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B.Pharm 4<sup>th</sup> Semester(Repeater) Examination

MEDICINAL CHEMISTRY-I (THEORY)

(New Regulation)

Full Marks – 75

Time – Three hours

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

I. Answer the following MCQs:

(20 × 1 = 20)

1. (i) Which of the following is an aryl acetic acid derivative?
  - (a) Aceclofenac
  - (b) Sulindac
  - (c) Nabumetone
  - (d) Naproxen
- (ii) Which of the following drug undergoes metabolism via glutathione conjugation?
  - (a) Sulphonamides
  - (b) Ethacrynic acid
  - (c) Glycine
  - (d) Hydralazine
- (iii) Which of the following is the drug of choice in mushroom poisoning?
  - (a) Atropine
  - (b) Hyoscine
  - (c) Meprobamate
  - (d) Both (b) and (c)
- (iv) Only anticholinergic given in the form of inhalation is:
  - (a) Propantheline
  - (b) Ipratropium bromide
  - (c) Tropicamide
  - (d) Telenzepine

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- (v) The precursor molecule of adrenaline is:
- Phenylalanine
  - Arginine
  - Aspartame
  - Tryptophan
- (vi) Which of the following is  $\alpha_2$  selective antagonist?
- Prazosin
  - Yohimbine
  - Terazosin
  - Phentolamine
- (vii) Which of the following adrenergic drug is not used as uterine relaxant?
- Mazindol
  - Ritodrine
  - Salbutamol
  - Terbutaline
- (viii) Which of the following is a dopamine agonist?
- Benserazide
  - Ropinirole
  - Bromocriptine
  - Both (b) and (c)
- (ix) Most of the antipsychotics block \_\_\_\_\_ receptor
- D<sub>1</sub>
  - D<sub>2</sub>
  - D<sub>3</sub>
  - D<sub>4</sub>
- (x) \_\_\_\_\_ is a combined COX-LOX inhibitor.
- Dazoxiben
  - Licofelone
  - Daltroban
  - None of the above
- (xi) Which of the following is an ultrashort acting barbiturates?
- Thiopental
  - Secobarbital
  - Phenobarbitone
  - Amylobarbitone
- (xii) The drug of choice in trigeminal neuralgia is :
- Carbamazepine
  - Phensuximide
  - Both (a) and (b)
  - Trimethadione

- (xiii) Which of the following is the shortest acting opioid analgesic?
- (a) Alfentanil
  - (b) Diphenoxylate
  - (c) Hydrocodone
  - (d) Codeine
- (xiv) Which of the following is the drug of choice in Gilles-de-la Tourettes syndrome?
- (a) Thioridazine
  - (b) Chlorpromazine
  - (c) Haloperidol
  - (d) Promazine
- (xv) \_\_\_\_\_ is the benzodiazepine with longest half life,
- (a) Flurazepam
  - (b) Midazolam
  - (c) Triazolam
  - (d) Temazepam
- (xvi) Which of the following is specific benzodiazepine receptor antagonist?
- (a) Flumazenil
  - (b) Zopiclone
  - (c) Buspirone
  - (d) Zolpidem
- (xvii) Which of the following anti-epileptic drug inhibits T type  $Ca^{2+}$  current?
- (a) Ethoximide
  - (b) Valproate
  - (c) Zonisamide
  - (d) All of the above
- (xviii) Battler's syndrome can be effectively treated with
- (a) Indomethacin
  - (b) Sulindac
  - (c) Naproxen
  - (d) Nabumetone

(xix) Which of the following NSAIDs is mainly given to reduce the pain against menstrual women?

- (a) Mefenamic acid
- (b) Nabumetone
- (c) Phenylbutazone
- (d) Sulindac

(xx) Which of the following antipsychotics cause least extrapyramidal side-effect?

- (a) Clozapine
- (b) Thioridazine
- (c) Trifluoperazine
- (d) Flupenthixol

II. Attempt short answers (Answer any seven): (7 × 5 = 35)

2. Explain ionization and protein binding in relation to biological action.
3. What are the factors affecting drug metabolism?
4. Distinguish between Sympathetic and parasympathetic nervous system.
5. Classify sympathomimetic agents.
6. Write a note on distribution of adrenergic receptors.
7. Write the SAR of parasympathomimetic agents.
8. What are the stages of anesthesia?
9. Give the MOA of anti-epileptic agents.
10. Write the synthesis of Carbamazepine and Diazepam.

III. Attempt long answers (Answer any two): (2 × 10 = 20)

11. Discuss phase I and phase II metabolism with reactions.
12. Classify NSAIDs and draw some of its structure.
13. Explain the biosynthesis and metabolism of adrenaline with chemical reactions.