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2022

B.Pharm. 5th Semester End-Term Examination

Pharmacy

Medicinal Chemistry – II

Theory

(New Regulation)

Full Marks – 75

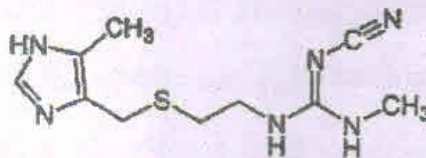
Time – Three hours

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

1. Multiple Choice Questions (MCQ)
(Answer all questions.)

(20 × 1 = 20)

(i) Identify the structure below:



- (a) Ranitidine (b) Cimetidine
(c) Famotidine (d) Roxatidine

(ii) Renin is secreted from _____

- (a) Juxtaglomerular apparatus (b) PCT
(c) DCT (d) Collective Ductus

(iii) The process of spreading of cancer is termed as _____

- (a) Delocalization (b) Carcinogenesis
(c) Metastasis (d) Mutagenesis

(iv) Which one of the following is not an adverse effect of ACE inhibitor?

- (a) Cough (b) Hypokalemia
(c) Angioneurotic edema (d) Skin rash

[Turn over

- (v) Which of the following drugs is best for reducing proteinuria in a diabetic patient?
- (a) Metoprolol (b) Perindopril
(c) Chlorthiazide (d) Clonidine
- (vi) Which of these is not an antimetabolite?
- (a) Mercaptopurine (b) Fluorouracil
(c) Dactinomycin (d) None of these
- (vii) Proton pump inhibitors like Omeprazole and Lansoprazole contain the following ring system
- (a) Pyridine (b) Benzimidazole
(c) Benzthiazole (d) Oxindole
- (viii) Angiotensin II causes all except
- (a) Stimulates release of ADH (b) Increases thirst
(c) Vasodilation (d) Stimulates aldosterone release
- (ix) Amlodipine, Nifedipine belongs to the category of _____.
- (a) 1,3-Dihydropyridine (b) 1,5-Dihydropyridine
(c) 1,2-Dihydropyridine (d) 1,4-Dihydropyridine
- (x) Methimazole is a _____.
- (a) Antidiabetic drug (b) Antithyroid drug
(c) Antiangina drug (d) None of the above
- (xi) Heterocyclic ring present in Furosemide is
- (a) Pyridine (b) Furan
(c) Pyrimidine (d) Thiophene
- (xii) Which of the following histamine receptors increases release of Gastric Acid?
- (a) H1 receptor (b) H2 receptor
(c) H3 receptor (d) H4 receptor

(xiii) The mechanism of action of cardiac glycoside is

- (a) Activates adenyl cyclase
- (b) Stimulates guanyl cyclase
- (c) Inhibits Na^+/K^+ ATPase enzyme
- (d) Increase level of cyclic AMP

(xiv) Tadalafil is a _____.

- (a) PDE_5 - Inducer
- (b) PDE_5 - Inhibitor
- (c) Calcium channel blocker
- (d) Potassium channel opener

(xv) In the SAR of Progesterone, introduction of _____ group at 21 position decreases activity.

- (a) Amine
- (b) Carbonyl
- (c) Amide
- (d) Fluoro

(xvi) _____ is an example of alkylating agent

- (a) Cyclophosphamide
- (b) Cytarabin
- (c) 5- Flurouracil
- (d) Methotrexate

(xvii) Disopyramide is synthesized from _____

- (a) 1,4 — nitrobenzoic acid
- (b) 2,6 — dimethylbeazene amine
- (c) 2,6 — dimethyl aniline
- (d) Phenylacetone nitrile

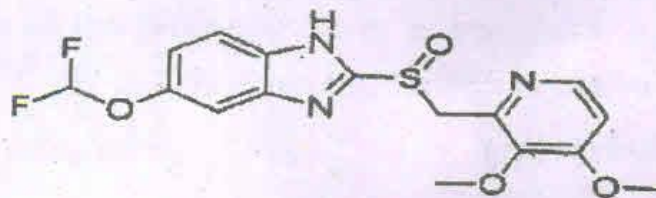
(xviii) Lidocaine works by blocking _____

- (a) Potassium channels
- (b) Sodium channels
- (c) Calcium channels
- (d) All of the above

(xix) Presence of which chain in H1 antihistaminics drugs can decrease the activity.

- (a) Ethylene chain
- (b) Methylene chain
- (c) Branched chain
- (d) None of the above

(xx)



The above structure is

- (a) Omeprazole (b) Lansoprazole
(c) Pantoprazole (d) Rabeprazole

2. Answer any seven questions.

(7 × 5 = 35)

- (a) What are coagulants and anticoagulants? Write the synthesis of warfarin.
(b) Outline the synthesis of Mercaptopurine and Meclorothamine.
(c) What are loop diuretics? Give two examples. Explain the mechanism of action of loop diuretics. (1 + 1 + 3)
(d) Describe the nomenclature and stereochemistry of steroids.
(e) Explain in detail about histamine receptors and their biological importance.
(f) Give an account on SAR of Local Anaesthetic agents.
(g) Define the term hypoglycemic agents. Outline the synthesis of Tolbutamide. (2 + 3)
(h) Classify Anti anginal drugs with suitable examples.
(i) Write a note on drugs used in Congestive Heart Failure.

3. Answer the following questions : (any two)

(2 × 10 = 20)

- (a) Define and classify antihistaminic agents with suitable examples and explain the synthesis of diphenhydramine HCl. (5 + 5)
(b) Define and Classify antihypertensive agents? Explain the MOA of Angiotensin Receptor Blockers. Write the synthesis of Methyl Dopa. (5 + 2 + 3)
(c) What are steroids? Write the structure and uses of
(i) Mifepristone
(ii) Prednisolone
(iii) Testosterone
(iv) Sildenafil
(v) Nandralone. (2 + 8)