



Knowledge Resource & Relay Centre (KRRC)

AIKTC/KRRC/SoP/ACKN/QUES/2021-22/

Date: 02/08/2022School: SoP-PCI Branch: SoP SEM: IV

To,
Exam Controller,
AIKTC, New Panvel.

Dear Sir/Madam,

Received with thanks the following **Semester/Periodic** question papers from your exam cell:

Sr. No.	Subject Name	Subject Code	Format		No. of Copies
			SC	HC	
1	Pharmaceutical Organic Chemistry III	BP401T		✓	
2	Medicinal Chemistry I	BP402T		✓	
3	Physical Pharmaceutics II	BP403T		✓	
4	Pharmacology I	BP404T		✓	
5	Pharmacognosy and Phytochemistry I	BP405T		✓	

Note: SC – Softcopy, HC - Hardcopy

(Shaheen Ansari)
Librarian, AIKTC

Pharmaceutical Organic Chemistry - Sem - IV

02/05/2022

Sem - IV 02-05-2022

N.B.: 1. All questions are compulsory

Total Marks: 80

Q.I Multiple Choice Questions (attempt all)

20M

2. Answer all sub questions together

3. Figures to right indicate full marks

1. Which statement is correct for the given reaction?

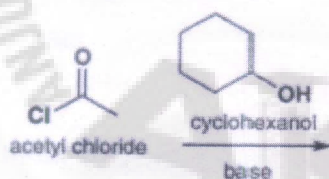


- AH is an acid and A⁻ is its conjugate base and B is a base and BH⁺ is its conjugate acid
- AH is an acid and A⁻ is its conjugate acid and B is a base and BH⁺ is its conjugate base
- AH is an acid and A⁻ is its conjugate base and B is a base and BH⁺ is its conjugate acid
- AH is an acid and A⁻ is its conjugate acid and B is a base and BH⁺ is its conjugate base

2. Arrange in the following in the order of increasing acidity?

- hypochlorous acid < chloric acid < chlorous acid < perchloric acid
- hypochlorous acid < chlorous acid < chloric acid < perchloric acid
- perchloric acid < hypochlorous acid < chlorous acid < chloric acid
- perchloric acid < chlorous acid < chloric acid < hypochlorous acid

3. Predict the product for the reaction given

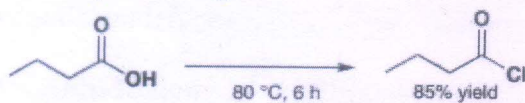


- Benzylacetate
- Cyclohexylacetate
- Benzaldehyde
- p-Chlorophenol

4. Arrange in the following in decreasing reactivity of carbonyl compounds.

- Acyl chloride > acid anhydride > ester > amide
- Acid anhydride > acyl chloride > ester > amide
- Amide > acyl chloride > acid anhydride > ester
- Ester > acyl chloride > acid anhydride > amide

5. Identify the Reagent used for the following reaction?

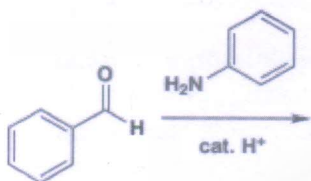


- a. SOCl_2 b. HCl c. AlCl_3 d. P_2O_5

6. Aldehydes can react with alcohols to form

- a. acetates b. hemiacetals c. amides d. acetals

7. Predict the product.



- a. Imine b. Amine c. Amide d. Nitrile

8. Identify the reagent used.



- a. LiAlH_4 b. H_2/Ni c. $\text{NH}_2\text{-NH}_2$ d. $\text{H}_2/\text{Pd-C}$

9. Identify the name reaction.



- a. Kolbe's reaction b. Wittig reaction
c. Mannich reaction d. Reimer Tiemann reaction

10. Which of the following statements is wrong?

- a. In the epoxidation of an alkene with a peroxyacid, the peroxyacid is electrophilic.
b. The addition of bromine to cyclohexene is stereospecific but the product is a racemate.
c. Hydroboration-oxidation of a terminal alkyne gives a ketone as the main product.
d. Hydrogenation of an internal alkyne over the Lindlar catalyst gives a cis alkene

11. Electrophilic Addition involves...

- a. The addition of a nucleophile to an alkane
b. The addition of an electrophile to an alkane
c. The addition of an electrophile to an alkene
d. The subtraction of a nucleophile to an alkene

12. Bromine undergoes _____ to form alkenes.

- a. Antiaddition b. Elimination c. Syn Addition d. Substitution

Q.II Answer any one from the following

1 a. Complete the given table stating the electronic effects of the following functional groups on the benzene nucleus

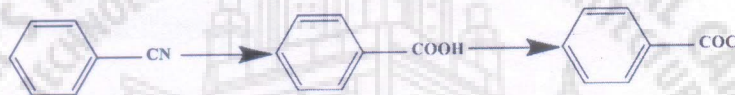
(04)

Groups	Inductive effect	Resonance effect
-COC ₂ H ₅		
-NHCOCH ₃		
-CONH ₂		
C ₆ H ₅ -		

1b. Answer the following questions

(08)

1 Identify the reagents to be used for the following reactions:



- 2 Depict the tetrahedral intermediate involved in the reaction between acetone with hydroxylamine and predict the product thus formed
- 3 Justify using suitable examples: acetals can be hydrolysed in acid but are stable to bases.
- 4 Lower the pK_a of HX, better the leaving group ability of X⁻ in carbonyl substitution reactions. Justify using a suitable example.

2 a. Complete the given table stating the electronic effects of the following functional group on the benzene nucleus

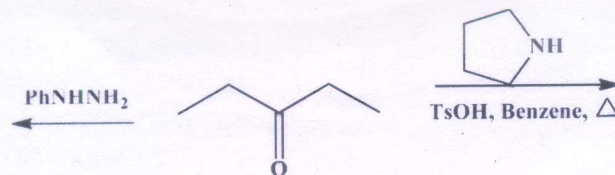
(04)

Groups	Inductive effect	Resonance effect
-NH ₂		
-CH ₃		
-CHO		
-Br		

2b. Answer the following questions

(08)

1. Justify using suitable examples: Cyclic acetals are more stable than acyclic acetals.
2. Complete the following reactions:



3. Compare the reactivity of the oxonium and iminium ions.
4. Draw the molecular orbital of a carbonyl group. Explain the polarization seen in this group

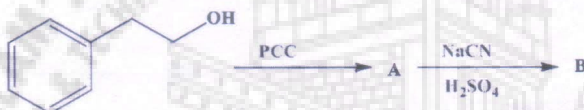
Q. III Answer any four from the following

1a. Give the mechanism for the following reactions (Any four) (08)

1. Reimer Tiemann reaction
2. Kolbe's reaction
3. Cannizzaro reaction
4. Baeyer Villiger oxidation
5. Mannich reaction

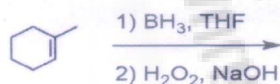
1 b. Answer the following questions (04)

- i. Give the product when bromobenzene is treated with: (a) KNH_2 in liq. ammonia and (b) boiling aq. sodium carbonate at 130°C .
- ii. Identify A and B from the following reaction:



2a. Compare the reactivity of amides and acid chlorides (04)

2 b. Give the products for the following alkenes with the specified reagents (04)



2 c. Attempt the following conversions (Any four): (04)

1. Benzenoacetophenone
2. Ethylmethylketone to 3-Methylpentanol
3. Toluene to benzaldehyde
4. 2-Methyl-2-penteno to acetone and propanoic acid
5. Acetanilide to p-bromoacetanilide

3a. Suggest at least two methods using organometallic compounds for the preparation of each of the following alcohols (04)

a. 2-Phenyl-2-propanol

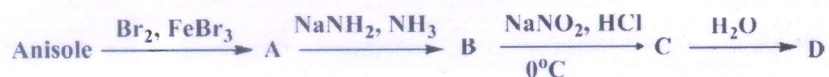
b. 2-Methyl-2-butano

3 b. i) Give the mechanism for sulphonation of acetanilide. (04)

ii) Indicate the position of nitration of o-bromophenol and designate whether the starting material is activated or deactivated relative to benzene

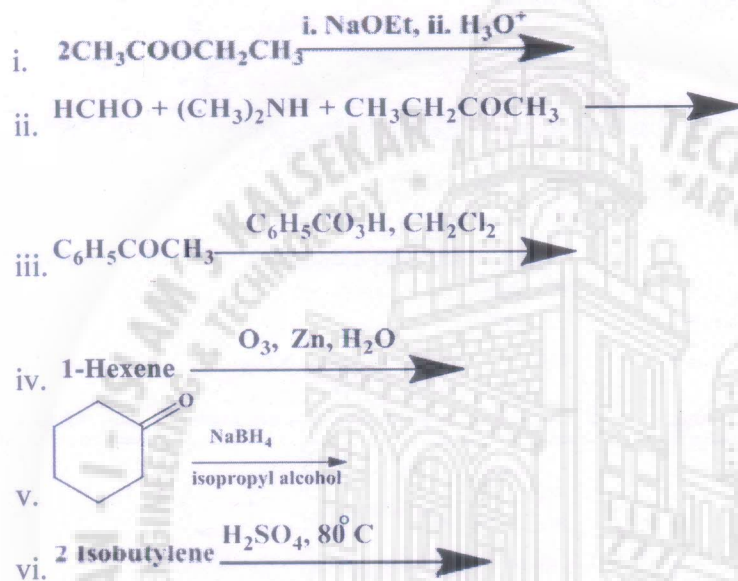
3 c. Identify A, B, C and D

(04)



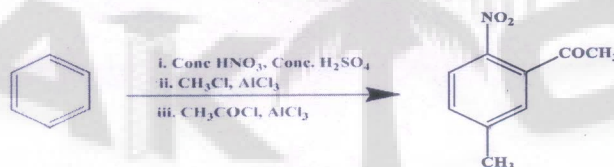
4 a. Give the products of the following reactions (Any four):

(04)



4 b. Predict whether the said order of reaction conditions would yield the desired product. Suggest suitable modifications, if necessary:

(04)



4 c. Give the mechanism for acid and base catalyzed hydrolysis of amides.

(04)

5 a. Write a short note on nucleophilic aromatic substitution mechanism

(06)

5 b. What is the product obtained when 1-Propene reacts with HBr in presence and absence of peroxides? Give the mechanism for of the above two reactions.

(06)

2

Sem-IV

06/06/22

Subject: Medicinal Chemistry-I

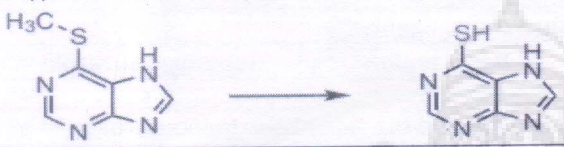
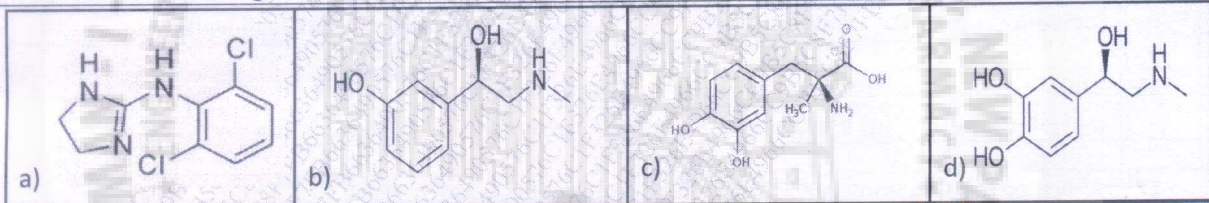
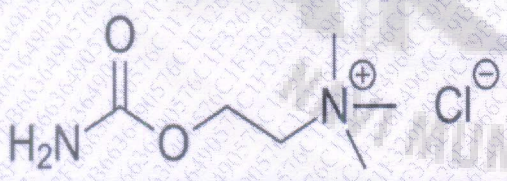
Year and Sem: S.Y. B.Pharm.(SEM-IV)

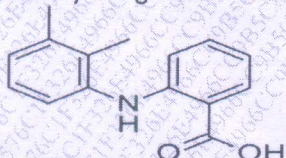
Duration: 3 hours

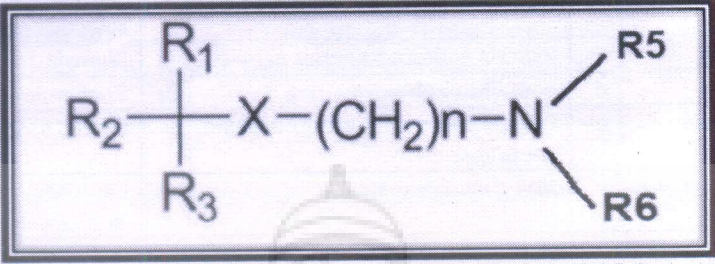
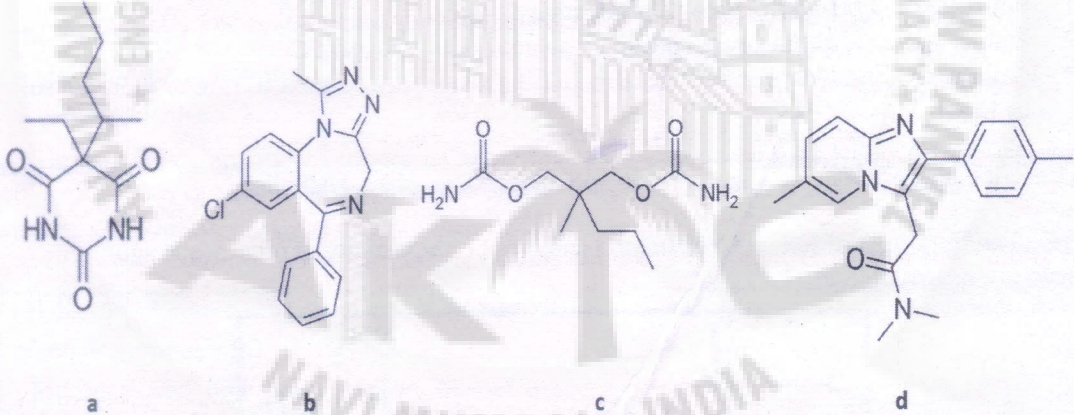
Total marks: 80 M

N.B. : 1. All questions are compulsory

2. Figures to right indicate full marks

Q. 1	Choose the appropriate option for following multiple choice-based questions. Each question carries one mark.	20 M
1	The type of metabolic reaction which occurs in the following biotransformation is 	
	[a]Oxidation at benzylic carbon [b]Oxidation of Aromatic ring [c]Oxidation of C-S system [d] S-demethylation	
2	Which of the following statement is incorrect about metabolism of drugs [a] Metabolism is also called a detoxification process [b] Phase I and Phase II reactions are metabolism pathways [c] Phase II reactions are also called as functionalization reactions [d] Cytochrome enzymes play an important role in the metabolism of drugs	
3	Which of the following is a selective α -1 receptor agonist? 	
4	Which drug contains a 4-amino-6,7-dimethoxyquinazoline ring system attached to an acyl piperazine moiety? [a] Tolazoline [b] Phentolamine [c]Phenoxy-benzamine [d] Prazosin	
5	What is the name of this cholinergic drug? 	
	[a]Bethanechol chloride [b]Carbachol chloride [c]Methacholine chloride [d] Acetylcholine chloride	
6	Which drug is synthesised using phenyl acetonitrile and 1,5-dibromopentane as precursors? [a] Cyclopentolate [b]Tacrine [c] Neostigmine [d] Dicyclomine	
7	Select the INCORRECT statement with respect to the SAR of adrenergic agonists with specific reference to 3',5'-dihydroxy ring substitution pattern. [a] Increases the drug distribution [b] Increases resistance to metabolism by COMT [c] Provides selectivity for β 2-receptors [d] Gives orally active bronchodilator	

8	Following are structural requirements essential for sympathomimetic activity of arylethanolamines EXCEPT? [a] (1S)-OH [b] Catechol ring [c] β -phenylethylamine [d] (1R)-OH
9	Identify the triazole ring fused benzodiazepine from the following. [a] Chlordiazepoxide [b] Diazepam [c] Oxazepam [d] Alprazolam
10	The benzodiazepine analog which has the least sedative activity [a] ortho-substituted 5-aryl benzodiazepine [b] di-ortho-substituted 5-aryl benzodiazepine [c] para-substituted 5-aryl benzodiazepine [d] unsubstituted 5-aryl benzodiazepine
11	Droperidol is a member of ---- class of antipsychotic agents. [a] Phenothiazine [b] Butyrophenone [c] Benzazepine [d] Benzoisoxazole
12	The spacer group present between the ring nitrogen and the side chain amino nitrogen in phenothiazines for optimum antipsychotic activity is [a] Butyl [b] Methyl [c] Ethyl [d] Propyl
13	Identify the name of ring present in phenytoin from the following [a] Succinimide [b] Oxazolidinedione [c] Hydantoin [d] Iminostilbene
14	Which of the following phenothiazine derivatives contains piperidine side chain. [a] Thioridazine [b] Prochlorperazine [c] Triflupromazine [d] Chlorpromazine
15	Which of the following is structural isomer of Enflurane [a] Isoflurane [b] Sevoflurane [c] Methoxyflurane [d] Desflurane
16	Which of the following is not an example of Inhalation anaesthetics [a] Halothane [b] Enflurane [c] Ketamine [d] Sevoflurane
17	Which of the following is INCORRECT statement about Methadone [a] Methadone is a synthetic opioid [b] R-enantiomer is more potent than S enantiomer [c] Methadone is opioid antagonist [d] N-demethylation is major metabolic pathway for Methadone
18	Which of the following is not a structural feature of Opioid Antagonist [a] Presence of allyl/cyclopropyl methyl group at 17th position [b] Replacement of 6-OH with keto group [c] Presence of 7-8 double bond [d] Substitution of 14 OH
19	The isosteric replacement of the indole ring with the Indene ring system resulted in which of the following anti-inflammatory drug [a] Sulindac [b] Diclofenac [c] Tolmetin [d] Naproxen
20	Identify the given anti-inflammatory agent  [a] Piroxicam [b] Tolmetin [c] Phenacetin [d] Mefenamic acid

Q.2 Answer any one of the following two questions.		12M
A	(I) State whether following statements are true or false in relation to the compounds (structure drawn below) active as antimuscarinic agents. If false, correct the statement and justify. Support your answer with relevant structures.	6M
		
	<ol style="list-style-type: none"> 1. Substitution of R₂ and R₃ by naphthalene ring increases the anticholinergic activity. 2. Introduction of hydroxyl group at R₁ increases the anticholinergic activity. 3. Compound belong to the amino alcohol ether class if X = -COO- and R₁ = -OH. 	
	(II) Outline the synthesis of Salbutamol along with reaction conditions and necessary reagents and give its mechanism of action.	4M
	(III) Phenoxybenzamine and Prazosin are two α-adrenergic antagonists. Is their mechanism of action the same? Explain.	2M
B	(I) Answer the following questions	6M
		
	<ol style="list-style-type: none"> 1. Indicate the chemical classes of 'a' and 'b' 2. Predict the effect of attaching a methyl group on both the ring nitrogens of 'a' 3. Write the mechanism of action of 'c' 4. Predict the effect of replacing the ring methyl group of 'b' by H 5. Name the enzymes involved in the metabolism of 'd' 	
	(II) Explain the basis of GI side effects, generally caused by the non-selective class of NSAIDs.	2M
	(III) (1) Give two examples of Narcotic antagonists with structure. (2) Give two examples of flexible opioid agonists with structure.	4M

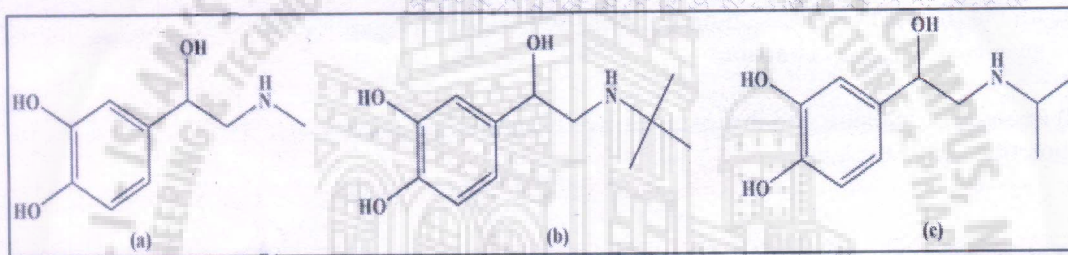
Q.3 Answer any four of the following five questions.

A (I) Match the following

	Drugs		Column A		Column B
1	Clonidine	a	Metabolized to α -methyl NE	i	2-Arylimidazoline
2	Naphazoline	b	Contains resorcinol nucleus	ii	Non-catecholamine β 2-selective agonist
3	Methyldopa	c	Indirect acting adrenergic agonist	iii	Phenylethylamine
4	Terbutaline	d	Contains naphthalene ring	iv	2-aminoimidazoline
5	Isoproterenol	e	Presence of o-chlorine groups and NH bridge	v	Phenyl propanolamine
6	Pseudoephedrine	f	Non-selective β -agonist	vi	Catecholamine with isopropyl N-substituent

(II) Which structural modifications in sympathomimetics bestow the following properties -
 (1) Resistance to COMT (2) Resistance to MAO (3) Oral activity

(III) Answer the questions with respect to the structures given below



1. Which of the above structures is a selective β 2-agonist?
2. Predict the effect of isopropyl group on selectivity in structure C.
3. Arrange the above structures in the increasing order with respect to rate of metabolism by MAO.

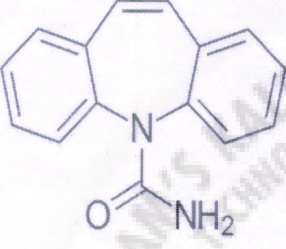
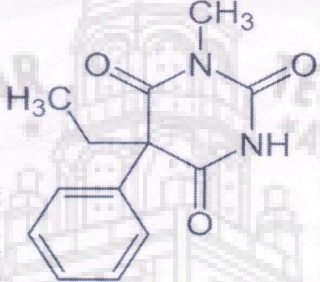
B (I) Describe biosynthesis, storage, release and metabolism of acetylcholine.

(II) Explain the effect of following structural changes on the activity of muscarinic agonist (structure drawn below).



1. Replacement of acetyl group with propionyl group
2. Replacement of all three $-CH_3$ groups on the quaternary nitrogen with $-C_2H_5$
3. Replacement of acetyl group of acetylcholine with carbamate
4. Addition of methyl group on α carbon atom

(III) Differentiate between reversible and irreversible acetylcholine esterase inhibitors.

<p>C</p>	<p>(I) Answer the following questions. Support your answer with relevant structures wherever required</p> <ol style="list-style-type: none"> 1. Protein binding can prolong the duration of action. Explain 2. 'Geometrical isomerism influences biological activity'. Explain with suitable examples. 3. Enlist Phase I reductive metabolic reactions 4. Explain the concept of bioisosterism with suitable examples 5. Give an example of 'hydrolysis' as biotransformation pathway. <p>[II] Elaborate on factors affecting drug metabolism</p> <p>[III] Write the structure of any two Phase I metabolites of following</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>[a]</p> </div> <div style="text-align: center;">  <p>[b]</p> </div> </div>	<p>5M</p> <p>3M</p> <p>4M</p>	<p>12M</p>
<p>D</p>	<p>(I) Classify antipsychotic drugs based on their chemical structures with at least one example from each class. (Structures needed)</p> <p>(II) Outline the synthetic scheme of chlorpromazine indicating the reagents and reaction conditions used.</p> <p>(III) Compare the antipsychotic activity and side effect profile of chlorpromazine with prochlorperazine.</p>	<p>4M</p> <p>4M</p> <p>4M</p>	<p>12M</p>
<p>E</p>	<p>(I) Explain why morphine has poor oral bioavailability. Discuss the structure activity relationship of morphine analogues with suitable examples.</p> <p>(II) Classify the following drugs into various subclasses of NSAIDs and give their structures and mechanism of action</p> <p>Indomethacin, Diclofenac, Aspirin, Acetaminophen, Antipyrine, Ketorolac</p>	<p>6M</p> <p>6M</p>	<p>12M</p>

3

09/05/2022
- Sem - IV

Subject: Physical Pharmaceutics- II
Duration: 3 Hrs.

Class: S. Y. B. Pharm. (Sem.-IV) R-2019
Maximum Marks: 80

- N.B.: 1. All questions are compulsory
2. Figures to right indicate full marks

- Q. I Choose the appropriate option for the following multiple choice based questions. 20M**
1. Dilatant flow is characterized as a reverse phenomenon of:
 - a. Newtonian flow
 - b. Plastic flow
 - c. Pseudoplastic flow
 - d. Rheopexy
 2. A plot of shear rate, as a function of shear stress is called
 - a. Rheogram
 - b. Standard Plot
 - c. Humidity Chart
 - d. Histogram
 3. Brook-field viscometer is an example of _____ viscometer.
 - a. Cone and plate
 - b. Extrusion
 - c. Rotating sphere
 - d. Rotating spindle
 4. During elastic deformation, the stress-strain relationship for a specimen is described by
 - a. Hooke's law
 - b. Boyle's law
 - c. Beer Lambert's law
 - d. Charlie's law
 5. A deformation that recover after the release of stress is known as
 - a. plastic deformation
 - b. elastic deformation
 - c. pseudoplastic deformation
 - d. creep
 6. The ratio of void volume to bulk volume is known as
 - a. Porosity
 - b. Tapped density
 - c. Granule volume
 - d. Bulk Density
 7. Helium pycnometer is used to determine
 - a. Size
 - b. True density
 - c. Sedimentation rate
 - d. Surface area
 8. The powder having low bulk density or large bulk volume is known as
 - a. Bulk powder
 - b. Heavy powder
 - c. Light powder

Page 1 of 4

- d. Granular powder
9. Which of the following is the half-life of First order reaction?
a. $t_{1/2} = 2k$
b. $t_{1/2} = A_0/2k$
c. $t_{1/2} = 0.693/2k$
d. $t_{1/2} = 0.693/k$
10. Climate zone III is
a. Hot/dry climate
b. Subtropical and Mediterranean climate
c. Hot/humid climate
d. Moderate climate
11. The dielectric constant is used to measure
a. Spreadability of the solvent
b. Polarity of the solvent
c. Viscosity of the solvent
d. Temperature of the solvent
12. _____ is the reaction of compounds and molecular oxygen
a. Photolysis
b. Hydrolysis
c. Auto-Oxidation
d. Thermolysis
13. The type of emulsion can be easily identified using the following test except _____ test.
a. Dye solubility
b. Creaming
c. Dilution
d. Redispersibility
14. As the viscosity of the emulsion is _____ the flocculation of globules will be reduced.
a. Increased
b. Decreased
c. Maintained zero
d. Lowered
15. In an emulsion, the relative volume of water and oil is expressed as _____
a. Phase ratio
b. Phase volume ratio
c. Phase inversion
d. Viscosity
16. _____ is an example of hydrophilic colloid used in preparation of an emulsion.
a. Acacia

- b. Spans
 - c. Bentonite
 - d. Veegum
17. _____ surfactants do not impart charges on interfacial films.
- a. Ionic
 - b. Non ionic
 - c. Cationic
 - d. Anionic
18. Donnan membrane effect means:
- a. Driving the drug ion of similar charge to the opposite side of the semipermeable membrane
 - b. Driving the drug ion of opposite charge to the opposite side of the semipermeable membrane
 - c. Driving the drug ion of neutral charge to the opposite side of the semipermeable membrane
 - d. Stopping the transfer of drug ion of similar charge to the opposite side of the semipermeable membrane.
19. Which of the following is an example of lyophilic colloid?
- a. Gold
 - b. Silver
 - c. Sulphur
 - d. Albumin
20. Lyophobic colloids are:
- a. Easy to prepare and thermodynamically stable
 - b. Easy to prepare but thermodynamically unstable.
 - c. Difficult to prepare but thermodynamically stable
 - d. Difficult to prepare and thermodynamically unstable

Q. II A) Answer any one question.

12M

- a. Explain the optical properties of colloids in detail
- b. Classify viscometers. Describe the principle, construction and working of cup and bob viscometer.

Q. II B) Answer any four questions.

48M

- 1. a. Describe types of particle deformation. **6M**
- b. Describe the mechanical behaviour of solids in terms of elastic modulus. **6M**
- 2. a. What do you understand by particles packaging arrangements in powders? How is powder porosity evaluated? **6M**
- b. What are the methods used for determining particle size? Explain in detail any two. **6M**
- 3. a. Enlist the various theories of emulsification. Discuss any two theories in brief. **6M**
- b. State Stoke's law and its significance in sedimentation of suspension **6M**

- 4. a. Discuss the various factors influencing particle settling in suspension. 6M
- b. Discuss the various identification tests used to differentiate the type of emulsion. 6M
- 5. a. What are the limitations of Arrhenius equation for determination of accelerated stability studies? 6M
- b. The half-life of drug which decomposes according first order kinetics is 75 days. Calculate shelf life and k. 6M

ISLAM'S KALSEKAR
ENGINEERING & TECHNOLOGY

MUMBAI - INDIA

Subject: Pharmacology I (Theory)

Year and Sem: S. Y. B. Pharm. Sem IV Rev. 2019

Duration: 3 Hrs

Total marks: 80

- N.B. : 1. All questions are compulsory
2. Figures to right indicate full marks

Q. 1. Choose appropriate option for following multiple choice based questions. 20 marks

1. The phenomenon in which the action of one drug is abolished by the other is known as _____

- a. Antagonism
- b. Synergism
- c. Dose-response relationship
- d. Desensitization

2. The theoretical volume of plasma from which the drug is completely removed in unit time signifies _____ of a drug.

- a. Absorption
- b. Metabolism
- c. Volume of distribution
- d. Clearance

3. Which of the following effect can be seen in competitive antagonism in a drug-response curve?

- a. Non-parallel left shift
- b. Non-parallel right shift
- c. Parallel right shift
- d. Parallel left shift

4. Idiosyncrasy is _____

- a. Type A ADRs
- b. Type B ADRs
- c. Type C ADRs
- d. Type D ADRs

5. Latanoprost is used in the treatment of _____

- a. Myasthenia gravis
- b. Glaucoma
- c. Alzheimer's disease
- d. Epilepsy

6. An example of surface anaesthetic is _____

- a. Prilocaine
- b. Bupivacaine
- c. Benzocaine
- d. Chlorprocaine

7. The most unwanted stage of anaesthesia which can be escaped with newer anaesthetic agents.
 - a. Stage of analgesia
 - b. Stage of delirium
 - c. Medullary paralysis
 - d. Surgical anaesthesia

8. The drug useful in alcohol abstinence is _____.
 - a. Disulfiram
 - b. Propranolol
 - c. Atropine
 - d. Tubocurarine

9. Nootropic drugs are _____.
 - a. CNS depressants
 - b. Anxiolytics
 - c. Cognition enhancers
 - d. Antiepileptic drugs

10. The morphine exerts _____ effect.
 - a. Miosis
 - b. Increased motility
 - c. Respiratory stimulation
 - d. Algesia

11. Low volume of distribution indicates that the drug is distributed in the:
 - a. Vascular compartment
 - b. Extracellular fluid
 - c. Intracellular fluid
 - d. Tissues

12. Which of the following is a G protein coupled receptor?
 - a. Muscarinic cholinergic receptor
 - b. Nicotinic cholinergic receptor
 - c. Glucocorticoid receptor
 - d. Insulin receptor

13. Which of the following statement is correct for nasal decongestants?
 - a. Safer in hypertensives
 - b. Do not produce any systemic effects
 - c. They are alpha antagonists
 - d. Cause impairment of mucosal ciliary function

14. The treatment involved in barbiturate poisoning include _____
 - a. Flumazenil
 - b. Urine alkalization
 - c. Pralidoxime
 - d. Atropine

15. Monoamine oxidase B subtype cause oxidation of _____
 - a. Histamine
 - b. Hydroxytryptamine
 - c. Adrenaline
 - d. Phenylethylamine

16. Atypical antipsychotics are preferred over typical antipsychotics mainly because _____
 - a. Atypical antipsychotics are potent dopamine blockers
 - b. Atypical antipsychotics are specific dopamine receptor blocking
 - c. Excreted unchanged in the urine
 - d. Minimal extrapyramidal side effect

17. Glutathione conjugation detoxifies which of the following drug?
 - a. Proguanil
 - b. Acetazolamide
 - c. Paracetamol
 - d. Dopamine

18. A partial agonist can antagonize the effects of a full agonist because it has _____
 - a. High affinity but low intrinsic activity
 - b. Low affinity but high intrinsic activity
 - c. No affinity and low intrinsic activity
 - d. High affinity but no intrinsic activity

19. Dry, flushed and hot skin, dilated pupil, photophobia, dry mouth, excitement, convulsions and coma are the manifestations of _____
 - a. Organophosphate poisoning
 - b. Morphine poisoning
 - c. Belladonna poisoning
 - d. Heavy metal poisoning

20. The drawback of nitrous oxide as anesthetic agent is
 - a. It may lead to diffusion hypoxia
 - b. It has hangover effect
 - c. It is highly explosive
 - d. Incompatibility with other anesthetic agents

Q. 2 A Answer ANY ONE question.

12 marks

- a Define metabolism. Enlist various Phase I and Phase II reactions. Add a note on enzyme induction and inhibition.
- b Classify anti-epileptics. Give the mechanism of action and adverse effects of Phenytoin and Valproic acid.

Q. 2 B Answer ANY FOUR questions.

48 marks

- a. i. Define absorption. Add a note on factors affecting absorption.
- a. ii Give the advantages and disadvantages of the oral route.
- b. i. Classify the receptors along with the examples. Explain in brief ion channel receptors.
- b. ii. Define clinical trials, enlist their various phases and write a note on preclinical studies.
- c What are sympatholytics? Classify them and add a note on the treatment of Glaucoma.
- d Give mechanism of action and anyone therapeutic use of the following drugs: Thiopental, Disulfiram, Ketamine, and Baclofen.
- e. i. Write a detailed note on Psychostimulants.
- e. ii. Explain the pharmacology of Levodopa.

SET 2 QUESTION PAPER

Subject: Pharmacognosy & Phytochemistry I

Year and Sem: S.Y. B.Pharm (SEM-IV) (Choice Based) (R-2019)

Duration: 3 hours

Total marks: 80

N.B.: 1. All questions are compulsory

2. Figures to right indicate full marks

Q. I	Choose appropriate option for following multiple choice based questions:	20M
1	Artificial invert sugar, an adulterant for honey is detected by ---	
a	Selivonoff's test	
b	Fiehe's test	
c	Ninhydrine test	
d	Fehling test	
2	Position of Plant in taxonomy and chemical nature of drugs is included in which of the following system of classification	
a	Taxonomical Classification	
b	Chemotaxonomical Classification	
c	Chemical classification	
d	Serotaxonomical classification	
3	Total Ash value in case of crude drug signifies	
a	Organic content of the drug	
b	Cellular content of the drug	
c	Inorganic content of the drug	
d	Phytoconstituents of the drug	
4	Palisade ratio is	
a	Total number of palisade cells beneath each epidermal cell	
b	Total number of Palisade cells beneath mesophyll	
c	Average number of Palisade cells beneath each epidermal cell	
d	Average number of Palisade cells beneath four continuous epidermal cells	
5	A change of the DNA sequence within a gene or a chromosome of an organism resulting in the creation of a new character or trait not found in the parental type	
a	Chemodemes	
b	Hybridization	
c	Polyploidy	
d	Mutation	
6	The natural plant growth regulator which promote cell division, cell elongation and useful in root formation, phototropism, geotropism and apical dominance	
a	Cytokinins	
b	Abseicic acid	
c	Auxins	

d	Gibberellins
7	The method of collection of gum from the plant
a	felling
b	cutting
c	tapping
d	digging
8	Following are the methods of in-situ conservation except
a	National Park
b	Botanical Garden
c	Statuary

