Total No. of printed pages = 4

BP 601 T

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

2023

B.Pharm. 6th Semester End-Term Examination

MEDICINAL CHEMISTRY — III

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) Which of the Following Antibiotic Functions as Cell Wall Inhibitors:

(a) Penicillin (b) tetracycline

(c) trimethoprim (d) Ciprofloxacin

(ii) The most important side-effect of the Penicillins is

(a) Gastrointestinal disturbances

(b) Ototoxicity

(c) Hypersensitivity reactions

(d) Hepatotoxicity

(iii) Which of the antimalarials used for liver stage of the disease?

(a) Chloroquine (b) Primaquine

(c) Mefloquine (d) Artimisinin

(iv) Sulphonamides essentially worked by binding and inhibiting

(a) DHPS (b) DHP

(c) THF (d) DPPS

(v) The anti fungal drugs which forms pores in the fungal ergosterol membrane_____

(a) Griseofulvin (b) Miconazole

(c) Ketokonazole (d) Amphotericin-B

[Turn over

(vi) The azabicyclo [4.2.0] ring system is observed in

(a) Cephalosporin

(b) Penicillin

(c) Tetracycline

(d) Carbapenams

(vii) In most of the Fluoroquinolones the Fluorine group is found in which position.

(a) 6^{th} (b) 5^{th}

(c) 7^{th} (d) 4^{th}

(viii) The ring system present in Isoniazid is

(a) Pyridine (b) Piperidine

(c) Pyrrole (d) None of the above

(ix) The starting material for the synthesis of Ciprofloxacin is

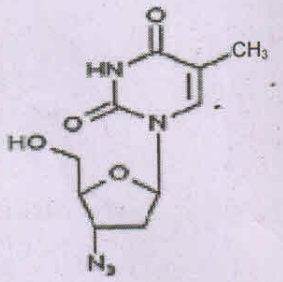
(a) 2,4,5-trifluorobenzoylchloride

(b) 2,4,5-trifluorobenzylchloride

(c) 1,3,5-trifluorobenzylchloride

(d) 1,3,5-trifiuorobenzoylchloride

(x) The following is the structure is an example of potent anti-viral drug named



(a) Zidovudine (b) Acyclovir

(c) Lamivudine (d) Ganciclovir

(xi) The Penicillin has a carboxylic acid group placed at the position:

(a) C-2 (b) C-3

(c) C-5 (d) C-7

(xii) The first step in the drug discovery process is

(a) Lead optimization (b) Lead identification

(c) Lead validation (d) Lead modification

(xiii) All are prodrugs accept

(a) Alprazolam (b) Propranolol

(c) Valacyclovir (d) Omiprazole

(xiv) Monobactam is resistance to most

(a) Penicillinase

(b) β -lactamase

(c) Gram negative bacterias

(d) Vancomycin

(xv) The drug used to treat multi drug resistance TB is

(a) Isoniazid

(b) Ethionamide

(c) Rifampin

(d) All of the above

(xvi) Itraconazole is a

(a) Imidazole

(b) Triazole

(c) Both

(d) None of the above

(xvii) Iodoxuridine is a

(a) Pyrimidine

(b) Purine

(c) Thiosemicarbazones

(d) Adamantane

(xviii) PAS is -

(a) Bacteriostatic

(b) bactericidal

(c) Both

(d) None of the above

(xix) Major side effect of INH is

(a) Peripheral neuropathy

(b) Crystaluria

(c) Liver damage

(d) Metabolic syndrome

(xx) The ratio of Trimethoprim and Sulphomethoxazole in Cotrimoxazole is

(a) 1:5

(b) 2:5

(c) 5:1

(d) 5:3

2. Long answers (Answer *two* out of 3) (2 × 10 = 20)

(a) Discuss the classification, MOA and SAR of Sulphonamides drugs. Give the synthesis of anyone drug from the classification. Write short note on sulphones with example. (5+3+2 = 10)

(b) Write short notes on: (any *four*) (4 × 2.5 = 10)

(i) Molecular docking

(ii) Tafts steric parameter

(iii) Solid phase synthesis

(iv) QSAR

(v) Pharmacophore modelling

(c) Write the nomenclature, SAR, MOA and classification of B-lactam antibiotics. Write synthesis of anyone drug of this class. (2+2+2+2+2=10)

3. Short answers (Answer *seven* out of 9) (7 × 5 = 35)

(a) Discuss the SAR of Tetracyclines with examples.

(b) Classify antiviral drugs. Write the synthesis of acyclovir.

(c) Write a note on degradation of Penicillin.

(d) Write the etiology of Malaria. Write a short note on artimisinin.

(e) Write a short note on B- lactamase inhibitors.

(f) Write the classification, MOA and SAR of Fluoroquinolones.

(g) Write the synthesis of the following drugs:

(i) Chloroquine

(ii) Isoniazid

(h) Write a note on different types anthelmintic drugs. Write the synthesis of DEC.

(i) Write a note on UTI drugs with structural example.