Dec, 2019

Total No. of printed pages = 8

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Roll No. of candidate | | | | | | | | | | |

2019

B.Pharm 5th Semester End-Term Examination

MEDICINAL CHEMISTRY — II

(New Regulation)

(w.e.f. 2017-2018)

Full Marks – 75 Time – Three hours

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

GROUP – A

I. Multiple choice questions : (20 × 1 = 20)

1. (i) The antidiabetic drug also effective in lowering the cholesterol level is
   (a) Phenformin
   (b) Repaglinide
   (c) Chlorpropamide
   (d) Rosiglitazone

   (ii) Mustine acts by
   (a) Damage DNA by crosslink
   (b) Prevent DNA synthesis by attachment of alkyl group
   (c) Induction of mispairing of the nucleotides
   (d) All the above

[Turn over

(iii) Doxorubicin belongs to the subclass

(a) Folic acid antagonists

(b) Anthracyclins

(c) Purine analogues

(d) Nitrsoureas

(iv) Which of the following cardiovascular drug has a pyridine ring?

(a) Procainamide

(b) Disopyramide

(c) Both the above

(d) None of the above

(v) Introduction of which of the following group confers oral activity on testosterone

(a) 17 α methyl group

(b) 17 α ethyl group

(c) 17 α acyl group

(d) I7 α amine group

(vi) Structure of cardenolides contain

(a) 23 carbon atoms with (delta) δ -lactone ring

(b) 23 carbonatoms with (gama) γ -lactone ring

(c) 24 carbon atoms with (delta) δ -lactone ring

(d) 24 carbon atoms with (gama) γ -lactone ring

(vii) Triamcinolone is a 16α hydroxyl prednisolone which contain fluorine atom at

(a) C-8

(b) C-5

(c) C-7

(d) C-9

(viii) Carbon chain of typical H-1 antagonists consists of

(a) 4 carbon atoms

(b) 5-6 carbon atoms

(c) 2-3 carbon atoms

(d) 4-5 carbon atoms

(ix) Angiotensin III is formed by the removal of _____ from Angiotensin II.

(a) N-terminal asperginate

(b) N-terminal glycinate

(c) N-terminal aspertate

(d) N-terminal glutamate

(x) Sulfahydryl containing ACE inhibitors such as Captopril causes

(a) Increase in plasma rennin activity

(b) Decrease in plasma rennin activity

(c) Complete inhibition of plasma rennin activity

(d) No effect on the plasma rennin activity

(xi) Chemically Histamine is

(a) 3-(2-aminoethyl)imidazoline

(b) 3-(2-aminoethyl)imidazoline

(c) 4-(2-aminoethyl)imidazoline

(d) 4-(2-aminopropyl)imidazoline

(xii) Which of the following structural component is not essentially present in the structure of local anaesthetics

(a) lipophillic aromatic group

(b) connecting group which is either an ester or an amide

(c) a reducible ketonic group

(d) an ionizable amino group

(xiii) Which of the following is a steroidal antiestrogen drug

(a) Mifepristone

(b) Tamoxifen

(c) Nilutamide

(d) Fulvestrant

(xiv) In Melphalan, nitrogen mustard moiety is mounted on amino acid ————————

(a) Phenylalanine

(b) Serine

(c) Alanine

(d) None of the above

(xv) Point out the correct statement the MOA of abortifacients

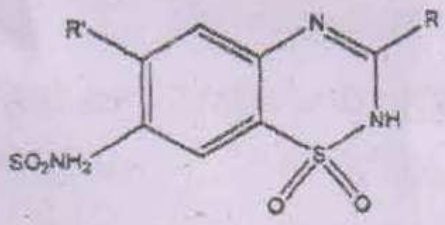
(a) Increases the secretion of Progesterone from corpus Luteum

(b) Decreases the level of Prostaglandin which stimulates uterine contraction

(c) Both (a) and (b)

(d) None of the above

(xvi) In the following structure of thiazide diuretics, substitution in which position has effect on determining the potency and duration of action of the drug.



(a) Position 3

(b) Position 2

(c) Position 8

(d) Position 6

(xvii) Which of the following is the halogen derivatives of testosterone?

(a) Bolasterone

(b) Testosterone propionate

(c) Halotestin

(d) Methonolone

(xviii) All the proton pump inhibitors gets protonated and finally converts to ———— which in turn froms a ———— linkage with H^+K^+ ATPase.

(a) Sulphenic acid and S-N linkage

(b) Sulphenic acid and S-S linkage

(c) Sulphehamide and S-N linkage

(d) Sulphenamide and S-S linkage

(xix) Which one of the following diuretics acts on loop of Henle?

(a) Spironolactone

(b) Ethacrynic acid

(c) Clorexolone

(d) Dichlorphenamide

(xx) Synthetic statin derivatives is

(a) Lovastatin

(b) Simvastatin

(c) Fluvastatin

(d) pravastatin

GROUP – B

2. Answer the following questions (any *seven*) : $(7 \times 5 = 35)$

(a) Classify steroids. Write the biosynthesis of steroids.

(b) Structurally explain the mechanism of action of alkylating agents. Give the example along with structure, uses and adverse action of two alkylating drugs.

(c) What are proton pump inhibitors? Structurally discuss the mechanism of action of these drugs. Give the name along with structure of two drugs under this classification.

(d) Write the Nomenclature system of steroids.

(e) Write the synthesis and uses of

(i) Triprolidine hydrochloride

(ii) Acetazolamide.

(f) Classify Local Anaesthetics and write about its MOA. Write the SAR of benzoic acid derivatives of local anesthetics.

(g) Write down the classification of oral hypoglycaemic agent. Write the synthesis. MOA and uses of Tolbutamide.

(h) Discuss the chemistry and action of the following pair of drugs

(i) Fexofenadine and Terfenadine

(ii) Betamethasone and Dexamethasone

(i) Write short note on :

(i) Dual acting antihistaminics

(ii) Anti thyroid drugs

(iii) Non steroidal Oestrogens

3. Answer any *two* questions : (2 × 10 = 20)

(a) Discuss the stereochemistry of steroids. What are androgens? Give the SAR of testosterone. (7 + 1 + 2 = 10)

(b) Discuss the mechanism of action and SAR of various antimetabolites under antineoplastic classifications. Write synthesis and uses of Methotrexate and Mercaptopurine. (5 + 5 = 10)

(c) Define and categorise hypertension. Classify Antihypertensive drugs. Write the synthesis and uses of Furosemide, Warafin and Nitroglycerin. (3 + 2 + 5 = 10)
