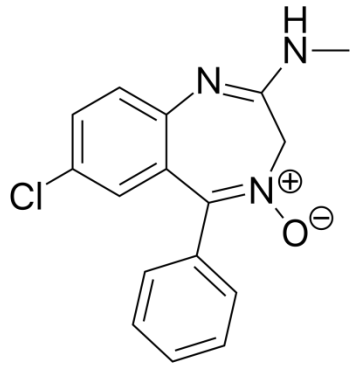
FINAL YEAR UNIVERSITY EXAMINATION 2019-2020
Final Year B.Pharm. Semester VIII
SUBJECT-BPH_C_801_T-Pharmaceutical Chemistry III
MULTIPLE CHOICE QUESTIONS: PRACTICE QUESTIONS

Q. 1 Which is the correct IUPAC name for the following structure?



A] 5-chloro-2-(methylamino)-5-phenyl-3H-1,4-benzodiazepine

B] 7-chloro-2-(methylamino)-5-pyridinyl-3H-1,4-benzodiazepine-4-oxide

C] 7-chloro-2-(ethylamino)-5-phenyl-3H-1,5-benzodiazepine

D] 7-chloro-2-(methylamino)-5-phenyl-3H-1,4-benzodiazepine-4-oxide

Q. 2 Which of the following is long acting sedative hypnotic?

A] Diazepam

B] Alprazolam

C] Temazepam

D] Imipramine

Q. 3 Name of oxide derivative used as sedative hypnotic is

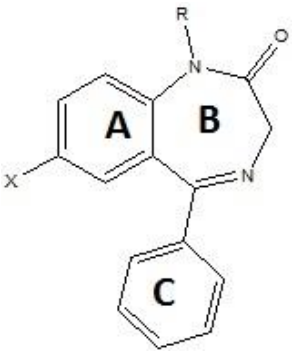
A] Diazepam

B] Chlordiazepoxide

C] Nitazepam

D] Ramelteon

Q. 4 With respect to the following general structure which is the **correct** statement ?



A] X must be electropositive substituent for optimum activity

B] X must be aromatic ring for optimum activity

C] X must be electronegative substituent for optimum activity

D] X must be H for optimum activity

Q. 5 Which is the **incorrect** statement with respect to structure given in Q. 4

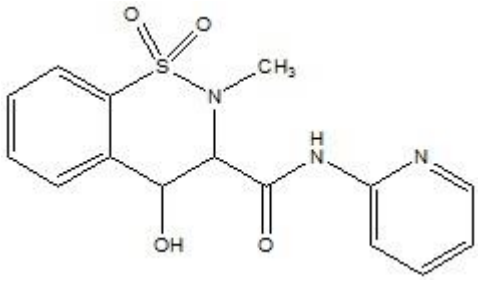
A] Ring C is ortho substituted with electron withdrawing group for optimum activity

B] Ring C when para substituted increases activity

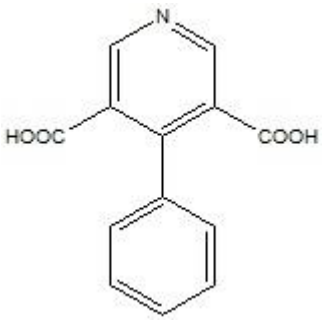
C] Ring C is diortho substituted with electron withdrawing group for optimum activity

D] Ring C when para substituted decreases activity

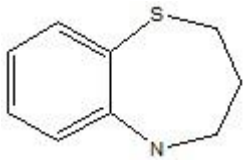
Q. 6 What is the starting material for synthesis of Piroxicam (structure given below)



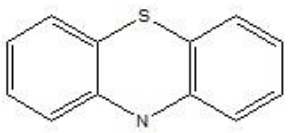
A]



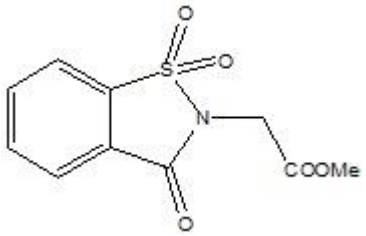
B]



C]



D]



Q. 7 Which one of the following is Cytokine inhibitor?

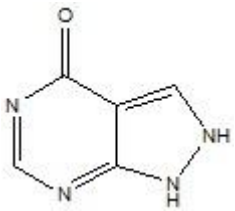
A] Abatacept

B] Fluoxetine

C] Propranolol

D]Aldosterone

Q. 8 Write the name and use for the following drug.



A] Allopurinol, treatment of Gout

B] Colterol, Adrenergic agent

C] Atropine, Cholinergic antagonist

D] Indomethacin, NSAID

Q. 9 Which of the following approach will lead to active metabolite for sulfinpyrazone?

A] N-dearylation

B] Sulfide formation

C] para hydroxylation of phenyl ring

D] S reduction

Q. 10 Anakinra is

A] costimulation modulator

B] anti-TNF alpha antibody

C] TNF-alpha blocker

D] interleukin receptor antagonist

Q. 11 Which of the following is GABA prodrug.

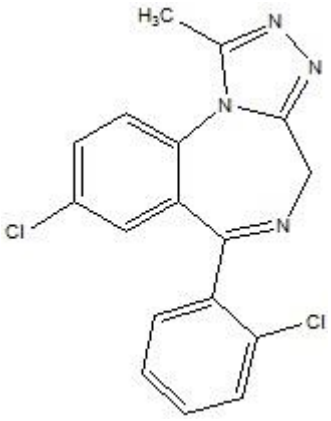
A] tiagabine

B] diazepam

C] progabide

D] mephobarbital

Q. 12 Alprazolam (structure given below) is short acting sedative hypnotic because of



A] Presence of 4,5 double bond in diazepine ring

B] Presence of 1,4-diazepine ring

C] Presence of chlorine on phenyl ring

D] Presence of methyl group on triazole ring

Q. 13 Which Acetylcholine esterase inhibitor is used for treatment of Alzheimer disease?

A] Tacrine

B] Physostigmine

C] Neostigmine

D] Pyridostigmine

Q. 14 Nicotine receptor is a type of which receptor?

A] GPCR

B] Ion channel receptor

C] Kinase receptor

D] Nuclear receptor

Q. 15 Donepezil contains which heterocycle as scaffold?

A] Pyridine

B] Piperidine

C]Piperazine

D] Pyrazine

Q. 16 Which of the following drug is an antidote for organophosphorus poisioning?

A] Rivastigmine

B] Donepezil

C] Pralidoxime chloride

D] Tacrine

Q. 17 Which of the following drug is COX-II inhibitor?

A] Valdecoxib

B] Piroxicam

C] Nabumetone

D] Mefenemic acid

Q. 18 Which of the following NSAID is a prodrug?

A] Ibuprofen

B] Indometahcin

C]Diclofenac

D]Sulindac

Q. 19 Drug increasing uric acid excretion is

A] Colchicine

B] Probenecid

C] sulfinpyrazone

D] allopurinol

Q. 20 What is side effect of carbamazepine?

A] EPS

B] loss of memory

C] aplastic anemia

D] addiction

Q. 21 Which of the following pair of drugs is used to treat Parkinson’s disease?

A] Carbidopa-Levodopa

B] Selegillin Amantidine

C] Carbidopa-Amantidine

D]Sulfinpyrazone-Probenecid

Q. 22 Chemical class of Ibuprofen is,

A] Aryl acetic acid

B] Aryl propanoic acid

C] Indole acetic acid

D]Anthranilic acid

Q. 23 Which one of the following is example of mineralo-corticosteroid

A] betamethasone

B] prednisone

C] Aldosterone

D] triamcinolone

Q. 24 Diethyl stilbestrol is active in which of the following form?

A] cis form

B] trans form

C] meso compound

D] R form

Q. 25 Which of the following is not an example of progestin?

A] Tamoxifen

B] Megestrol

C] Norethindrone

D] Medroxypogesterone

Q. 26 Identify the drug with the following chemical name :

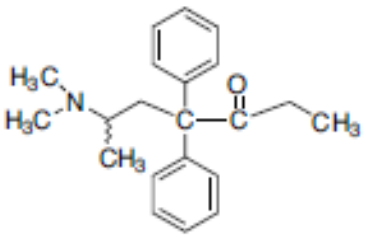
17α-pregna-2,4-dien-20-yno-[2,3-*d*]isoxazol-17-ol

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

Q. 27 Diazepam is metabolized to Nordazepam by _____and_____.

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

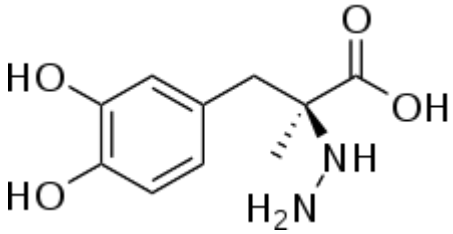
Q. 28 Identify the incorrect statement with reference to the following:



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. 29 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

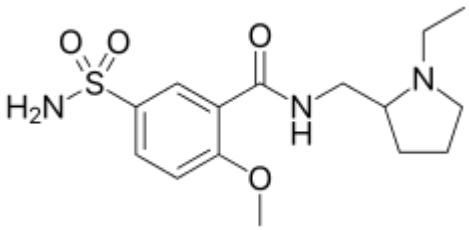
Q. 30 The effect of larger substitution on side chain N in case of phenylethanolamine is

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. 31 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. 32 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. 33 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. 34 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

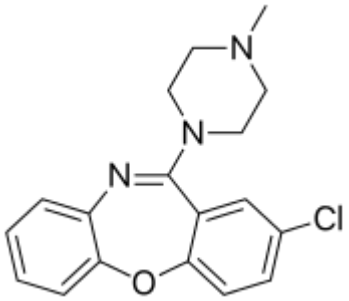
c) Removal of 3',4'- OH

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

Q. 35 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. 36 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. 37 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. 38 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. 39 Major pathway of metabolism of NSAID's by

a. Conjugation
b. Hydrolysis
c. Oxidation
d. Reduction

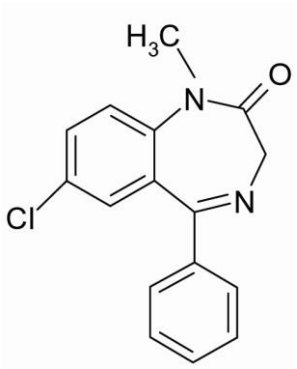
Q. 40 3-(dimethylamino)phenol and dimethylcarbamic chloride are the starting materials for the synthesis of

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

Q. 41 Which of the following are semi-synthetic opiates?

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

Q. 42 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. 43 Which one of the following is a Selective serotonin inhibitor?

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

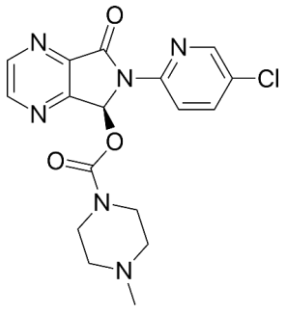
Q. 44 Which one of the following is a Azapirones anxiolytic agent.

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

Q. 45 Which of the following is aminoalcohol type of an anticholinergic?

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

Q. 46 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. 47 Primary use of fluoxetine is

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

Q. 48 Which of the following is γ-vinyl GABA

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

Q. 49 Naproxen is a derivative of _____

a. Arylpropionic acid

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

Q. 50 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

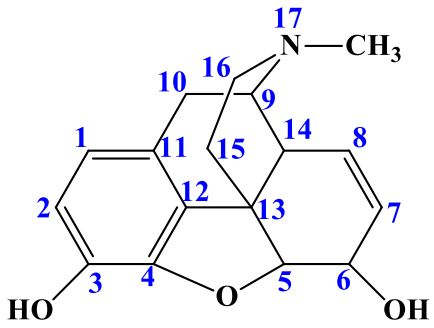
Q. 51 Identify selective α_1 antagonist containing quinazoline nucleus from the following agents.

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

Q.52 Which of the following Acetylcholine esterase inhibitor does not contain quaternary ammonium group?

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

Q.53 Which of the following is not a structural feature of opioid antagonist? Refer the general structure of parent molecule.



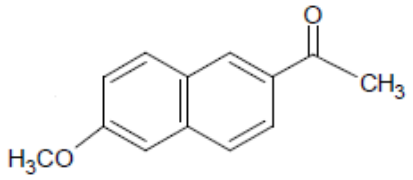
a) Presence of allyl/cyclopropylmethyl group at 17th position

b) Replacement of 6 –OH with Keto group

c) Presence of 7-8 double bond

d) Substitution of 14β-OH

Q.54. Identify the Non-Steroidal Anti-inflammatory drug that can be synthesized using following reagent.



a) Diclofenac b) Naproxen c) Piroxicam d) Nimesulide

Q.55 -----is purely anabolic steroid with no androgenic activity.

a) Testosterone b) Stanozolol c) 17α-Methyltestosterone d) Oxymesterone

Q.56 Which of the following is not tricyclic antidepressant?

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

Q. 57. ----- co-administered with levodopa.

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

Q. 58. Select an anticonvulsant from the following which acts by Ca^{+2} blockade.

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

Q.59. Identify metabolite of diazepam from the following.

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

Q.60. What is relation between xylometazoline and oxymetazoline?

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

c) Oxymetazoline is metabolite of xylometazoline d) Both are adrenergic antagonists

Q.61. Which of the following statement is not true with respect to Imipramine?

a) It is MAO inhibitor

b) It gets metabolized by N-dealkylation

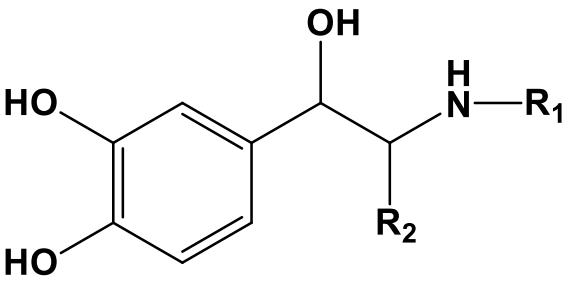
c) It is norepinephrine and serotonin reuptake inhibitor

d) Dibenzazepine is basic scaffold present

Q. 62. Succinylcholine needs to be administered with ---------- to prevent enzymatic degradation

a) Tubocurarine b) Gallamine c) Decamethonium d) Neostigmine

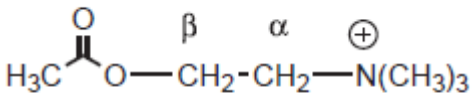
Q. 63. Refer the general structural of direct acting sympathomimetic. Converting catechol to resorcinol is responsible for--------. Select the correct answer.



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

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

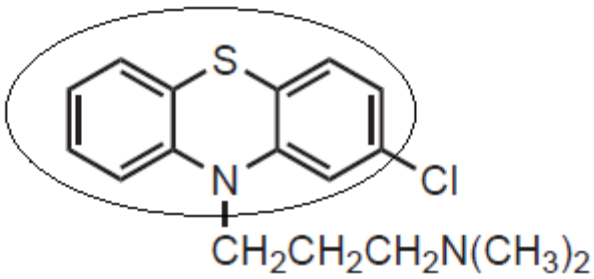
Q. 64. In the structure of Acetylcholine (shown below), substitution of α-methyl group------.



a) Increases muscarinic activity b) Increases nicotinic activity

c) Increases antagonistic activity d) No change in activity

Q.65. Identify the encircled nucleus in the following.



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

Q. 66. In the case of thioxanthene type of an antipsychotics more active isomers have --------- configuration.

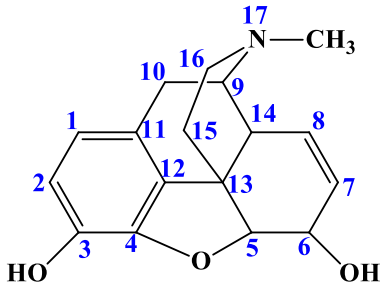
a) Cis b) Trans c) E d) R

Q.67. Codeine is----------.

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

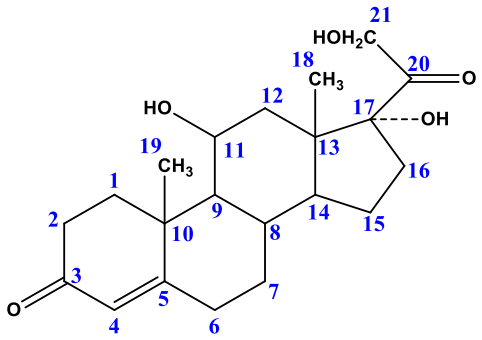
c) Antagonist of morphine d) Metabolite of morphine

Q.68. The given molecule has how many chiral centers?



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

Q.69. Read the statements given below related to SAR of glucocorticoids and choose the correct option given below.



A: Introduction of 9α-Fluoro decreases 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

Q.70. 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.

Q. 71. Center of acidity in case of Piroxicam can be represented by---

a) $-SO_2NCH_3$ group b) Enolic acid c) Pyridine ring d) –OH group

Q. 72. Identify the incorrect pair from the following.

a) Fluoxetine: Phenoxyphenylpropylamine b) Vigabtarine: γ-Vinyl GABA

c) Bethanechol: Carbamate ester d) Ritodrine: Catechol hydroxyl

Q.73. Identify the true statement related to benzomorphan.

a) They are obtained by removal of epoxide bridge of morphine.

b) They do not contain B, C, E ring of morphine

c) Cis and Trans isomer have unequal analgesic activity

d) They are obtained by removal of C ring of morphine

Q.74. Which of the following benzodiazepine is suitable for treatment in children & old age patients?

a) Diazepam b) Oxazepam c) Temazepam d) Nitrazepam

Q.75. Modification of nonrigid opioid like ---- leads to butyrophenone whereas butyrophenones are modified to--------type of antipsychotic.

Complete the statement by selecting the correct pair from the following.

a) Meperidine, Diphneylbutylpiperidine b) Methadone, Diphneylbutylpiperidine

c) Meperidine, Benzamide d) Methadone: Benzamide