BRAINWARE UNIVERSITY

Term End Examination 2021 - 22
Programme – Bachelor of Pharmacy
Course Name – Medicinal Chemistry III
Course Code - BP601T
(Semester VI)

Time : 1 Hr.30 Min. **Full Marks : 75**

[The figure in the margin indicates full marks.]

Group-A

(Multiple Choice Type Question) 1 x 75=75

Choose the correct alternative from the following :

(1) Alkali hydrolysis of Penicillin produces

a) Penicillenic acid
b) Penillic acid
c) Penicilloic acid
d) Penilloic acid

(2) Clavulanic acid has a beta lactum ring fused with

a) Clavulanic acid has a beta lactum ring fused with
b) Thiadiazole system
c) Oxazolidine system
d) d.Thiazolidine

(3) Substitution of bulky groups on the alpha carbon of side chain of Penicillin provides

a) beta lactamase resistance
b) . acid resistance
c) Penicillinase resistance
d) both (a) and (b)

(4) An electron withdrawing substituent on the alpha carbon of side chain of Penicillin pro vides

a) beta lactamase resistance
b) acid resistance
c) Penicillinase resistance
d) both (a) and (b)

(5) The cephalosporin with the highest activity against gram positive cocci is

a) Cefaclor
b) Cephalothin
c) Cefuroxime
d) Cefepime

(6) Which of the following is considered to be bacteriostatic?

a) Penicillin
b) Chloramphenicol
c) Ciprofloxacin
d) Cefoxitin

(7) Flucloxacillin

a) Is ineffective against streptococci
b) Is active against enterococci and anaerobes
c) Blocks transpeptidation and inhibits peptido
d) Is poorly absorbed orally

glycan synthesis

(8) Aminoglycosides

a) Have a β lactam ring
b) Can produce neuromuscular blockade
c) Are DNA gyrase inhibitors
d) Normally reach high CSF concentrations

(9) Benzyl penicillin is also known as

a) Penicillin - G
b) Penicillin - V
c) Penicillin - F
d) Penicillin - K.

(10) Which semi synthetic penicillin is bactericidal in nature?

a) oxacilline
b) cloxacillin
c) amoxicillin
d) penicillin V

(11) Which semi synthetic penicillin is used in pseudomonous infection?

a) oxacilline
b) cloxacillin
c) amoxicillin
d) carbenicillin

(12) Which antibiotic is used against septicaemia?

a) oxacilline
b) gentamycin
c) amoxicillin
d) carbenicillin

(13) What is the full form of 6-APA?

a) 6-amino penicillanic-acid
b) 6-amino penicilloic-acid
c) 6-amino penicillanic-anhydride
d) 6-aceto penicillanic-acid

(14) Chloroquine act by inhibiting following enzyme

a) DNA and RNA polymerase
b) DNA gyrase
c) Dihydro folate reductase
d) DNA

(15) Following drugs have a asymmetric centre except

a) Primaquin
b) Pamaquin
c) Quinocide
d) Pentaquin

(16) Clindamycin

a) Inhibits bacterial cell wall synthesis
b) Is often used for prophylaxis of endocarditis in patients with Valvular disease who are undergoing dental procedures
c) Penetrates through BBB into CSF well
d) Works well against enterococci and gram negative aerobic organisms

(17) Ribosomal resistance occurs with

a) Sulphonamides
b) Penicillin
c) Fluoroquinolones
d) Macrolides

(18) Which of the following is an ester?

a) aspirin
b) methadone
c) methoxyflurane
d) adrenaline

(19) Esterification of –OH group in a drug may lead to

a) Destabilization
b) Degradation
c) Prodrug formation
d) Epimerization

(20) Starting material for the synthesis of chloroquine is

a) p-chloro aniline
b) m-chloro aniline
c) o-chloro aniline
d) aniline.

(21) The structure of biguanides contain

a) 6 nitrogen atoms
b) 5 nitrogen atoms
c) 3 nitrogen atoms
d) 7 nitrogen atoms

(22) Quinine structurally
a) (+) 8S : 9R isomer
b) (−) 8R : 9S isomer
c) (−) 7S : 8R isomer
d) (+) 7S : 8R isomer

(23) Ethambutol is used to treat
a) hypertension
b) tuberculosis
c) poisoning
d) HIV

(24) PAS is
a) Para-amino-sulfuric acid
b) Para-amino-sorbitol
c) Para-amino-salicylic acid
d) Para-amino-sufonamide

(25) Mode of action of Biguanides
a) Cross linking inhibition
b) dihydrofolate reductase inhibition
c) Protein synthesis inhibition
d) Microtubule damaging

(26) Regarding fluoroquinolones
a) Ciprofloxacin is ineffective in the treatment of gonococcus
b) Norfloxacin and Ciprofloxacin are predominantly faecally excreted
c) Norfloxacin and Ciprofloxacin have long half lives (12 hours)
d) May damage growing cartilage in children less than 18 years of age

(27) Regarding resistance to antibiotics
a) Penicillinases cannot inactivate cephalosporins
b) Macrolides can be inactivated by transferases
c) Mutation of aminoglycoside binding site is its main mechanism of resistance
d) Tetracycline resistance is a marker for multi drug resistance

(28) Concerning toxicity of antibiotics
a) Enamel dysplasia is common with aminoglycosides
b) . Grey Baby Syndrome occurs with rifampicin use
c) A disulfiram like reaction can occur with macrolides
d) Haemolytic

(29) Influenza causing virus is
a) Herpes virus
b) Orthomyxovirus
c) Retrovirus
d) Adenovirus

(30) Which of the following moieties are present in the structure of acyclovir ?
a) Adenine
b) Cytosine
c) Guanine
d) Thymine

(31) Amantadine is used as
a) anti-viral drug
b) anthelmintic drug
c) antiprotozoal drug
d) antibacterial drug.

(32) Stavudine is a / an
a) Antimetabolite
b) HIV protease inhibitor
c) Reverse transcriptase inhibitor
d) DNA polymerase inhibitor

(33) The antiviral drug which is a thiazole analogue is
a) Nelfinavir
b) Ritonovir
c) Saquinavir
d) Loviride

(34) Which of the following is not a 4-amino quinoline

a) Amodiaquine
b) Mefloquine
c) Primaquine
d) Chloroquine

(35) Zalcitabine is an analog of

a) cytosine
b) guanine
c) uracil
d) adenine

(36) Which antibiotic is used against both TB and leprosy?

a) ampicillin
b) cloxacillin
c) amoxicillin
d) rifampicin

(37) Nalidixic acid is used in

a) urinary tract infection
b) Malaria
c) Fungal infection
d) none

(38) Tuberculous meningitis involves

a) respiratory system
b) nervous system
c) GI tract
d) none

(39) Amikacin is a

a) semisynthetic aminoglycoside
b) synthetic aminoglycoside
c) natural aminoglycoside
d) none

(40) NOT an example of NRTI

a) Aciclovir
b) Ganciclovir
c) Nevirapine
d) Abacavir

(41) Example of HIV protease inhibitors

a) Abacavir
b) Ritonavir
c) Aciclovir
d) Ganciclovir

(42) Which one of the following contains Thioimidazole structure ?

a) Levamisole
b) Thiabendazole
c) Mebendazole
d) Albendazole

(43) Malaria is caused by

a) Bacteria
b) Virus
c) Protozoa
d) All of these

(44) Cycloguanil acts by

a) 30 S ribosomal inhibition
b) dihydrofolate reductase inhibition
c) 50 S ribosomal inhibition
d) Protein synthesis inhibition

(45) Which sulphonamide is not used in diuretics?

a) Tolbutamide
b) Bumetanide
c) Chlorthalidone
d) Furesemide

(46) Sulfonamides are metabolized by humans principally by

a) Acetylation
b) Deamination
c) Oxidation
d) Conjugation

(47) Which is/are the major side effect of sulfonamide?

a) Crystalurea
b) Peripheral neuritis
c) Kernictus
d) All of the above

(48) Which is basic ring present in sulfomethoxazole?

a) Oxazole
b) Isoxazole
c) Thiazole
d) None of the above

(49) Which is the basic ring present in sulfadiazine?

a) Pyridine
b) Pyrimidine
c) Pyridazine
d) Piperidine

(50) Thyroid function is regulated by

a) TSH
b) THS
c) GTH
d) ACTH

(51) Cyclopropane having the formula

a) C4H4
b) C2H4
c) C3H6
d) C4H8

(52) All of the following are true regarding metronidazole EXCEPT

a) It is used to treat giardia
b) It causes a metallic taste in the mouth
c) It inhibits alcohol dehydrogenase
d) It is used to treat gardnerella

(53) Diethylcarbamazine Citrate is which class of drug

a) Antiviral
b) Antifungal
c) Anthelmintic
d) Sulfonamide

(54) Albendazole contains which of the following

a) Imidazole
b) Fural
c) Thazolidine
d) Benzimidazol

(55) Natural anthelmintic agent is

a) Avermectin
b) Metrifonate
c) Levamisole
d) Niridazole

(56) Pyrethrum and Pyrethroids comes under

a) Anthelmintic
b) Antiviral
c) Antibacterial
d) Cardiovascular agents

(57) In vivo, prontosil is converted to

a) Sulphanilamide
b) Sulphacetamide
c) Sulphadiazine
d) Sulphathiazole

(58) Glibenclamide belongs to the class

a) Thiazolidinediones
b) Sulphonyl ureas
c) Benzoic acid derivatives
d) Biguanides

(59) The chemical name of sulphadiazine is

a) N 1 -2-pyrimidinylsulphanilamide
b) N 1 -5-methyl-3-isooxazolylsulphanilamide
c) N 1 -2-pyridylsulphanilamide
d) N 1 -acetylsulphanilamide.

(60) An azole most commonly used for topical treatment of candidiasis

a) amphotericin B
b) clotrimazole
c) griseofulvin
d) flucytosine

(61) The process by which DNA is copied to produce two daughter DNA molecules is...

a) translation
b) transcription
c) reproduction
d) replication

(62) Which of the following is one of the rules in Lipinski's rule of five?

a) A molecular weight equal to 500
b) No more than five hydrogen bond acceptor g

roups

c) No more than 10 hydrogen bond donor grou ps

d) A calculated logP value less than +5

(63) Which of the following descriptions most accurately describes binding sites and bindin g regions?

a) a binding site is part of a binding region

b) a binding region is part of a binding site

c) a binding region is the same as a binding site

d) a binding region is on a drug whereas a bindi ng site is on a macromolecular target

(64) Identify the kind of interactions that are typically involved in binding a drug to the bind ing site of a protein.

a) predominantly van der Waals interactions

b) predominantly ionic bonds

c) predominantly hydrogen bonds

d) a combination of all of the above

(65) Which of the following statements best describes a lead compound?

a) A compound that contains the element lead

b) A compound that contains the element lead

c) A molecule that shows some activity or prop erty of interest and serves as the starting poin t for the development of a drug.

d) The first compound of a structural class of c ompounds to reach the market.

(66) What does the symbol P represent in a QSAR equation?

a) pH

b) plasma concentration

c) partition coefficient

d) prodrug

(67) What is the symbol π in a QSAR equation?

a) The hydrophobicity of the molecule

b) The electronic effect of a substituent

c) The substituent hydrophobicity constant

d) A measure of the steric properties for a subst ituent

(68) A measure of the steric properties for a substituent

a) Molar refractivity is a steric factor

b) Molar refractivity is an electronic factor

c) Molar refractivity is a hydrophobic factor

d) Molar refractivity is a stereoelectronic factor

(69) What software programme is used to determine the Verloop steric parameter?

a) Alchemy

b) Chem3D

c) Sterimol

d) ChemDraw

(70) What does a negative value of σ signify for a substituent?

a) It is electron donating

b) It is electron withdrawing

c) It is neutral

d) It is hydrophobic

(71) Which of the following statements is untrue when comparing 3D QSAR with conventi onal QSAR?

a) Only drugs of the same structural class shoul d be studied by 3D QSAR or QSAR

b) 3D QSAR has a predictive quality unlike QS AR.

c) Experimental parameters are not required by 3D QSAR, but are for QSAR.

d) Results can be shown graphically in 3D QS AR, but not with QSAR.

(72) Full form of QSAR

a) Qualitative structure–activity retention

b) Quantitative structure–activity retention

c) Qualitative structure–activity relationship

d) Quantitative structure–activity relationship

(73) Which of the following is NOT a stage of Combinatorial chemistry?

a) finding a lead compound

b) structure-activity relationships of the lead co mpound

c) optimising a lead compound

d) structure determination of the lead compoun

d

(74) Combinatorial chemistry can be useful at various stages of the drug design / developme nt process. Which of the following is such a stage?

a) Purifying a lead compound
b) Optimising a lead compound
c) Structure determination
d) Pharmacological testing

(75) Chloroquine act by inhibiting following enzyme

a) DNA and RNA polymerase
b) DNA gyrase
c) Dihydro folate reductase
d) DNA