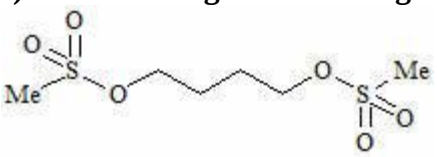
ORIENTAL COLLEGE OF PHARMACY

Sem VII, Pharmaceutical Chemistry II/III (CBCGS/CBSGS) Question Bank

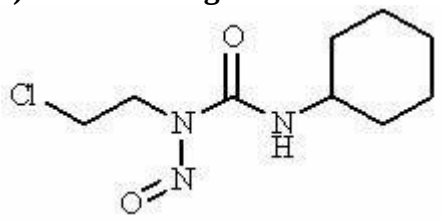
1) The following anticancer agent is called busulfan.



What is the drug's mode of action?

a) Metallating agent
b) Intercalator
c) Chain terminator
d) Alkylating agent

2) The following structure is used in the treatment of brain tumours.



What is the structure called?

a) Carmustine
b) Lomustine
c) Streptozotocin
d) Cyclophosphamide

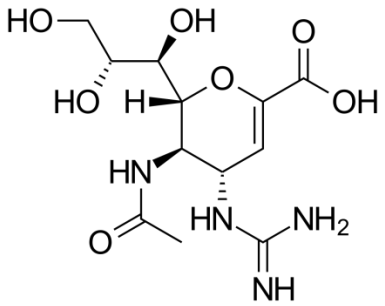
3) Once activated, the proton pump inhibitors bind to exposed amino acids in the proton pump. Which amino acid is involved?

a) serine
b) cysteine
c) lysine
d) histidine

4) Which of the following drugs inhibit herpes viruses?

a) Amantadine
b) Acyclovir
c) Oseltamivir
d) Azidothymidine

5) Identify the following structure and its mechanism.



a) Zanamivir, Neuraminidase inhibitor
b) Oseltamivir, Neuraminidase inhibitor
c) Ritonavir, Protease inhibitor
d) Zidovudine, NRTI

6) Which of the following diuretics is metabolised into the active substance canrenone?

a) Amiloride
b) Spironolactone
c) Epelerenone
d) Furosemide

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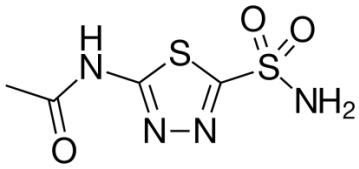
7) Identify the following drug:



a) Acetazolamide
b) Acetohexamide
c) Amlodipine
d) Anakinra

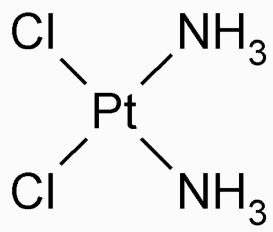
8) Calcium channel blockers can be divided into three class based on their chemical structure. Which of the following is not a class of calcium channel blockers?

a) Nitrates
b) Penylalkylamines
c) Dihydropyridines
d) Benzothiazepines

9) Which receptor does the cardiac glycoside digoxin bind to?

a) ATP-dependent K^+ channel
b) Na^+/K^+ antiporter
c) ATP-dependent Ca^{2+} channel
d) Na^+/Ca^{2+} antiporter

10) Identify the following drug:



a) Cisplatin
b) Oxaliplatin
c) Abatecept
d) Pralidoxime

11) For synthesis of which drug we need to use o-nitro benzaldehyde

a) Amlodipine

b) Nifedipine

c) Nicardipine

d) Piperine

12) An electron withdrawing group should be present at 7 position of thiazide diuretics.

a) True

b) False

13) Example of a rationally developed drug is:

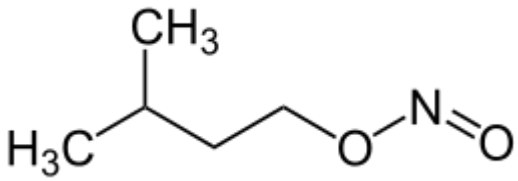
a) Lafutidine

b) Ranitidine

c) Cimetidine

d) Famotidine

14) Identify the following structure:



a) Isoamyl nitrite

b) Amyl nitrite

c) Pentaerythritol

d) Isosorbide dinitrite

15) Diuretic which results in severe hypokalemia is

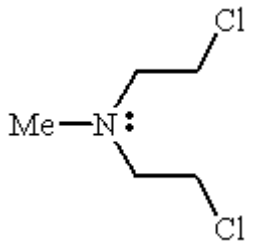
a) Trimterene

b) Chlorthiazide

c) Spironolactone

d) Mannitol

16) The following agent is used for the treatment of Hodgkin's lymphoma as part of a multi-drug regime. What is the name of the compound?



a) Mechlorethamine

b) Cyclophosphamide

c) Melphalan

d) Chlorambucil

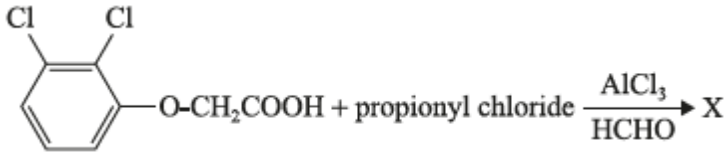
17) Following drugs act as an arterials vasodilators

except one

(a) Hydralazine (b) Minoxidil

(c) Diazoxide (d) Sodium nitroprusside

18) The synthesis of following drug is;



(a) X = ethacrynic acid

(b) X = meclofenamic acid

(c) Both

(d) None

19) The active metabolite of anticancer cyclophosphamide is

(a) N-hydroxy cyclophosphamide

(b) N-methyl cyclophosphamide

(c) N-acetyl cyclophosphamide

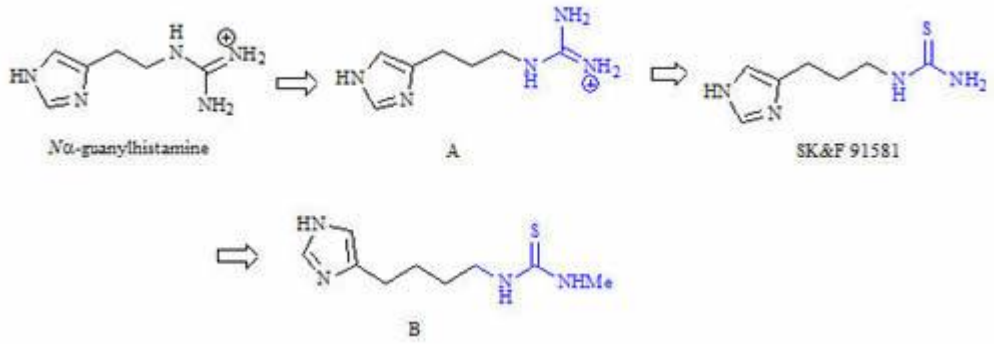
(d) N-propyl cyclopqosphide

20) Sulphonamide group is present at thiazide diuretic at position

(a) 3 (b) 6

(c) **7** (d) 9

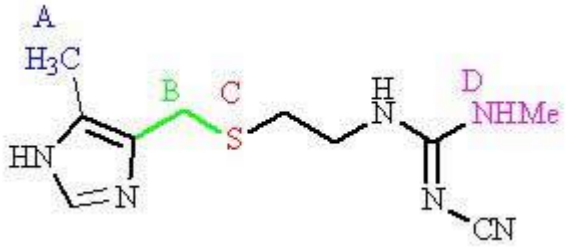
21) The following structures show some of the important molecules leading to the discovery of burimamide (B).



What strategy was used in developing burimamide from SK&F 91581?

a) extension
b) chain extension
c) substituent variation
d) isosteric replacement

22) Two regions of cimetidine are susceptible to metabolism. Which regions?



a) A and B

b) A and C

c) B and D

d) A and D

23) What is the IUPAC name of ethacrynic acid?

(a) [2,3-dichloro-4-(2-methylenebutyryl)phenoxy]
acetic acid

(b) [2,3-dichloro-4-(2-methylenebutyryl)phenoxy]
propionic acid

(c) [2-chloro-4-(2-methylenebutyryl)phenoxy] acetic
acid

(d) [2,3-dichloro-4-(2-ethylenebutyryl)phenoxy]
acetic acid

24) Acetazolamide is synthesized via which of the following intermediate?

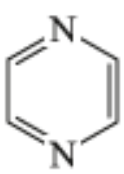
(a) 1-amino-2-mercapto-1,3-thiazole

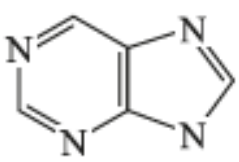
(b) 5-amino-2-mercapto-1,3,4-thiadiazole

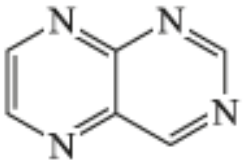
(c) 1-amino-2-mercapto-1,3-thiazole

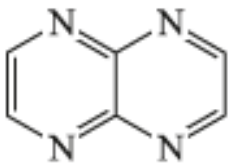
(d) 5-amino-2-mercapto-1,3,4-tetrazole

25) Basic ring system in triamterene is

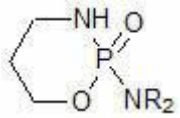
A. 

B. 

C. 

D. 

26) Cyclophosphamide is commonly used in anticancer therapy.



Which of the following statements is not true of the above structure?

a) It is relatively non-toxic.

b) It acts as a prodrug.

c) It cannot be taken orally.

d) The structure is metabolised to release acrolein.

27) Which of the following statements is true regarding the following structure (nevirapine)?

a) It is a nucleoside reverse transcriptase inhibitor (NRTI).

b) It binds to an allosteric binding site next to the substrate binding site of reverse transcriptase.

c) It is an achiral molecule.

d) It is an example of a second-generation drug of its class.

28) Which H2 antagonist has a multimodal action
a) Ranitidine
b) Lafutidine
c) Cimetidine

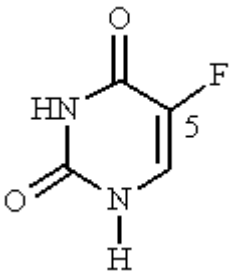
d) Nizatidine

29) Furan ring is present in
a) Ranitidine
b) Lafutidine
c) Cimetidine
d) Nizatidine

30) Histamine has _____ affinity for receptor subtypes
a) More
b) equal
c) less
d) none

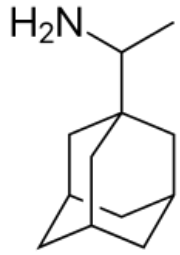
31) Enzyme on which imatinib acts is
a) Histone Deacetylase
b) DHFR
c) Tyrosine kinase
d) Thymidylate synthase

32) The following structure is used in the treatment of breast, liver and skin cancers.



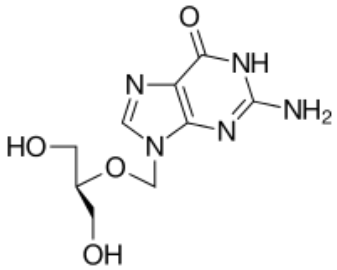
What is the target for the above structure?
a) DHFR
b) Thymidylate synthase
c) Tyrosine kinase
d) Histone deacetylase

33) Identify following drug



a) Amantadine
b) Rimantadine
c) Nifedipine
d) Amlodipine

34) Structure given below is of antiviral drug. Which viral infection does it treat?



a) HIV
b) HSV
c) H1N1
d) COVID-19

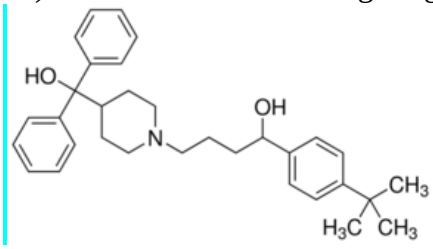
35) Thymidine, Trityl chloride and methyl sulfonyl chloride are starting materials for synthesis of
a) Chlorambucil
b) Cyclophosphamide
c) Zidovudine
d) Acetohexamide

36) Lopinavir is combined with
a) Ritonavir
b) Saquinavir
c) Indinavir
d) AMprenavir

37) H2 antagonists containing thiazole ring is
a) Nizatidine and Famotidine
b) Cimetidine
c) Ranitidine
d) Lafutidine

38) Target of PPI's is
a) Na+/K+ ATPase
b) Na+/H+ ATPase
c) H+/K+ Atpase
d) Histidine decarboxylase

39) Metabolism of following drug is primarily

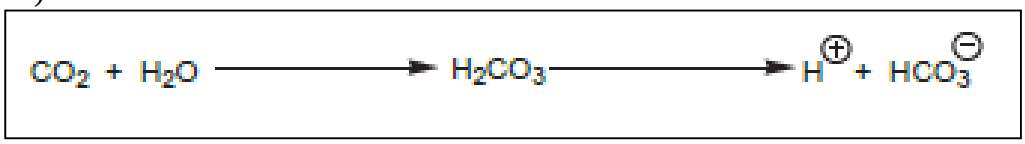


a) Aromatic oxidation
b) N-dealkylation
c) CH3 oxidation
d) Glucuronidation

40) Furfuryl alcohol, Dimethylamine and Formaldehyde are starting materials for synthesis of
a) Ethacrynic acid
b) Furosemide
c) Ranitidine
d) Acetazolamide

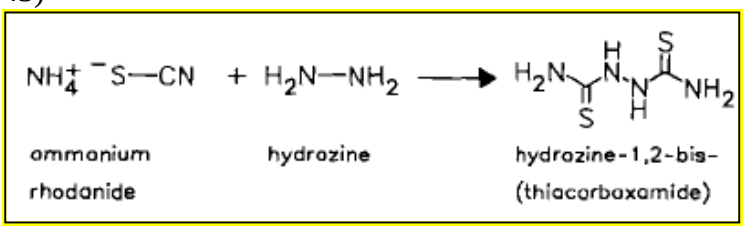
41) PPI's contain
a) Benzimidazole ring
b) Benzopyrrole ring
c) Benzopyridine ring
d) Benzpyrazole ring

42)



Above reaction is brought about by enzyme:
a) Carbonic anhydrase
b) Decarboxylase
c) ATPase
d) Kinase

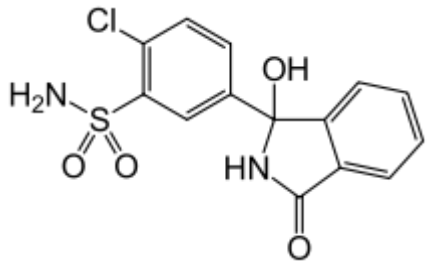
43)



Above reaction is first step in synthesis of:
a) Acetohexamide
b) Acetazolamide
c) Ethacrynic acid
d) Chlorthiazide

44) Hydrochlorthiazide is
a) Unsaturated analog of chlorthiazide
b) Saturated analog of chlorthiazide
c) Oxidized analog of chlorthiazide
d) Same as Chlorthiazide

45) Following drug acts on:



a) PCT
b) DCT
c) Lop of Henle
d) CT

46) Furosemide is
a) Phenoxy acetic derivative
b) anthranilic acid derivative
c) Propionic acid derivative
d) Acetic acid derivative

47) Aldosterone antagonist acting as diuretic is
a) Spironolactone
b) Triamterene
c) AMiloride
d) Acetazolamide

48) IUPAC name 6-chloro-1,1-dioxo-2*H*-1,2,4-benzothiadiazine-7-sulfonamide is of:
a) Hydrochlorthiazide
b) Chlorthiazide
c) Flumethiazide
d) Benzthiazide

49) Vincristine and Vinblastine inhibits cell cycle at:
a) G1 Phase
b) G2 phase
c) S Phase
d) M Phase

50) Bumetanide contains _____
(a) Phenoxy group at 4th position
(b) Phenoxy group at 5th position
(c) Phenoxy group at 3rd position
(d) Does not contain any phenoxy group.