of :
- (a) Brain
 - (b) Kidney
 - (c) Heart
 - (d) Liver

(xvii) How many carbon present in morphine structure :

- (a) 14
- (b) 15
- (c) 16
- (d) 17

(xviii) Most common side of NSAID's is :

- (a) GIT disturbances
- (b) Depression
- (c) Both (a) and (b)
- (d) None of the above

(xix) Solubility of drug is polar and non polar solvent depends upon :

- (a) Chemical structure
- (b) Particle size
- (c) Crystal form
- (d) All of the above

(xx) Which of the following substance is the first precursor of adrenaline formation :

- (a) Tyrosine
- (b) DOPA
- (c) Dopamine
- (d) Nor adrenaline

Part- 'B'

(Long Answer Type Questions)

2×10=20

Note : Answer any two questions.

2. (a) How the Physico-chemical properties influences biological activity of drug.
- (b) Write the Classification of Sedative and Hypnotics. Explain the mode of action and SAR of benzodiazepines. Give the synthesis of Diazepam.
- (c) Classify the Cholinergic drugs with suitable examples. Write the synthesis, Storage and release of acetylcholine. Write a note on cholinergic receptor.

Part- 'C'

(Short Answer Type Questions) 7×5=35

Note : Answer any seven questions.

- (a) Write the Synthesis and uses of Carbachol.
- (b) Write the Classification of General anesthetics.
Explain the various stages of general anesthesia.
- (c) Define and Classify the Anti-Convulsant drugs.
Explain mode of action and SAR of Phenytoin.
- (d) Explain the factors affecting drug metabolism
including stereo-chemical aspect.
- (e) Classify the anti-inflammatory agents with suitable
examples. Give synthesis of Mefenamic acid.
- (f) Explain the biosynthesis and catabolism of
Catecholamine.
- (g) Define the Narcotics analgesics. Write a note on
Morphine.

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- (h) Classify the Adrenergic drugs with suitable
examples. Write a note on β -blockers.
- (i) Give the synthesis and uses of Phenylephrine OR
Salbutamol.

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