



BRAINWARE UNIVERSITY

Term End Examination 2021 - 22

Programme – Bachelor of Pharmacy

Course Name – Medicinal Chemistry III

Course Code - BP601T

(Semester VI)

Time allotted : 1 Hrs.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) Lipophilicity of Tetracycline increases by esterification of – OH group at position

a) C – 5	b) C – 10
c) C – 6	d) C – 12
- (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) All of the following antibiotics bind to the 50S subunit of the ribosome thereby inhibiting protein synthesis EXCEPT

a) Chloramphenicol	b) Erythromycin
c) Linezolid	d) Doxycycline
- (4) 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)
- (5) An electron withdrawing substituent 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)
- (6) Which of the following is NOT a second generation cephalosporin?

a) Ceftazidime	b) Cephalothin
c) Cefotaxime	d) Cefaclor
- (7) Which of the following is considered to be bacteriostatic?

- a) Penicillin
c) Ciprofloxacin
- (8) Flucloxacillin
a) Is ineffective against streptococci
c) Blocks transpeptidation and inhibits peptidoglycan synthesis
- (9) Benzyl penicillin is also known as
a) Penicillin - G
c) Penicillin - F
- (10) The penicillins have a carboxylic acid group placed at
a) C-3
c) C-6
- (11) Demeclocycline differs from chlortetracycline only by
a) absence of - CH₃ group on carbon 6
c) absence of - N (CH₃)₂ group on carbon 4
- (12) Tetracycline is contraindicated with
a) iron
c) magnesium containing drug
- (13) What is the full form of 6-APA?
a) 6-amino penicillanic-acid
c) 6-amino penicillanic-anhydride
- (14) Penicillin on β -lactamase degradation produces
a) Transpeptidase
c) Penicillinase
- (15) Chloroquine act by inhibiting following enzyme
a) DNA and RNA polymerase
c) Dihydro folate reductase
- (16) Clindamycin
a) Inhibits bacterial cell wall synthesis
c) Penetrates through BBB into CSF well
- (17) Ribosomal resistance occurs with
a) Sulphonamides
c) Fluoroquinolones
- (18) Which of the following is an ester?
a) aspirin
c) methoxyflurane
- (19) Esterification of -OH group in a drug may lead to
a) Destabilization
c) Prodrug formation
- (20) Chloramphenicol is obtained from
b) Chloramphenicol
d) Cefoxitin
- b) Is active against enterococci and anaerobes
d) Is poorly absorbed orally
- b) Penicillin - V
d) Penicillin - K.
- b) C-2
d) C-7
- b) presence of - OH group on carbon 6
d) absence of - OH group on carbon 3
- b) calcium containing antacid
d) all
- b) 6-amino penicilloic-acid
d) 6-aceto penicillanic-acid
- b) β -Lactamase
d) peptidoglycan synthase
- b) DNA gyrase
d) DNA
- b) Is often used for prophylaxis of endocarditis in patients with Valvular disease who are undergoing dental procedures
d) Works well against enterococci and gram negative aerobic organisms
- b) Penicillin
d) Macrolides
- b) methadone
d) adrenaline
- b) Degradation
d) Epimerization

- a) *Streptomyces capreolus*
 c) *Streptomyces orchidaceus*
- b) *Streptomyces venezulae*
 d) *Streptomyces griseus*
- (21) Primaquine is a derivative of
 a) 4-aminoquinoline
 c) 2, 4-diaminopyrimidine
- b) 8-aminoquinoline
 d) 8-hydroxyquinoline
- (22) The structure of biguanides contain
 a) 6 nitrogen atoms
 c) 3 nitrogen atoms
- b) 5 nitrogen atoms
 d) 7 nitrogen atoms
- (23) Sugars are linked to the central moiety of macrolides by
 a) C- glycosidic bond
 c) N- glycosidic bond
- b) O- glycosidic bond
 d) S- glycosidic bond
- (24) Modification at the primary alcoholic group on C-1 atom of Chloramphenicol results in
 a) Increase in activity
 c) No change in activity
- b) decrease in activity
 d) Abolishing activity
- (25) Amodiaquine comes under
 a) 6-Chloro-4-Amino Quinolines
 c) 7-Chloro-5-Amino Quinolines
- b) Chloro-4-Amino Quinolines
 d) 6-Chloro-5-Amino Quinolines
- (26) Ethambutol is used to treat
 a) hypertension
 c) poisoning
- b) tuberculosis
 d) HIV
- (27) PAS is
 a) Para-amino-sulfuric acid
 c) Para-amino-salicylic acid
- b) Para-amino-sorbitol
 d) Para-amino-sulfonamide
- (28) Artemether is used in
 a) Glaucoma
 c) malaria
- b) Tuberculosis
 d) dysentery
- (29) Kaposi's Sarcoma is associated with
 a) Diabetes
 c) Tuberculosis
- b) AIDS
 d) Ulcer
- (30) Regarding resistance to antibiotics
 a) Penicillinases cannot inactivate cephalosporins
 c) Mutation of aminoglycoside binding site is its main mechanism of resistance
- b) Macrolides can be inactivated by transferases
 d) Tetracycline resistance is a marker for multidrug resistance
- (31) Influenza causing virus is
 a) Herpes virus
 c) Retrovirus
- b) Orthomyxovirus
 d) Adenovirus
- (32) Ciprofloxacin
 a) Is a defluorinated analogue of nalidixic acid
 c) Has no gram positive cover
- b) Inhibits topoisomerases 2 and 3
 d) Has bioavailability of 30%
- (33) The antiviral drug which is a thiazole analogue is

- a) *Streptomyces capreolus*
 c) *Streptomyces orchidaceus*
- b) *Streptomyces venezulae*
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- (33) The antiviral drug which is a thiazole analogue is

- a) Nelfinavir
c) Saquinavir
- (34) Which of the following is not a 4-amino quinoline
a) Amodiaquine
c) Primaquine
- (35) Zalcitabine is an analog of
a) cytosine
c) uracil
- (36) Major metabolite of Isoniazid is
a) N-acetyl Nicotinamide
c) N-methyl isoniazid
- (37) Ciprofloxacin is which type of drug?
a) Antifungal antibiotics
c) . Quinolines
- (38) Nalidixic acid is used in
a) urinary tract infection
c) Fungal infection
- (39) Tuberculous meningitis involves
a) respiratory system
c) GI tract
- (40) streptomycin
a) Bactericidal
c) Not an antibacterial
- (41) Amikacin is a
a) semisynthetic aminoglycoside
c) natural aminoglycoside
- (42) Example of HIV protease inhibitors
a) Abacavir
c) Aciclovir
- (43) Idoxuridine is
a) RT inhibitors
c) both
- (44) Which of the following is aryl sulfonamide derivative?
a) Tamsulosin
c) Metaraminol
- (45) Cycloguanil acts by
a) 30 S ribosomal inhibition
c) 50 S ribosomal inhibition
- (46) Which sulphonamide is not used in diuretics?
a) Tolbutamide
c) Chlorthalidone
- (47) Sulfonamides are metabolized by humans principally by
- b) Ritonovir
d) Loviride
- b) Mefloquine
d) Chloroquine
- b) guanine
d) adenine
- b) N-acetyl isoniazid
d) N-methyl Nicotinamide
- b) Anti-tubercular antibiotics
d) Quinolone Antibacterials
- b) Malaria
d) none
- b) nervous system
d) none
- b) Bacteriostatic
d) An antifungal
- b) synthetic aminoglycoside
d) none
- b) Ritonavir
d) Ganciclovir
- b) DNA polymerase inhibitor
d) none
- b) Prazosin
d) None
- b) dihydrofolate reductase inhibition
d) Protein synthesis inhibition
- b) Bumetanide
d) Furesemide

- a) Acetylation
c) Oxidation
- b) Deamination
d) Conjugation
- (48) Which is basic ring present in sulfomethoxazole?
a) Oxazole
c) Thiazole
- b) Isoxazole
d) None of the above
- (49) Chemically Albendazole is
a) Indole derivative
c) Quinoline derivative
- b) Benzimidazole derivative
d) Carbazole derivative
- (50) Regarding the "azole" group of antifungals
a) Fluconazole has low water solubility
c) Itraconazole undergoes renal elimination
- b) Ketoconazole may be given IV/PO
d) They work by reduction of ergosterol synthesis by inhibition of fungal cytochrome P450 enzymes
- (51) Diethylcarbamazine Citrate is which class of drug
a) Antiviral
c) Anthelmintic
- b) Antifungal
d) Sulfonamide
- (52) Albendazole contains which of the following
a) Imidazole
c) Thiazolidine
- b) Fural
d) Benzimidazol
- (53) Niridazole
a) Mono amine oxidase
c) Mono aldehyde oxidase
- b) Mono acyclic oxidase
d) none
- (54) In vivo, prontosil is converted to
a) Sulphanilamide
c) Sulphadiazine
- b) Sulphacetamide
d) Sulphathiazole
- (55) Glibenclamide belongs to the class
a) Thiazolidinediones
c) Benzoic acid derivatives
- b) Sulphonyl ureas
d) Biguanides
- (56) The chemical name of sulphadiazine is
a) N 1 -2-pyrimidinylsulphanilamide
c) N 1 -2-pyridylsulphanilamide
- b) N 1 -5-methyl-3-isooxazolylsulphanilamide
d) N 1 -acetylsulphanilamide.
- (57) Antifungal polyene macrolide that preferentially binds to fungal ergosterol which alters cellular permeability.
a) amphotericin B
c) flucytosine
- b) ketoconazole
d) griseofulvin
- (58) An azole most commonly used for topical treatment of candidiasis
a) amphotericin B
c) griseofulvin
- b) clotrimazole
d) flucytosine
- (59) What term is used to signify a preparation that appears identical to the preparation of an active drug but which has no biological activity?
a) Dummy drug
c) Placebo
- b) Peptidomimetic
d) Gazebo

- (60) 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 groups
 c) No more than 10 hydrogen bond donor groups
 d) A calculated logP value less than +5
- (61) Which of the following descriptions most accurately describes binding sites and binding 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 binding site is on a macromolecular target
- (62) 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 property of interest and serves as the starting point for the development of a drug.
 d) The first compound of a structural class of compounds to reach the market.
- (63) What value does the regression coefficient have for a perfect fit?
- a) 0.1
 b) 1
 c) 10
 d) 100
- (64) What does the symbol P represent in a QSAR equation?
- a) pH
 b) plasma concentration
 c) partition coefficient
 d) prodrug
- (65) 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
- (66) What software programme is used to determine the Verloop steric parameter?
- a) Alchemy
 b) Chem3D
 c) Sterimol
 d) ChemDraw
- (67) 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
- (68) A Hansch analysis is being carried out in order to relate biological activity to σ and π . Which of the following substituents would best suit the study?
- a) SO₂NH₂, CONH₂, CH₃SO₂, CH₃CO, CN
 b) NH₂, OH, F, Cl, CF₃
 c) NO₂, CO₂H, F, OCH₃, NMe₂
 d) SO₂NH₂, Br, NMe₂, NH₂, CF₃SO₂
- (69) Full form of QSAR
- a) Qualitative structure–activity retention
 b) Quantitative structure–activity retention
 c) Qualitative structure–activity relationship
 d) Quantitative structure–activity relationship
- (70) Combinatorial chemistry can be useful at various stages of the drug design / development 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
- (71) Chloroquine act by inhibiting following enzyme

- a) DNA and RNA polymerase
c) Dihydro folate reductase
- (72) The anti- malarial drug quinine contains
a) Quinoline ring
c) Isoquinoline ring
- (73) Chemically Albendazole is
a) Indole derivative
c) Quinoline derivative
- (74) What is the term used to describe the 3-dimensional space around a molecule when it is in a target binding site?
a) Stereochemical space
c) Configurational space
- (75) What is meant by a scaffold?
a) The lead compound
c) The pharmacophore
- b) DNA gyrase
d) DNA
- b) Quinclidine ring
d) Both (a) and (b)
- b) Benzimidazole derivative
d) Carbazole derivative
- b) Conformational space
d) Constitutional space
- b) The carbon skeleton of a compound
d) The core structure of a molecule that is common to a series of compounds