Fourth Year B. Pharm. (Sem VIII) CBCS

BPH_E_801_T – Pharmaceutical Chemistry III

Sample MCQs for Practice

Q. 1 Identify the drug with the following chemical name :

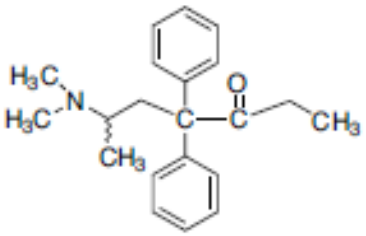
17α-pregna-2,4-dien-20-yno-[2,3-*d*]isoxazol-17-ol

a. Stanazolol
b. Nandrolone
c. Danazole
d. Oxandrolone

Q. 2 Diazepam is metabolized to Nordazepam by _____and_____.

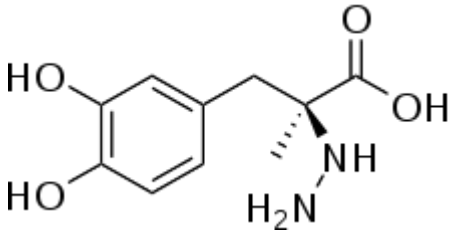
a. CYP2C19 & CYP3A4
b. CYP2C18 & CYP3A3
c. CYP2C17 & CYP3A2
d. CYP2C20 & CYP3A5

Q. 3 Identify the incorrect statement with reference to the following:



a. Approved for analgesic therapy and for the maintenance and treatment of opioid addiction.
b. opioid activity resides in the S-enantiomer
c. μ-receptor agonist
d. synthetic opioid

Q. 4 Which is the correct IUPAC name for the following structure?



a. (*S*)-2-Amino-3-(3,4-dihydroxyphenyl)propanoic acid

b. (*R*)-*N*-methyl-*N*-(1-phenylpropan-2-yl)prop-1-yn-3-amine
c. (2*S*)-3-(3,4-dihydroxyphenyl)-2-hydrazino-2-methylpropanoic acid
d. (2R)-3-(3,4-dihydroxyphenyl)-3-Pyridino-2-ethylbutanoic acid

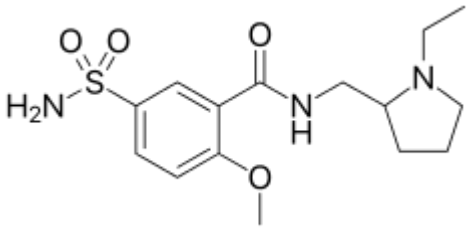
Q. 5 The effect of larger substitution on side chain N in case of phenylethanolamine is

a. Increase in β2 receptor selectivity
b. Increase in α receptor activity
c. Increase in nonselectivity towards α, β receptors
d. Loss of direct sympathomimetic activity

Q. 6 α-CH3 substitutent present in the profens,

a. decreases cyclooxygenase inhibitory activity and induces toxicity of the profens.
b. decreases cyclooxygenase inhibitory activity and decreases toxicity of the profens.
c. increases cyclooxygenase inhibitory activity and increases toxicity of the profens.
d. increases cyclooxygenase inhibitory activity and reduces toxicity of the profens.

Q. 7 Which is the correct IUPAC name for the following structure?



a. 8-chloro-11-(4-methylpiperazin-1-yl)-5*H*-dibenzo[*b*,*e*][1,4]diazepine
b. *N*-[(1-ethylpyrrolidin-2-yl)methyl]-2-methoxy-5-sulfamoylbenzamide
c. 8-chloro-6-(4-methylpiperazin-1-yl)benzo[b][1,4]benzoxazepine
d. 4-[4-(4-chlorophenyl)-4-hydroxypiperidin-1-yl]-1-(4-fluorophenyl)butan-1-one

Q. 8 If additional unsaturation is introduced in the Ring A in Gluocorticoids, it results in

a. Increase in Glucocorticoid activity
b. Changes the conformation of A ring
c. Enhance anti-inflammatory effect
d. Decreases Salt retaining activity

Q. 9 What kind of change in the structure of direct acting sympathomimetic are responsible for making them indirectly acting compounds?

a) Removal of 3'-OH

b) Removal of 4'-OH

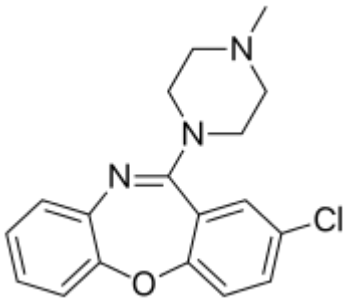
c) Removal of 3',4'- OH

d) Retention of 3'-OH and replacing 4'-OH with $-CH_2OH$

Q. 10 Because diazepam clearance is decreased in the elderly and in patients with hepatic insufficiency, a dosage _____may be warranted.

a. Enhancement
b. Reduction
c. No effect
d. Remain Constant

Q. 11 The given drug has affinity for which receptors?



a) D_2 and $5HT_2$ receptors
b) D_2 and Muscarinic receptors
c) D_1 and $5HT_2$ receptors
d) D_1 and Muscarinic receptors

Q. 12 The short elimination half-life of Zolpidem is because its aryl methyl groups is extensively_____

a) α hydroxylated
b) β hydroxylated
c) δ hydroxylated
d) θ hydroxylated

Q. 13 What interactions are involved in binding the phenol group to the target binding site in Morphine?

a. Ionic interactions
b. Hydrogen bonding interactions
c. van der Waals binding interactions
d. The group does not bind

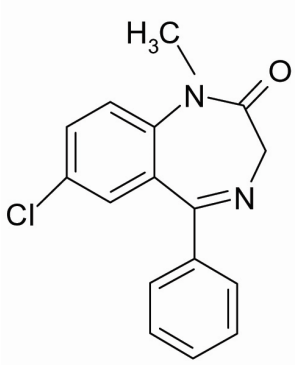
Q. 14 3-(dimethylamino)phenol and dimethylcarbamic chloride are the starting materials for the synthesis of

a. Neostigmine
b. Physostigmine
c. Pyridostigmine
d. Rivastigmine

Q. 15 Which of the following are semi-synthetic opiates?

a. Codeine
b. Oxycodone
c. Fentanyl
d. Endomorphins

Q. 16 Identify the IUPAC nomenclature of following



a. 7-chloro-1-methyl-5-phenyl-3H-1,4-benzodiazepin-2-one
b. 7-chloro-2-methylamino-5-phenyl-1,4-benzodiazepine-4-oxide
c. 7-nitro-5-phenyl-1H-benzo [e] [1,4]diazepin-2(3H)-one
d. 7-Chloro-1,3-dihydro-1-methyl-5-phenyl-1,4-benzodiazepin-2-one

Q. 17 Which one of the following is a Selective serotonin inhibitor?

a. Imipramine
b. Doxepine
c. Amoxapine
d. Escitaprolam

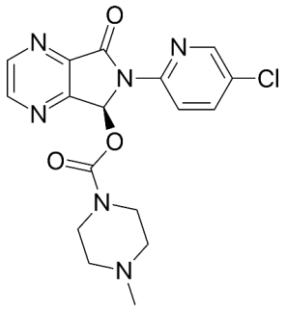
Q. 18 Which one of the following is a Azapirones anxiolytic agent.

a. Oxazepam
b. Buspirone
c. Clonazepam
d. Eszopiclone

Q. 19 Which of the following is aminoalcohol type of an anticholinergic?

a) Procyclidine b)Benztropine c) Isopropamide d) Tropicamide

Q. 20 Which is the correct IUPAC name for the following structure?



a. [(7S)-6-(5-chloropyridin-2-yl)-5-oxo-7H-pyrrolo[3,4-b]pyrazin-7-yl]4-methyl piperazine-1-carboxylate.
b. [(7S)-6-(5-chloropyridin-2-yl)-5-oxo-7H-pyrrolo[3,4-b]piperazin-7-yl]4-methyl pyrazine-1-carboxylate.
c. [(7S)-6-(5-chloropyridin-2-yl)-5-oxo-7H-pyrrolo[3,4-b]piperidin-7-yl]4-methyl pyrimidin-1-carboxylate.
d. [(7S)-6-(5-chloropyridin-2-yl)-5-oxo-7H-pyrrolo[3,4-b]furan-7-yl]4-methyl piperazine-1-carboxylate.

Q. 21 Primary use of fluoxetine is

a. Antidepressant
b. Anxiolytics
c. Antipsychotics
d. Sedative Hypnotic

Q. 22 Which of the following is γ-vinyl GABA

a. Phenytoin
b. Vigabatrine
c. Valproic acid
d. Gabapentine

Q. 23 Naproxen is a derivative of _____

a. Arylpropionic acid
b. Arylethanoic acid
c. Arylpropionic ester
d. Arylpropionic ether

Q. 24 Which feature of acetylcholine interacts with the binding site of cholinergic receptors by hydrogen bonding?

a. The acyl methyl group
b. The ester
c. The quaternary nitrogen
d. All three N-methyl groups

25)Identify selective α_1 antagonist containing quinazoline nucleus from the following agents.

a) Tolazoline b) Phentolamine c) Phenoxybenzamine d) Prazosin

26) Mechanism of action of ramelteon is

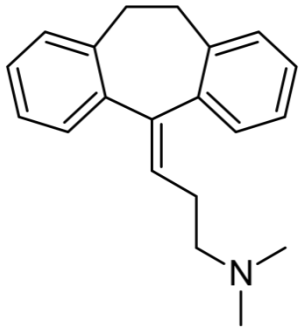
a) NMDA receptor antagonist b) Melatonin receptor antagonist

c) GABA receptor antagonist d) Serotonin receptor antagonist

27) Which of the following Acetylcholine esterase inhibitor does not contain quaternary ammonium group?

a) Physostigmine b) Neostigmine c) Pyridostigmine d) Edrophonium

28) Amitriptyline (structure given below) undergoes metabolism to give active metabolite by



a) O-demethylation b) N-demethylation c) Oxidative deamination d) Oxidative hydroxylation

29) Which of the following is not a structural feature of opioid antagonist?

a) Presence of allyl/cyclopropylmethyl group at 17^{th} position

b) Replacement of 6 –OH with Keto group

c) Presence of 7-8 double bond

d) Substitution of 14β-OH

30) The enzyme which degrades dopamine is

a) COMT b) DOPA decarboxylase c) Aldehyde reductase d) Cyclooxygenase

31) Which one of the following statement of trimethadione is inappropriate?

a) Trimethadione is a prodrug

b) Trimethadione is used in absence seizures

c) Trimethadione belongs to imminostilbene class

d)Trimethadione is antagonist of T type of calcium channels

32) -----is purely anabolic steroid with no androgenic activity.

a) Testosterone b) Stanozolol c) 17α-Methyltestosteroned) Oxymesterone

33) An antipsychotic drug fluphenazine is given as an ester of decanoic acid

a) To increase potency b) To increase duration of action

c) To increase chemical stability d) To increase binding modes with the receptor

34) Which of the following is not tricyclic antidepressant?

a) Fluoxetine b) Imipramine c) Chlorimipramine d) Amitriptyline

35) ----- co-administered with levodopa.

a) Selegline b) Amantadine c) Carbidopa d) Benztropine

36) Which one of the substituent can be present on nitrogen in narcotic antagonist?

a) Methyl b) Cyclopropyl methyl c) Phenyl ethyl d) Ethyl

37) Select an anticonvulsant from the following which acts by Ca^{+2} blockade.

a) Phenytoin b) Carbamazepine c) Valproric Acid d) Trimethadione

38) Identify metabolite of diazepam from the following.

a) Chlordiazepoxide b) Oxazepam c) Nitrazepam d) Clonazepam

39) Which drug is COMT resistant?

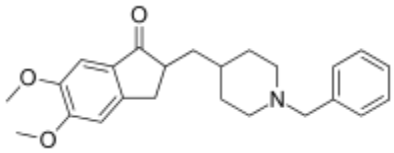
a) Isoproternol b) Salbutamol c) Colterol d)Epinephrine

40)What is relation between xylometazoline and oxymetazoline?

a)Both are α_2 adrenergic agonists. b) Both are 2-aminoimidazolines

c) Oxymetazoline is metabolite of xylometazolined)Both are adrenergic antagonists

41) Mention therapeutic use of



a) Mysthenia Gravis b) Insecticide c) Glaucoma d)Alzheimer disease

42) Which of the following statement is not true with respect to Imipramine?

a) It is MAO inhibitor

b) It gets metabolized by N-dealkylation

c) It is norepinephrine and serotonin reuptake inhibitor

d) Dibenzazepine is basic scaffold present

43) Succinylcholine needs to be administered with ---------- to prevent enzymatic degradation

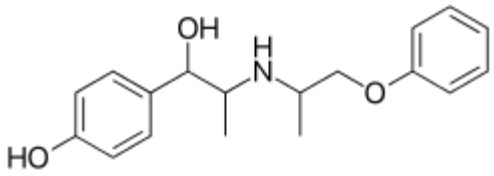
a) Tubocurarine b) Gallamine c) Decamethoniumd) Neostigmine

44) Why 17α substituent in androstane is important?

a) Increase potency b) Increase anabolic activity

c) Provide oral bioavailability d)Increase progestational activity

45)Mechanism of action of



a)Nonselective β agonist b) Nonselective β antagonist

c) Selective β_2 agonist d) selective β_2 antagonist

46) The IUPAC name of Buspirone is

a) 8-[4-(4-pyrimidin-2-yl piperazin-1-yl)butyl}-8-azaspiro [4.5] decane-7,9-dione

b) 8-[4-(4-pyrimidin-2-yl piperazin-1-yl)propyl}-8-azaspiro [4.5] decane-7,9-dione

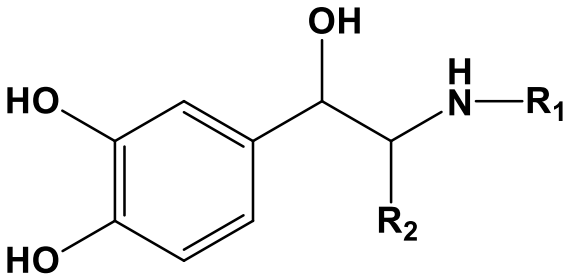
c) 8-[4-(4-pyridin-2-yl piperazin-1-yl)butyl}-8-azaspiro [4.5] decane-7,9-dione

d) 8-[4-(4-pyrimidin-2-yl piperazin-1-yl)butyl}-8-azaspiro [4.5] decane-6,8-dione

47) Which one of the following anti epileptic drug do not contain ureide in its structure

a) Phenytoin b) Trimethadione c) Ethotoin d)Lamotrigine

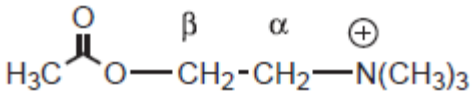
48) Refer the general structural of direct acting sympathomimetic. Converting catechol to resorcinol is responsible for--------. Select the correct answer.



a) Increased α receptor selectivity b)Nonselective nature of drug

c) Increases β_2 receptor selectivity and bioavailability d) Indirect activity

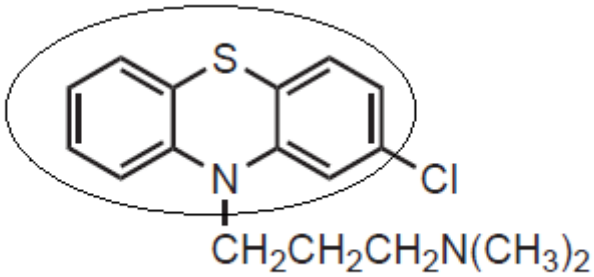
49) In the structure of Acetylcholine (shown below), substitution of α-methyl group------.



a) Increases muscarinic activity b) Increases nicotinic activity

c) Increases antagonistic activity d) No change in activity

50) Identify the encircled nucleus in the following.



a) Dibenzazepine b) Benzodiazepine c) Phenothiazine d) Benzoxazine

51) Which drug is a structural hybrid of meperidine and methadone?

a) Loperamide b) Diphenoxylate c) Fentanyl d) Pheneridine

52) In the case of thioxanthene type of an antipsychotics more active isomers have --------- configuration.

a) Cis b) Trans c) E d) R

53) Which one of the following drug shows minimal EPS

a) Pimozide b) Clozapine c) Droperidol d)Chlorpromazine

54) Codeine is----------.

a) Methylated analog of morphine b) Acetylated analog of morphine

c) Antagonist of morphine d) Metabolite of morphine

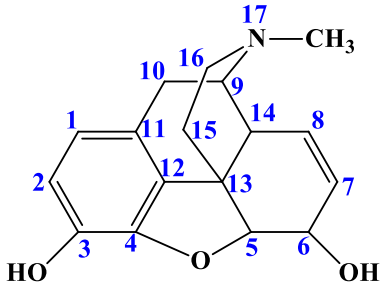
55) The β blocker which contain arylethanolamine scaffold

a) Esmolol b) Metoprolol c) Sotalol d) Timolol

56) To which chemical class does the anticholinergic drug dicyclominebelong?

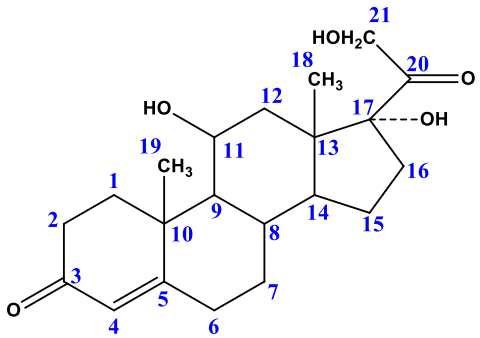
a) Aminoalcoholb) Aminoamides c)Amino alcohol esters d) Amino alcohol ethers

57) The given molecule has how many chiral centers?



a)3 b) 4 c) 5 d) 6

58) Read the statements given below related to SAR of glucocorticoids and choose the correct option given below.



A: Introduction of 9α-Fluorodecreases salt retention property

B: Methyl group at 16th position can be either α or β for better glucocorticoidal activity

a) A correct b) B correct

c) A and B both correct d) A and B both wrong

59) Which structural feature of morphine is missing in levorphanol?

a) Phenyl ring b) Epoxide bridge c) Piperidine ring d) 03- OH group

60) In case of Phenothiazine –Cl group at 2nd position and 3 C chain separating N10 and amino nitrogen is essential because ----------.

a) It is important for lipophilicity b) It gives dopamine like arrangement

c) To maintain potency d) It increases CNS penetration.

X---X---X