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A.R.A College of Pharmacy, Nagaon, Dhule
First Sessional Examination 2018-19

Class: **S.Y.B.Pharmacy** | Semester: **Third**
Subject: **Physical Pharmaceutics-I** | Subject Code: **BP302T**
Total Marks: **30** | Time: 01:30 Hrs
Roll. No.: | Date: **18/ 09 /2018**

Instructions: 1) All Questions are compulsory.
2) Figure in Black to the right indicate full Marks

Q1. Answer Following MCQs **(10 Marks)**

1. Solubility of most gases usually…….with increase in temperature.
   a) decreases b) increases c) does not change d) first increase and then decrease
2. Which of the following co-solvents are used to increase the solubility of a drug
   a) Ethanol b) Sorbitol c) Glycerin d) All of these
3. The phenomenon in which a substance exists inmore than one crystalline forms is called as
   a) Polymorphism b) Crystallinity c) Anisotropy d) Polycrystallinity
4. Amorphous form dissolves……crystalline form
   a) slower than b) faster than c) as the same rate as d) does not dissolve
5. Mesomorphic substances are
   a) in between solid & liquid b) liquid c) solid d) semisolid
6. The hange of state from solid to gas is known as
   a) Fusion b) Boiling c) Sublimation d) Evaporation
7. Wht kind of liquid crystals consist of parallel molecules in layers
   a) Cholesteric b) Nematic c) Smectic d) All of these
8. Rain drops are spherical because of
   a) Gravitational force b) Surface tension c) Air resistance d) Low viscosity of water
9. The apparatus used for the determination of surface tension of a liquid is
   a) Oedometer b) Stalagnometer c) Consolidometer d) None of the mentioned
10. Which of the following describes the gaseous state
    a) gas has both definite shape and volume
    b) gas has definite shape but not volume
    c) gas has definite volume but not definite shape
    d) gas has neither definite shape nor volume

Q2. Answer any ONE long answer question **(10 Marks)**

1. Discuss various factor affecting solubility of gaseous in liquids
2. Explain in detail aerosols
3. Write a note on hydrophilic lipophilic balance and give its uses

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Q3. Answer any TWO short answer questions **(10 Marks)**

1. Write note on surface active agents and its example
2. Comment on diffusion principles in biological systems
3. Discuss various factor affecting solubility of liquid in liquid
4. Explain in brief about crystalline solids and its types

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Sessional Examination 2018-19

Class: Final Year B.Pharmacy	Semester: VII
Subject: P.I.M.	Subject Code: T.4.7.6
Total Marks: 20	Time: 2:00-3:00 PM
Roll. No.:	Date: 25.10.2018

Instructions: 1) All Questions are compulsory.
2) Figure in Black to the right indicate full Marks.

Q1. Solve Any FIVE **(05 Marks)**

1. Define Validation.
2. What is Patent?
3. Write various features of forecasting.
4. Draw a flowchart showing levels of management.
5. Give importance of motivation.
6. Discuss communication in short.
7. Define planning.

Q2. Answer Any ONE **(05 Marks)**

1. Explain silent features of GATT.
2. Write a note on GMP.

Q3. Answer Any TWO **(10 Marks)**

1. Explain theories of leadership in detail.
2. Describe types, function and principle of management.
3. Discuss importance of communication in pharmaceutical industry.
4. Write a note on GLP.

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Second Term-First Sessional Examination 2018-19

Class: S.Y.B.Pharmacy	**Semester: IVth**
Subject: Medicinal Chemistry- I	**Subject Code: BP402T**
Total Marks: 30	**Time: 12:00 – 01:30**
Roll. No.:	**Date:12/02/2019**

Instructions: 1) All Questions are compulsory.

2) Figure in black to the right indicate full Marks

Q1. Answer Following MCQs **(10 Marks)**

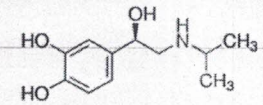
1. **Nor- adrenaline store in……..**
   a) Adrenorecepatar b) Adrenal gland c) Cytoplasm d) Synaptic vesicals

2. **Ephidrene is an example of …….. sympathomimetic agent.**
   a) Direct b) Mixed c) Intermediate d)None of them

3. **3, 4 position –OH group on phenolic ring will responsible for ……. Nature of molecule.**
   a) Polar b) Semi- polar c) Non-polar d) None of them

4. **Which one of following is not physical properties of the drug.**
   a) Isomerism b) Dissociation const. c) Surface activity d) Ionisation

5. **Name of given structure is**



   a) Hydroxyamphetamine b) Epenephrine c) Norepinephrine d) Isoproterenol

6. **Which of the following is not a technique of solubility enhancement**
   a) Ionic bonding b) H- Bonding c) Precipitation d) Co- solvent

7. **Those in which two similar groups are on same side chain of carbon atom**
   a) Cis b) trans c) Tautomerism d) Metamerism

8. **Bulk of nitrogen substituents increases, …….. receptor agaonist activity decreases and …… Adrenoreceptor activity increases**
   a) Alpha 1 , Beta 2 b) Beta1 , Alpha 2 c) Alpha , Beta d)None of them

9. **Which of following is example of no selective COX inhibitor**
   a) Nimesulide b) Indoxole c) Salicylic acid d) None of them

10. **L tyrosine is synthesized from**
    a) L- lactic acid b) L- Phenylephrine c) L- phenylalaninne d) L-tartaric acide

Q2. Answer any ONE long answer question **(10 Marks)**

1) **Define symapthomimetics. Give the classification and mechanism of action of Adrenergic agent along with SAR of direct acting drugs**

2) **Explain in details functionalization reaction**

Q3. Answer any TWO short answer questions **(10 Marks)**

1) **Explain the biosynthesis and metabolism of Catecholamine.**

2) **Write a note on Factor affecting drug metabolism.**

3) **Define and classify Anti- inflammatory agent along with example.**

4) **Write a note on (Any 2)**

   a) Bio-isosterism b) Hydrogen bonding c) Dissociation constant d) Ferguson principle

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Second Term Second Sessional Examination 2018-19

Class: F.Y.M.Pharmacy	**Semester: II**
Subject: Pharmaceutical Manufacturing Technology	**Subject Code: MQA204T**
Total Marks: 30	**Time: 01:30 Hrs**
Roll. No.:	**Date: 28/03/2019**

Instructions: 1) Attempt ANY FIVE.

2) Each Question carries equal marks

Q.1. Enlist various advanced granulation Techniques. Explain extrusion spheronization process.

Q.2. What are various advanced Tablet coating Techniques? Explain in brief press coating.

Q.3. Write a note on Fluidized Bed Coating.

Q.4. Comment on Quality by Design.

Q.5. Discuss Plastic as a material for packaging.

Q.6. Write a short note on PAT.

Q.7. Comment on Stability of packaging material.

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Theory Sessional Examination 2019-20

Class: **Final Year B. Pharmacy**
Subject: **Pharmaceutical Biotechnology**
Total Marks: **20**
Roll. No.:

Semister: VII
Subject Code: T-4.7.5
Time: 1:00 Hr.
Date: 23/10/2019

Instruction: Figure in Black to the Right indicate Full Marks **[CO/PO]**

Q.No	Questions	Marks	CO	PO
1	**Answer Any Five**	05		
	1. Define Cybrids		2	1
	2. Define Biotechnology.		1	1, 11
	3. What is Cell Totipotency.		2	2
	4. Write advantages of Animal Cell Culture		3	1
	5. Define Genetic Engineering.		4	1
	6. What is Callus.		2	1
	7. Enlist types of Cloning Vectors.		4	1
2	**Answer Any Two**	05		
	1. Define Plant Cell Culture. Write a Note on Compositions of Culture Media.		2	1
	2. Write about Any Three techniques of Animal Cell Culture.		3	2
	3. Write a note on Methods of Isolation of Protoplast.		2	1
	4. What is Plasmid? Draw its structure with uses.		4	1
3	**Answer Any Two**	10		
	1. Explain various methods of Protoplast Fusion.		2	2
	2. Write in detail about Enzyme Endonuclease.		4	1
	3. Define Secondary Metabolites. Write a note on Elicitor induced method for production of metabolites.		2	1
	4. Discuss on Scope and Applications of Biotechnology		1	1, 11

----------**Best of Luck**----------

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First Term Second Sessional Examination 2019-20

Class: T.Y.B .Pharmacy | **Semester**: Fifth

Subject: **Pharmaceutical Jurisprudence** | **Subject Code:** BP505T

Total Marks: 30 | **Time**: 02.30 pm to 04:00pm

Roll. No.: | **Date:** 24/ 10 /2019

Instructions: 1) Figure in Black to the Right indicate Full Marks **[CO/PO]**

Q No		Marks	CO	PO
1	**Q1. Solve All**	**10**		
	a) Define i) Opium Poppy ii) Illicit traffic		2	1
	b) What is central register		1	4
	c) Comment on Drug enquiry Committee		1	9
	d) Give the salient feature of pharmaceutical policy		1	9,11
	e) Define i) Ceiling Price ii) Schedule Formulation		4	7,9
	f) Give the objective of Right to information act		4	9
2	**Answer Any ONE**	**10**		
	1. Give the offenses & Penalties as per the narcotic & psychotropic substance act 1985		2	1,4
	2. Write in Detail Medicinal & toilet Preparation		9	3,7
3	**Answer Any TWO**	**10**		
	1. Comment on classes of exempted advertisement		2	9,11
	2. Give the constitution & function of PCI		1	9
	3. Comment on Code of Pharmaceutical Ethics		1	9

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First Term Second Sessional Examination 2019-20

Class: S.Y.B .Pharmacy | **Semester:** Third
Subject: Pharmaceutical Engineering | **Subject Code:** BP304T
Total Marks: 30 | **Time:** 12:00 pm to 01:30pm
Roll. No.: | **Date:** 24/ 10 /2019

Instructions: 1) Figure in Black to the Right indicate Full Marks [CO/PO/PEO]

Q.No		Marks	CO	PO
1	**Q1. Solve All**	**10**		
	1. Which mechanism is involved in filter leaf…. a) Cake Filtration b) Depth Filtration c) Surface Filtration d) Zig-Zag Filtration		3	1
	2. Choose the equipment that carries out four unit operation mixing, granulation, drying & coating…. a) FBD b) Freeze Dryer c) Spray Dryer d) Vacuum Dryer		4	3
	3. Separation of liquid by distillation is based upon the principle of ……. a) Viscosity b) Miscibility c) Vapour pressure d) Boiling point		4	2,6
	4. Which property of substance influences centrifugation ? a) Surface Area b) Density c) Interfacial Tension d) Melting Point		4	3
	5. Flash Distillation is also called as a) Equilibrium Distillation b) Fractional Distillation c) Distillation Under Reduced pressure d) None of above		2	4,6
	6. Centrifugation is used for…… a) Mixing b) Purification c) Separation d) Sizing		1	1,6
	7. Complete separation of individual component is not possible in…… a) Simple distillation b) Flash distillation c) Molecular distillation d) Steam distillation		2	1,3
	8. Which one of the following is not mechanism of filtration….. a) Entagment b) Attrition c) Straining d) Impingement		1,2	1
	9. Disadvantages of spray dryer are…… a)Limited capacity b) Not suitable for solution of salt c) Thermal efficiency is quite low d) All of the above		1,3	11
	10. When solid are present in very low concentration. i.e. not exceeding1% w/v the process of its separation from the liquid is called…….. a) Filtration b) Clarification c) Sterilization d) Straining		2,3	3
2	**Answer Any ONE**	**10**		
	1. Explain principle, construction, working, advantages and disadvantages of FBD.		1,2	1,5
	2. Explain in detail Fractional distillation.		3,4	3,7
3	**Answer Any TWO**	**10**		
	1. Discuss in detail Perforated basket centrifuge.		4	1,11
	2. Explain in detail Plate and frame filter.		3,4	9
	3. Explain in detail Spray Dryer		1,2	2,7

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Second Sessional Examination 2019-20

Class: F.Y.M.Pharmacy (Pharmaceutics)	Semester: First
Subject: Modern Pharmaceutics	Subject Code: MPH 103T
Total Marks: 30	Time: 02.30 pm-04:00 pm
Roll. No.:	Date: 17/ 10 /2019

Instructions: 1) All Questions are compulsory.

2) Figure in black to the right indicate full Marks

Q1. Answer Any FIVE questions **(Marks 30)**

1. Explain about total quality management.
2. Explain preformulation for small volume parenterals.
3. Write in detail note on types of validation.
4. Explain about inventory management and control.
5. Write in detail note on physical parameters of tablet compression.
6. Explain about Dissolution parameters and Pharmacokinetic parameters.
7. Write in detail note on theories of dispersion.

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First Term Second Sessional Examination 2019-20

Class: S.Y.B. Pharmacy
Subject: **Pharmacognosy & Phytochemistry - I**
Total Marks: 30
Roll. No.:

Semester: III
Subject Code: BP405T
Time: 02:30-04:00 PM
Date: 21/02/2020

Instruction: Figure in Black to the Right indicate Full Marks **[CO/PO]**

Q. No		Marks	CO	PO
1	**Answer any Five**	10		
	1. What are Organized and Unorganized drug?		1	1,11
	2. What are Crude drugs? Give Classification of Crude Drugs.		1	1,11
	3. Define Pharmacognosy & Phytochemistry.		1	1,11
	4. Define Stomata Index & Stomata Number.		3	1,11
	5. What is Polyploidy?		1	1,11
	6. Define Plant tissue culture.		1	1,11
	7. Factor affecting collection of crude drug		3	1,11
2	**Answer Any ONE**	10		
	1. What is quality control of Drugs from natural origin? Explain in detail any two methods for Quality Control of drugs from natural origin.		3	1,11
	2. Explain in detail history & development of Pharmacognosy.		2	1,11
3	**Answer Any TWO**	10		1,11
	1. Write note on quantification of leaf constant.		2	1,11
	2. Explain in detail classification of Crude drugs.		2	1,11
	3. Write a note on scope of Pharmacognosy.		1	1,11

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Second Term-First Sessional Examination 2019-20

Class: F.Y.B.Pharmacy | Semester: II

Subject: Biochemistry | Subject Code: BP203T

Total Marks: 30 | Time: 12:00-1:30 PM

Roll. No.: | Date: 24/02/2020

Instruction: Figure in Black to the Right indicate Full Marks **[CO/PO]**

Q. No		Marks	CO	PO
1	**Q1. Answer Following MCQs**	**10**		
	1. The building block or repeating unit in protein is- a) Fatty acid b) Lipid c) Amino Acid d)Glycoprotein		1	1,11
	2. Which of the following biomolecules are Polyhydroxy aldehydes or polyhydroxy ketones a) Lipids b)Carbohydrates c) Proteins d) Amino Acids		1	1,11
	3. The carbohydrates which contains 2 to 10 units of monosaccharides are known as- a) Oligosaccharides b) Polysaccharides c)Disaccharides d)Trisaccharide		1	1,11
	4. Which of the following is ketohexose a) Glucose b) Fructose c) Sucrose d) Maltose		1	1,11
	5. Which of the following is non-essential amino acid? a) Leucin b) Tryptophan c) Arginine d) Cysteine		1	1,11
	6. The process of synthesis of glucose from non-carbohydrate precursors is known as a) Gycogenesis b) Gluconeogenesis c) Glycogenolysis d) Glycolysis		4	1,11
	7. The number of ATP synthesized in glycolysis in aerobic condition are a) 8 b) 2 c) 38 d) 6		4	1,11
	8. Which of the following pathway is also known as EMP pathway a) Glycogenolysis b) Kreb cycle c) Glycogensis d) Glycolysis		4	1,11
	9. Citric acid cycle is also known as a) Kreb cycle b) Amino acid cycle c) Both a and b d) none of the above		4	1,11
	10. Which of the following biomolecule is necessary for protein synthesis a) RNA b) DNA c) Lipid d)Glycogen		1	1,11
2	**Answer Any ONE**	**10**		
	1) Explain glycolysis in detail with energetics.		4	1,11
	2) What is enzyme inhibition? Explain in detail various types of enzyme inhibition.		2,3	1,11
3	**Answer Any TWO**	**10**		1,11
	1) What are carbohydrates? Classify them with suitable examples.		1	1,11
	2) Explain citric acid/ Krebs cycle in brief.		4	1,11
	3) Explain the factors affecting catalytic activity of enzyme.		2,3	1,11
	4) Describe gluconeogenesis.		4	1,11

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First Sessional Examination 2019-20

Class: F.Y.M.Pharmacy | **Semester: Second**

Subject: Cosmetics & Cosmeceuticals | **Subject Code: MPH 204T**

Total Marks: 30 | **Time: 01:30 Hrs**

Roll. No.: | **Date: 20/02/2020**

Instructions: 1) Attempt ANY SIX **5 marks each**

2) Figure in black to the right indicate full Marks

3) Each question carries equal marks

Q. 1. Discuss on guidelines for herbal cosmetics.

Q. 2. Explain about regulatory provisions of cosmetics manufacturing.

Q. 3. Discuss in detail formulation of cold cream. Give the evaluation of cold cream.

Q. 4. Write a note on skin and hair structure. Explain hair growth cycle.

Q. 5. Discuss classification and regulatory aspects of sunscreens.

Q. 6. Give classification of perfumes. Explain its ingredients.

Q. 7. Explain in detail hair cosmetic preparations and their quality control.

Q. 8. Give the difference between drugs and cosmetics. Add a note on formulation aspects of vanishing cream.

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B. Pharmacy [2020-21]

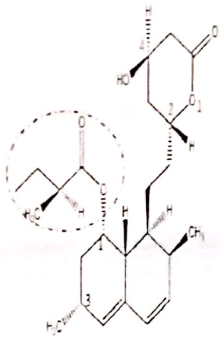
Title : SECOND SESSONAL EXAM
Subject : Medicinal Chemistry-II - Theory
Faculty : Dr. Nitin Shirole
Year : Third Year - Fifth Semester (Div A)
Date : Tue 17 Nov, 2020
Marks : 30
Duration : 120 Minutes

1] Question : Which of the following is bad cholesterol? [Single Correct] [1 Marks]

1) VLDL
2) HDL
3) Chylomicrons
4) ⊘**None of the above**

Explanation :

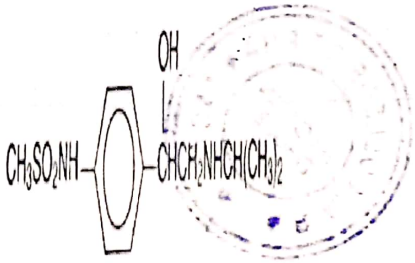
2] Question : Name the following Drug [Single Correct] [1 Marks]



1) Simvaststin
2) pravastatin
3) ⊘**Lovastatin**
4) Clofibrate

Explanation :

3] Question : The name of the following drug is – [Single Correct] [1 Marks]



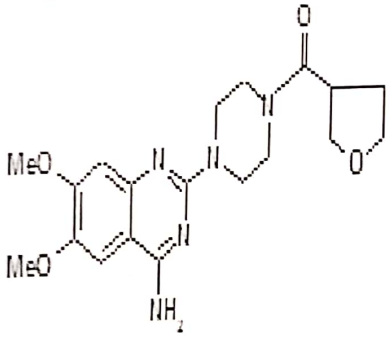
1) ⊘**Sotalol**

) Estrane
4) None of the above
Explanation :

9] Question : Chair conformation of steroid is more stable than boat conformation due to less angle strain. [Single Correct] [1 Marks]
1) ⊘**TRUE**
2) FALSE
Explanation :

10] Question : The metabolism of Propranolol is – [Single Correct] [1 Marks]
1) ⊘**N-dealkylation, deamination and oxidation of resultant aldehyde.**
2) N- oxide formation and conjugation with glucoronic acid
3) Hydroxylation at paraposition to aromatic moiety
4) None of the above
Explanation :

11] Question : What is the name of the given structure? [Single Correct] [1 Marks]



1) Atenolol
2) Clonidine
3) Propranolol
4) ⊘**Prazocine**
Explanation :

12] Question : Cardiac arrhythmia is caused due to – [Single Correct] [1 Marks]
1) Disorder of impulse formation
2) Disorder of impulse conduction
3) Disorder of impulse formation and impulse conduction
4) ⊘**All of the above**
Explanation :

13] Question : On the basis of Relative dissociation from sodium channel antiarrhythmic Class Ia drugs are--- [Single Correct] [1 Marks]
1) Rapid dissociation form Na+ Channel
2) Sow dissociation form Na+ Channel
3) ⊘**Intermediate dissociation form Na+ Channel**
4) Fast dissociation form Na+ Channel
Explanation :

14] Question : An Iodine containing drug which has effect on thyroid hormone is --- [Single Correct] [1 Marks]
1) ⊘Amiodarone
2) Bretylium
3) Verapamil
4) Propranolol
Explanation :

15] Question : Normal range for Blood pressure is— [Single Correct] [1 Marks]
1) ⊘**120/80 mm Hg**
2) 100/70 mm Hg
3) 110/90 mm Hg
4) 90/110 mm Hg
Explanation :

16] Question : The important binding point at the active site of ACE are ----------which provide a cationic site that attracts a carboxylate and Zn ions, which can polarize a carbonyl group of an amide function to make it more susceptible for hydrolysis. [Single Correct] [1 Marks]
1) Methionine residue
2) ⊘**Argentine residues**
3) Fe2+ ion
4) None of the above
Explanation :

17] Question : Testosterone is metabolized by— [Single Correct] [1 Marks]
1) Oxidation at C2
2) Reduction of 3-keto group
3) ⊘**Oxidation of 17-α OH**
4) None of the above
Explanation :

18] Question : Fully saturated steroid contain ------- dissimilar asymmetric carbon [Single Correct] [1 Marks]
1) 10
2) 7
3) 6
4) ⊘**9**
Explanation :

19] Question : Verapamil has- [Single Correct] [1 Marks]
1) antihypertensive
2) antiarrhythmic
3) antianginal
4) ⊘**all of the above**
Explanation :

20] Question : The complete name of HMG Co-A is [Single Correct] [1 Marks]
1) ⊘3-hydroxy-3-methylglutaryl coenzyme A
2) 3-hydroxy 3-methionine- Guanine Co-A
3) Hypoxanthin Methyl Glycolase Co-A
4) dNone of the above
Explanation :

21] Question : Mostly hyperlipidemia is caused by--- [Single Correct] [1 Marks]
1) Obesity
2) not exercising, and smoking
3) diabetes
4) ⊘**All of the above**
Explanation :

22] Question : Which of the following sentence is correct? [Single Correct] [1 Marks]
1) ⊘**Clofibrate lowers plasma concentration of Triglyceride and Cholesterol but more promising effect on triglyceride**
2) Clofibrate lowers plasma concentration of LDL
3) Clofibrate lowers plasma concentration of only Cholesterol
4) None of the above
Explanation :

23] Question : Cholestyramine is a quaternary amine exhibit PH dependent action [Single Correct] [1 Marks]
1) ⊘**TRUE**
2) FALSE
Explanation :

24] Question : To produce HMG Co- A reductase action drug must have— [Single Correct] [1 Marks]
1) ⊘**3,5- dihydroxy carboxylate and lactone ring**
2) 3-chloro-5-hydroxy group with sugar moiety
3) hydrolysable substituent at 5 position
4) e. None of the above
Explanation :

25] Question : d (+) enantiomer of sotalol has – [Single Correct] [1 Marks]
1) K+ channel blocking property like l (-) enantiomer and β- adrenergic blocking property 30 times less than d (-) enantiomer
2) K+ channel & β- adrenergic blocking property
3) a and b is correct
4) ⊘**d. Only a is correct**
Explanation :

26] Question : One of the following is not a class of drug use for antiarrhythmic action-- [Single Correct] [1 Marks]

1) calcium channel blockers

2) sodium channel blockers

3) HMH Co-A inhibitors

4) ⊘all of the above

Explanation :

27] Question : In the nomenclature of steroids the Symbol Δ is use to designate--- [Single Correct] [1 Marks]

1) Position of Hydrogen bond

2) Fully saturated compounds

3) ⊘The position of C = C in a steroid.

4) d. None of the above is correct

Explanation :

28] Question : In the nomenclature of steroids Solid Circle is used to indicate--- [Single Correct] [1 Marks]

1) ⊘β- Hydrogen's

2) The α-hydrogen

3) Unsaturation

4) Saturated steroid

Explanation :

29] Question : How many carbons are in the basic steroid structure? [Single Correct] [1 Marks]

1) 27

2) ⊘17

3) 18

4) 19

Explanation :

30] Question : Gynecomastia, a condition that can be caused by steroid abuse, is _____ [Single Correct] [1 Marks]

1) Fat deposits in arteries

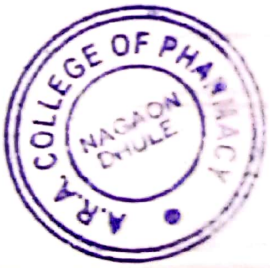
2) ⊘Breast development in men

3) Baldness

4) none ot the above

Explanation :

Marks distribution as per Bloom's level



Bloom's Level	Linked Question Count	Marks	Percentage
Create	0	0	0.00
Evaluate	26	26	86.67
Analyze	16	16	53.33
Apply	17	17	56.67
Understand	19	19	63.33
Remember	18	18	60.00

NOTE : Percentage for each Bloom's level is calculated using following formula

Percentage = (Marks per Bloom's level / Total marks of all questions) * 100

Dhulia Charitable Societys Annasaheb Ramesh Ajmera College of Pharmacy, Nagaon

B. Pharmacy (2020-21)

Assignment Name : First Sessional Examination (First term) September 2020 (A.Y.20-21)
Assignment Set : Final Year B. Pharmacy
Subject : Instrumental Methods of Analysis - Theory
Faculty : Swapnil Balwant Deshmukh | **Group :** Seventh Semester (Div A) | **Marks :** 30

Q.1 Mutiple choice questions (10 Marks)

a) The decrease in the Fluorescence intensity is known as

Mark(s) 1.00
Type SINGLE-CHOICE

- ○ Quenching effect
- ○ Tyndall effect
- ○ Shadow effect
- ○ Specific absorbance

b) The sample cell is made up of.....in U.V. spectroscopy.

Mark(s) 1.00
Type SINGLE-CHOICE

- ○ Glass
- ○ Quartz
- ○ Both
- ○ None of the above

c) The Lambert's law is related to the—

Mark(s) 1.00
Type SINGLE-CHOICE

- ○ Volume
- ○ Concentration
- ○ Density
- ○ Thickness of sample cell

d) Grating is a device used in the spectrophotometer to function as

Mark(s) 1.00
Type SINGLE-CHOICE

- ○ [illegible]

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○ a light source

○ a monochromator

○ a detector

○ a nebulizer

e) The turbidometry is based on the principle of

Mark(s) 1.00
Type SINGLE-CHOICE

○ measurment of intensity of refracted radiations

○ measurment of intensity of scattered radiations

○ measurment of intensity of transmitted radiations

○ None of the above

f) The role of Hollow cathode lamp in Atomic absorption spectroscopy is

Mark(s) 1.00
Type SINGLE-CHOICE

○ to convert metallic solution into neutral atoms

○ to transit neutral atoms from ground state to excited state

○ Both

○ None of the above

g) The Fluorescence spectroscopy is a type of Emission spectroscopy——

Mark(s) 1.00
Type TRUE-FALSE

○ TRUE

○ FALSE

h) When absorptiom maxima (λmax) of a compound is shifted towardsshorter wavelength, It is called as

Mark(s) 1.00
Type SINGLE-CHOICE

○ Bathochromic shift

○ Hypsochromic shift

○ Hyperchromic shift

○ Hypochromic shift

i) Select the wavelength range corresponding to visible region

Mark(s) 1.00
Type SINGLE-CHOICE

○ less than 200nm

c) $\pi \rightarrow \pi^*$

d) $n \rightarrow \pi^*$

e) $\sigma \rightarrow \sigma^*$

ii) Which type of electronic transition requires lowest energy for excitation for UV visible spectroscopy?

Marks) 1.00
Type: Single choice

a) $\sigma \rightarrow \sigma^*$

b) $\pi \rightarrow \pi^*$

c) $n \rightarrow \sigma^*$

d) $n \rightarrow \pi^*$

Q.2 Solve any Two questions out of three (10 Marks)

a) Explain the instrumentation of Nephelometer in detail

Marks) 5.00
Type: DESCRIPTIVE

b) Write the principle of Atomic absorption spectroscopy. Add a note on Hollow cathode lamp

Marks) 5.00
Type: DESCRIPTIVE

c) Describe the different types of electronic transitions involved in U.V spectroscopy

Marks) 5.00
Type: DESCRIPTIVE

Q.3 Solve any One question out of two (10 Marks)

a) What is Fluorescence and Phosphorescence? Explain the various factors affecting on Fluorescence intensity in detail

Marks) 10.00
Type: DESCRIPTIVE

b) Explain the instrumentation of Single beam U.V. spectrophotometer. Add a note on Applications of U.V. spectroscopy

Marks) 10.00
Type: DESCRIPTIVE

B. Pharmacy [2021-22]

Title : 2 Sessional Exam
Subject : Medicinal Chemistry-II - Theory
Faculty :
Year :
Date : Mon 29 Nov, 2021
Marks : 30
Duration : 90 Minutes

1] **Question : Angiotensin III is responsible for-** [Single Correct] [1 Marks]
1) Vasoconstriction
2) ⊘**Aldosteron Secretion**
3) Vasodialation
4) Aldosteron Excretion
Explanation :

Bloom's Level: Remember, Evaluate **Course Outcome:** CO1, CO3

2] **Question : ----- is good cholesterol.** [Single Correct] [1 Marks]
1) LDL
2) VLDL
3) IDL
4) ⊘**HDL**
Explanation :

Bloom's Level: Remember, Evaluate **Course Outcome:** CO1, CO4

3] **Question : Sildenafil acts by-** [Single Correct] [1 Marks]
1) Inhibition of topoisomerase-II
2) Inhibition of carbonic anhydrase
3) ⊘**Blocking phosphodiesterase-5**
4) Inhibition of Protein synthesis
Explanation :

Bloom's Level: Remember, Apply **Course Outcome:** CO1, CO2, CO4

4] **Question : Thiadiazole ring is present in-** [Single Correct] [1 Marks]
1) furosemide
2) ⊘**Acetazolamide**
3) hydrochlorthiazide
4) Spironolactone
Explanation :

Bloom's Level: Remember, Understand, Apply **Course Outcome:** CO3, CO4

5] **Question : Common structural feature in Losartan and valsartan is-** [Single Correct] [1 Marks]
1) Imidazole
2) Triazole
3) ⊘**Tetrazole**
4) Thiadiazole
Explanation :

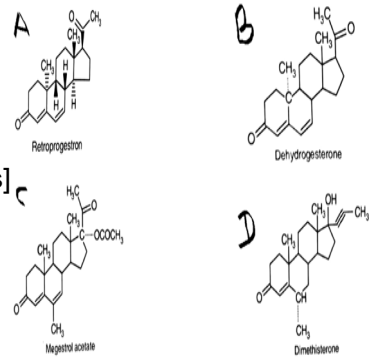
6] **Question : In the nomenclature of steroid the Symbol ∆ is use to designate------** [Single Correct] [1 Marks]
1) Presence of three member ring
2) ⊘**Presence of carbon carbon double bond**
3) The enlargement of ring in the steroid nucleus
4) Presence of alpha hydrogen atom
Explanation :

Bloom's Level: Understand, Analyze **Course Outcome:** CO1, CO3

7] **Question : Clofibrate acts by inhibition of HMG CoA reductase enzyme.** [True/False] [1 Marks]
1) TRUE
2) ⊘**FALSE**
Explanation :

8] **Question : Terazosin do not have following structural feature-** [Single Correct] [1 Marks]
1) Benzopyridine
2) Piperazine
3) ⊘**Furan**
4) Tetrahydrofuran
Explanation :

9] **Question : Inversion of configuration at C10 and C19 in progesterone leads to one of the following**



— [Single Correct] [1 Marks]
1) ⊘**A**
2) B
3) C
4) D
Explanation :

10] Question : The common structural feature of Captopril and Enalapril is- [Single Correct] [1 Marks]
1) Pyrrole
2) Benzene
3) Imidazole
4) ⊘**Pyrrolidine**
Explanation :

Course Outcome: CO1, CO2

11] Question : Cholestyramine is- [Single Correct] [1 Marks]
1) Fibric acid derivative
2) ⊘**Bile acid Sequestrants**
3) HMG CoA reductase inhibitors
4) Lipoprotien lipase inhibitors
Explanation :

Bloom's Level: Analyze **Course Outcome:** CO1, CO4

12] Question : Introduction of double bond in between C6 and C7 in substituted 17α-dihydroprogesterone Derivative enhance the --- [Single Correct] [1 Marks]
1) ⊘**Progestational activity**
2) Anabolic activity
3) Adrogenic activity
4) Estrogenic activity
Explanation :

Course Outcome: CO1, CO3

13] Question : Imidazole ring is present in- [Single Correct] [1 Marks]
1) Valsartan
2) ⊘**Losartan**
3) Candensartan
4) GTN
Explanation :

14] Question : Nicorandil contains- [Single Correct] [1 Marks]
1) ⊘**Pyridine**
2) Pyrimidine
3) Pyridazine
4) Pyrazine
Explanation :

Bloom's Level: Understand, Evaluate **Course Outcome:** CO3

15] Question : Erectile dysfunction can result from--- [Single Correct] [1 Marks]
1) Limited blood flow in the penis
2) Depression

3) Relationship conflicts
4) ⊘**All**
Explanation :

16] **Question : Lovastatin contains-** [Single Correct] [1 Marks]
1) ⊘**Napthalene**
2) Pyrrole
3) Pyridine
4) Benzene
Explanation :

17] **Question : GTN acts by-** [Single Correct] [1 Marks]
1) Activation of guanylyl cyclase
2) Increased cGMP
3) causing dephosphorylation MLCK
4) ⊘**All**
Explanation :

18] **Question : The absolute stereochemistry of the steroid molecule and any substituent is shown by -** [Single Correct] [1 Marks]
1) ⊘**Solid bond (β-configuration) and dotted bond (α-configuration)**
2) Solid bond (α -configuration) and dotted bond (β -configuration)
3) All of the above
4) None of the above
Explanation :

19] **Question : Which of the following is not long acting nitrovasodialators?** [Single Correct] [1 Marks]
1) Erythritol tetranitrate
2) ⊘**Glyceryl trinitrate**
3) Pentaerythritol tetranitrate
4) Isosorbide dinitrate
Explanation :

20] **Question : Dipyridamole do not have following structural features-** [Single Correct] [1 Marks]
1) ⊘**Pyridine**
2) Piperidine
3) Pyrimidine
4) Tertiary amine
Explanation :

21] **Question : Hydralazine have following fused ring--** [Single Correct] [1 Marks]
1) Benzopyridine
2) ⊘**Benzopyridazine**
3) Benzopyrimidine
4) Benzopyrrole
Explanation :

22] **Question : Fully saturated steroid contain ----------dissimilar asymmetric carbons.** [Single Correct] [1 Marks]
1) 8
2) 7
3) ⊘**9**
4) 12
Explanation :

23] **Question : Phenylalkylamines do not have--** [Single Correct] [1 Marks]
1) Methoxy group
2) Isopropyl group
3) ⊘**Secondary amine**
4) Tertiary amine
Explanation :

Course Outcome: CO1, CO3

24] **Question : Which beta blocker contain napthalene ring?** [Single Correct] [1 Marks]
1) ⊘**Propranalol**
2) Metoprolol
3) Atenolol
4) Labetalol
Explanation :

25] **Question : ------ Derivative have been prepared to enhance oral potency of 17α-hydroxyprogesteron** [Single Correct] [1 Marks]
1) Desmethyl
2) Ether
3) ⊘**Ester**
4) Reduced
Explanation :

Bloom's Level: Remember, Evaluate **Course Outcome:** CO1, CO3

26] **Question : Diltiazem contains-** [Single Correct] [1 Marks]
1) Benzodiazepine
2) Benzothiadiazine
3) ⊘**Benzothiazepine**
4) Benzothiazole
Explanation :

27] **Question : Minoxidil have-** [Single Correct] [1 Marks]
1) Piperidine
2) Pyrimidine
3) Amino substituent

4) ⊘**All**

Explanation :

Course Outcome: CO1, CO3

28] **Question : Which of the following CCB's do not have nitro group?** [Single Correct] [1 Marks]

1) Nifedipine

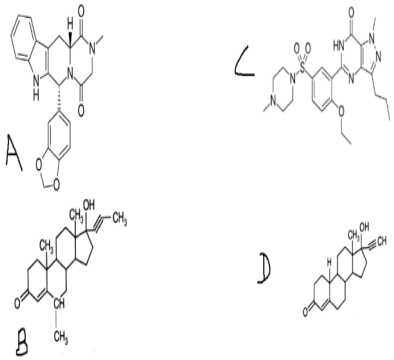
2) ⊘**Amlodipine**

3) Verapamil

4) Nimodipine

Explanation :

29] **Question : Identify the structure of Sildenafil-** [Single Correct] [1 Marks]



1) ⊘**A**

2) B

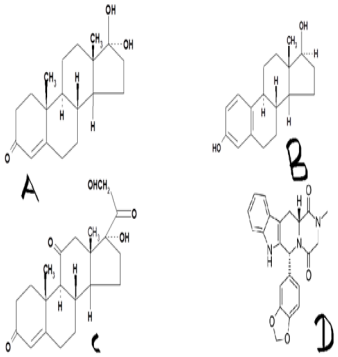
3) C

4) D

Explanation :

Bloom's Level: Remember

30] **Question : Which One of the following is not a progesterone derivative-** [Single Correct] [1 Marks]



1) A & B is correct

2) B & C is correct

3) A & C correct

4) ⊘**None of the above**

Explanation :

Bloom's Level: Remember

Marks distribution as per Bloom's level

Bloom's Level	Linked Question Count	Marks	Percentage
Create	0	0	0.00
Evaluate	4	4	13.33
Analyze	2	2	6.67
Apply	2	2	6.67
Understand	3	3	10.00
Remember	7	7	23.33

NOTE : Percentage for each Bloom's level is calculated using following formula

Percentage = (Marks per Bloom's level / Total marks of all questions) * 100

B. Pharmacy [2021-22]

Title : 1 Sessional exam
Subject : Medicinal Chemistry-II - Theory
Faculty : Dr.Nitin Shirole
Year :
Date : Mon 25 Oct, 2021
Marks : 30
Duration : 90 Minutes

1] **Question : Which of the following acts as an alkylating agent?** [Single Correct] [1 Marks]
1) ⊘**Nitrogen mustards**
2) Methotrexate
3) Calicheamicin γ1
4) Anthracyclines
Explanation :

Bloom's Level: Remember, Understand, Analyze **Course Outcome:** CO1, CO2, CO4

2] **Question : The term antihistamine only refers to --** [Single Correct] [1 Marks]
1) H2 receptor antagonists
2) ⊘**H1 receptor antagonists**
3) H3 receptor antagonists
4) None of the above
Explanation :

Bloom's Level: Remember, Analyze

3] **Question : What enzyme is involved in relieving the tension created in DNA when the DNA double helix is unravelled?** [Single Correct] [1 Marks]
1) Telomerase
2) DNA polymerase
3) Helicase
4) ⊘**Topoisomerase II**
Explanation :

Bloom's Level: Remember, Evaluate **Course Outcome:** CO1, CO2

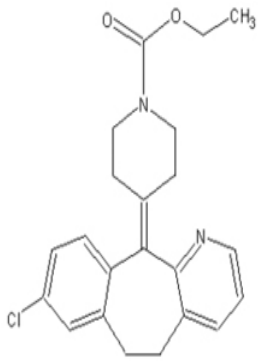
4] **Question : The following structure is a biosynthetic precursor for an important enzyme cofactor required by the enzyme thymidylate synthase.Which cofactor is involved?** [Single Correct] [1 Marks]
1) ⊘**N5, N10-methylene tetrahydrofolic acid**
2) Folic acid
3) Tetrahydrofolic acid
4) Dihydrofolic acid
Explanation :

Bloom's Level: Remember, Analyze **Course Outcome:** CO1, CO2

5] **Question : Common Structural Features of classical first generation antihistamines is--** [Single Correct] [1 Marks]
1) 2 aromatic rings, connected to a central carbon, nitrogen, or oxygen
2) Spacer between central atom and the amine, usually 2-3 carbons in length. (Can be linear, ring, branched, saturated or unsaturated)
3) ⊘**A & B Both are correct**
4) A & B both are incorrect
Explanation :

Bloom's Level: Remember, Analyze **Course Outcome:** CO1, CO4

6] **Question : The following structure is of** [Single Correct] [1 Marks]



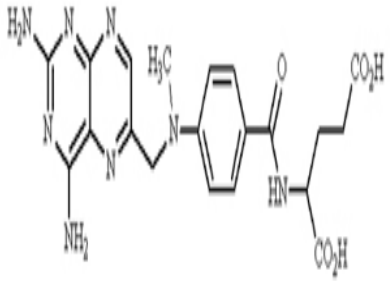
1) Cyproheptadine
2) Cyclizine
3) ⊘**Loratadine**
4) Cetirizine
Explanation :

Bloom's Level: Remember, Apply, Evaluate **Course Outcome:** CO1, CO2

7] **Question : Convertion of dUMP to dTMP is catalysed by the enzyme--** [Single Correct] [1 Marks]
1) Topoisomerase
2) ⊘**Thymidylate synthase**
3) Cytochrome P450
4) None of the above
Explanation :

Bloom's Level: Remember, Analyze, Evaluate **Course Outcome:** CO2, CO4

8] Question : Name of the following structure? [Single Correct] [1 Marks]



1) Folic acid
2) ⊘**Methotrexate**
3) Raltitrexed
4) Tetrahydrofolate
Explanation :

Bloom's Level: Remember, Analyze, Evaluate **Course Outcome:** CO1, CO2

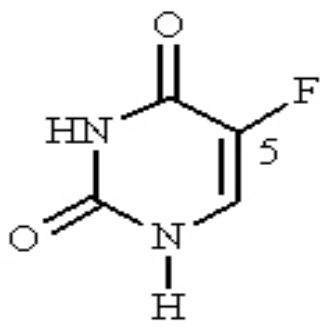
9] Question : Basic advantage of Second generation H1-receptor antagonists over difference of First generation antihistaminics is-- [Single Correct] [1 Marks]
1) They are however bulkier and less lipophilic than the first generation drugs, therefore they do not cross the BBB as readily
2) These are the newer drugs and they are much more selective for the peripheral H1-receptors involved in allergies as opposed to the H1-receptors in the CNS
3) A & B both are incorrect
4) ⊘**A & B both are correct**
Explanation :

Bloom's Level: Remember, Apply, Analyze **Course Outcome:** CO1, CO3

10] Question : Which of following belongs to Ethanolamines antihistaminic class [Single Correct] [1 Marks]
1) Dimenhydrinate
2) Diphenhydramine hydrochloride
3) Doxylamines cuccinate
4) ⊘**All of the above**
Explanation :

Bloom's Level: Remember, Apply, Analyze **Course Outcome:** CO1, CO3

11] Question : What is the target for the below structure to treat cancer? [Single Correct] [1 Marks]



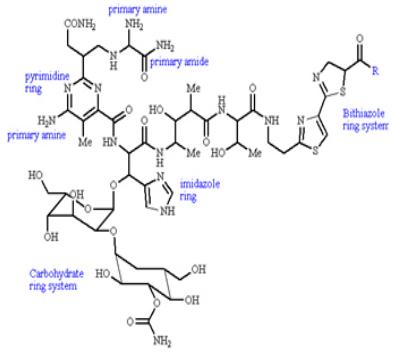
1) ⊘**Thymidylate synthase**
2) Dihydrofolate reductase
3) Adenosine deaminase
4) Ribonucleotide reductase
Explanation :

Bloom's Level: Remember, Analyze **Course Outcome:** CO1, CO2

12] Question : What is the term used for the cisplatin group of anticancer agents? [Single Correct] [1 Marks]
1) Chain cutting agents
2) ⊘**Alkylating agents**
3) Antimetabolites
4) Anticancer antibiotic
Explanation :

Bloom's Level: Remember, Evaluate **Course Outcome:** CO1, CO3

13] Question : Name of the following groups of drugs which are intercalating anticancer agents [Single Correct] [1 Marks]



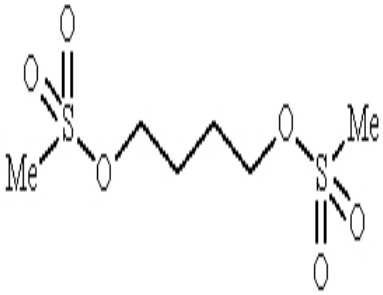
1) Anthracyclines
2) Podophyllotoxins
3) ⊘**Bleomycins**
4) Camptothecins
Explanation :

Bloom's Level: Remember, Understand, Analyze **Course Outcome:** CO1, CO2

14] Question : The molecular target for the vinca alkaloids as anticancer agents is [Single Correct] [1 Marks]
1) Tyrosine kinase
2) Ribosomes
3) DNA
4) ⊘**Tubulin**
Explanation :

Bloom's Level: Remember, Analyze, Evaluate **Course Outcome:** CO1, CO3

15] Question : The following agent is used in the treatment of chronic granulocytic leukaemia:What is the structure called? [Single Correct] [1 Marks]

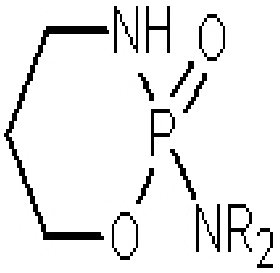


1) Carmustine
2) ⊘**Busulfan**
3) Streptozotocin
4) Cyclophosphamide
Explanation :

Bloom's Level: Remember, Apply, Analyze **Course Outcome:** CO1, CO2, CO4

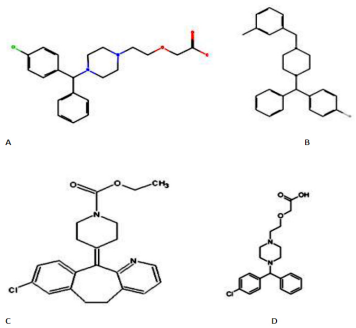
16] Question : What is the name of the following drug ? [Single Correct] [1 Marks]
1) Chlormethine
2) Carmustine
3) Cisplatin
4) ⊘**Cyclophosphamide**

Explanation :



Bloom's Level: Remember, Apply, Evaluate **Course Outcome:** CO1, CO4

17] Question : Which one of the following drug is the active enantiomer of cetirizine and is believed to be more effective and have fewer adverse side effects? [Single Correct] [1 Marks]



1) A
2) B
3) C

4) ⊘**D**
Explanation :

Bloom's Level: Remember **Course Outcome:** CO1, CO3

18] **Question : Thiourea toxicity of Metiamide is minimized by ----** [Single Correct] [1 Marks]
1) ⊘**Introduction of cyanoguanidine group**
2) Introduction of thioguanidine group
3) Replacement of Inidazole nucleus with other heterocyclic moiety
4) All of the above
Explanation :

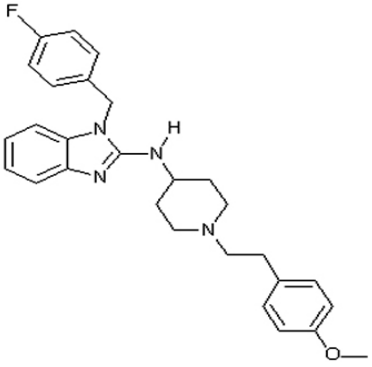
Bloom's Level: Understand, Analyze, Evaluate **Course Outcome:** CO1, CO2

19] **Question : Which of the following represent the metabolic products of Cimetidine —** [Single Correct] [1 Marks]
1) sulfoxide,
2) Hydroxycimetidine
3) ⊘**A & B Is correct**
4) Only A is correct
Explanation :

Bloom's Level: Remember, Analyze, Evaluate **Course Outcome:** CO1, CO3

20] **Question : Which of the following is example of Proton pump inhibitor?** [Single Correct] [1 Marks]
1) Ometrazole , Lansoprazole,
2) Rabeprazole, Pantoprazole
3) ⊘**A & B Is correct**
4) A & B Is incorrect
Explanation :

Bloom's Level: Remember, Understand, Analyze **Course Outcome:** CO1, CO2

21] **Question : Name the following drug which acts as an Second generation H1 receptor antagonist**
[Single Correct] [1 Marks] 

1) Acrivastine
2) ⊘**Astemizole**
3) Loratadine
4) Terfenadine
Explanation :

Bloom's Level: Remember, Analyze **Course Outcome:** CO1, CO2

22] **Question : Which one of the following was developed as an alternative to Terfenadine ?** [Single Correct] [1 Marks]
1) ⊘**Fexofenadine**
2) Deslortadine
3) Levocetirizine
4) Ketotifen
Explanation :

Bloom's Level: Remember, Analyze **Course Outcome:** CO1, CO3

23] **Question : Dactinomycin is an intercalating anticancer agent .Which region of the molecule interacts with the sugar phosphate backbone of DNA?** [Single Correct] [1 Marks]
1) The tricyclic system
2) ⊘**The cyclic peptides**
3) The amide groups
4) All of the answers are correct
Explanation :

Bloom's Level: Remember, Apply, Analyze, Evaluate **Course Outcome:** CO1, CO3

24] **Question : Which of the following is the most effective treatment of cancers?** [Single Correct] [1 Marks]
1) Surgery
2) Radiotherapy
3) Chemotherapy
4) ⊘**A combination of all the answers**
Explanation :

Bloom's Level: Remember, Analyze **Course Outcome:** CO1, CO3

25] **Question : What term is used to indicate the birth of a cancer?** [Single Correct] [1 Marks]
1) Apoptosis
2) ⊘**Carcinogenesis**
3) Metastasis
4) Mutagenesis
Explanation :

Bloom's Level: Remember, Understand, Analyze **Course Outcome:** CO1, CO2

26] **Question : Rabiprazole is --** [Single Correct] [1 Marks]
1) ⊘**H1 receptor antagonist**
2) H2 receptor antagonist
3) Acting on both H1 & H2 receptor

4) None of the above is correct
Explanation :

Bloom's Level: Remember, Understand, Analyze **Course Outcome:** CO1, CO2

27] **Question : What is the term used for the nitrogen mustard anticancer agents?** [Single Correct] [1 Marks]
1) Chain cutting agents
2) ⊘**Alkylating agents**
3) Antimetabolites
4) Plant products
Explanation :

Bloom's Level: Remember, Understand, Analyze **Course Outcome:** CO1, CO4

28] **Question : What is the term used for the anticancer agent methotrexate?** [Single Correct] [1 Marks]
1) ⊘**Antimetabolite**
2) Chain cutting agent
3) Alkylating agent
4) Intercalating agent
Explanation :

Bloom's Level: Remember, Apply, Analyze **Course Outcome:** CO1, CO2

29] **Question : Cancer cells can spread to other parts of the body through the blood and lymph systems** [Single Correct] [1 Marks]
1) ⊘**True**
2) False
Explanation :

Bloom's Level: Remember, Understand **Course Outcome:** CO1, CO2

30] **Question : Lymphoma is --** [Single Correct] [1 Marks]
1) A type of cancer is originated from connective tissue and from mesodermal tissue.
2) ⊘**A type of cancer Develop in lymph node**
3) A type of cancer developn in Brain & Spinal Cord
4) This type of cancer is originated from Epithelial cells..
Explanation :

Bloom's Level: Remember, Understand, Analyze **Course Outcome:** CO1, CO3

Marks distribution as per Bloom's level

Bloom's Level	Linked Question Count	Marks	Percentage
Create	0	0	0.00
Evaluate	10	10	33.33
Analyze	24	24	80.00
Apply	7	7	23.33
Understand	9	9	30.00
Remember	29	29	96.67

NOTE : Percentage for each Bloom's level is calculated using following formula

Percentage = (Marks per Bloom's level / Total marks of all questions) * 100

Dhule Charitable Society's

A.R.A College of Pharmacy, Nagaon, Dhule

Improvement Sessional Examination (A. Y. 2022-23)

Class: Final Y. B. Pharmacy
Subject: Instrumental methods of analysis
Total Marks: 30
Division: A

Semester: VII
Subject Code: BP701T
Time: 2:.30 -4:00 PM
Date: 15/10/2022

Instruction: Figure in Black to the Right indicate Full Marks [CO/PO]

Q. No		Marks	CO	PO
1	**Q1. Answer Any FIVE**	**10**		
	a) Define R_f value and give its significance.		1	1,11
	b) What is Bathochromic and Hypsochromic Shift		3	1,11
	c) Give the composition of Whatmann filter paper.		2	1,11
	d) Write the applications of TLC.		1	1,11
	e) Give the ranges for U.V and Visible region.		1	1,11
	f) What is a role of Monochromator?		1	1,11
	g) Draw a well labelled diagram of Hallow cathode lamp.		1	1,11
2	**Answer any ONE**	**10**		
	a) Define Fluorescence. Explain in detail factors affecting on it.		1,5	1,11
	b) What is Paper chromatography? Give an account on different steps involved in Paper layer chromatography.		1,5	1,11
3	**Answer any TWO**	**10**		1,11
	a) Explain in brief type of electrons and electronic transitions involved in U.V. Spectroscopy.		3	1,11
	b) Define and classify chromatography and add a note on Spraying/Visualizing reagent.		1,2	1,11
	c) State Beer's and Lambert's law and add a note on deviations of Beers law.		1,2	1,11