					<b>1</b>	
Sea No.	t			Set	Ρ	
	В.	Pharmacy (Semester - I) (CBC Human Anatomy and Ph	-			
	Day & Date: Friday, 05-01-2024 Max. Marks: 75 Time: 10:30 AM To 01:30 PM					
Instr	uctio	<ul><li>ns: 1) All questions are compulsory.</li><li>2) Figures to the right indicate full</li></ul>	marks	5.		
Q.1	Mult 1)	iple Choice Questions The Cartilage is Composed of cells of a) Chondrocytes	b)	Chondroblasts	20	
	2)	<ul> <li>c) Lacuna</li> <li>How the cells are arranged in Epithe</li> <li>a) Closely packed in continuous sh</li> <li>b) Loosely packed</li> <li>c) Arranged in discontinuous form</li> <li>d) Both a and c</li> </ul>		None ssue		
	3)	Simple Cuboidal epithelium id found a) Thin bronchioles c) Sweat gland	in b) d)	Choroid of eye All of above		
	4)	Which of following is not function of s a) Calcium Production c) Excretion of wastes	skin? b) d)	Protection Temperature Regulation		
	5)	The largest bone in human body is a) Skull c) Femur	b) d)	Spine Tibia		
	6)	What does axial skeleton consist of? a) Skull c) Ribs & Sternum	b) d)	Vertebral column All of above		
	7)	<ul> <li>What is the major function of Sudorif</li> <li>a) Give skin texture</li> <li>b) Gives skin healthy color</li> <li>c) Protect skin's elasticity</li> <li>d) Helps to regulate body temperat</li> </ul>		gland		
	8)	Which of following is largest organ of a) Brain c) Skin	body b) d)	? Intestine Lung		
	9)	Hinge joint is present between a) Femur & ulna c) Femur & Pectoral girdle	b) d)	Humerus & ulna Femur & Pelvic girdle		
	10)	<ul> <li>A lymphocyte is type of</li> <li>a) White blood cell that is a part of</li> <li>b) Red blood cell that is part of imm</li> <li>c) Platelets that is a part of immune</li> <li>d) None of these</li> </ul>	nune s	system		

d) None of these

Which one of the following prevents internal reflection of light inside the eye?

Factor VIII

Factor X

Vitamin A

Vitamin C

None

Acetyl choline

Cornea a) Retina b) c) Both A & B d) Choroid

In ABO blood group system, blood group 'O' is characterized by the

b)

d)

b)

d)

b)

d)

d)

b)

- 16) Which part of ear is shaped like snail shell?
  - a) Cochlea b) Stapes

b) Presence of both antigens A and Antigen B c) Absence of both antigens A and Antigen B

d) Presence of antigen A and absence of antigen B

Absence of which clotting factor leads to Haemophilia-A

Which of following vitamin is essential for blood clotting?

Preganglionic fiber neurotransmitter in sympathetic division is

c) Semi-Circular canals None of above d)

#### 17) Sense of smell is perceived by which part of brain

- a) Cerebrum b)
- c) Hypothalamus

a) Presence of antigen O

a) Factor VII

c) Factor IX

a) Vitamin K

c) Vitamin B

a) Adrenalin

c) Nor-Adrenalin

- 18) The taste is also known as
  - a) Olfaction

11)

12)

13)

14)

15)

- c) Audition None of these d)
- 19) P wave on the electrocardiogram corresponds /represents
  - a) Arterial depolarization c) Both a and b
- Ventricular depolarization b)

Olfactory cortex

d) none of above

Pituitary

Gustation

- 20) Which portion of the heart receives oxygenated blood
  - a) Left atrium b) Left Ventricle c) Right Atrium
    - **Right Ventricle** d)

### Q.2 Answer any seven of the following questions

- Explain role of renin-angiotensin system in regulation of blood pressure. a)
- Write a note on nervous and connective tissues. b)
- Write the composition and functions of lymph. C)
- Describe general principles of cell communication. d)
- Define Anatomy and physiology. Give scope of anatomy and physiology. e)
- Define joint and explain types of joint movements. f)
- Write a note on blood grouping system. Describe erythroblastosis fetalis. g)
- Give the organization of skeletal muscle, explain physiology of muscle h) contraction.
- Give the difference between sympathetic and parasympathetic nervous i) system.

### Q.3 Answer any two of the following questions.

- a) Describe in detail anatomy of heart. Give brief about cardiac cycle.
- b) Discuss anatomy and physiology of Eye.
- c) What is homeostasis? Explain in detail about positive feedback system and negative feedback system with example.

NO.			-			
	B. Pharmacy (Semester - I) (CBCS) Examination: Oct/Nov-2023 Pharmaceutical Analysis - I (801103)					
		: Monday, 08-01-2024 Max. Marks: AM To 01:30 PM	75			
Instru	nstructions:1) All questions are compulsory. 2) Figures to the right indicate full marks.					
Q.1	<b>Multi</b> 1)	ble Choice questions Calibration of instruments and apparatus reduces error. a) Operational b) Instrumental c) Method d) Personal	20			
	2)	<ul> <li>Used as titrant in non aqueous titration</li> <li>a) EDTA</li> <li>b) Perchloric acid</li> <li>c) Sodium nitrite</li> <li>d) Silver nitrite</li> </ul>				
	3)	Digestion is step of Method.a) Gravimetricb) Complexometricc) Diazotizationd) Precipitation				
	4)	Benzene is solvent.a) Protogenicb) Protophilicc) Aproticd) Amphoteric				
	5)	Asssay of sodium benzoate is based on a) Non aqueous titration b) acid base titration c) Complexometric titration d) Precipitation titration				
	6)	Which titration is known as the argentimetric titrationa)Precipitatipn titrationb)Diazotization titrationc)Non aqueous titrationd)Complexometric titration				
	7)	<ul> <li>Which method of precipitation titration is based on use of adsorption indicator</li> <li>a) Fajan's method</li> <li>b) Mohr's method</li> <li>c) Volhard's method</li> <li>d) None of these</li> </ul>				
	8)	Which masking agents is used for masking aluminum and iron a) Thioglycerol b) Aluminium fluoride c) Potassium cyanide d) Triethanolamine				
	9)	KMnO4 is agent.a) Oxidising agentb) Reducing agentc) Both a and bd) None of the above				
	10)	Degree of agreement between measured value and accepted true valueisa) Accuracyb) Precisionc) Average deviationd) Range				
	11)	Number of equivalent weight of solute per 1000 ml of solvent is defind       as       a) Molality     b) Molarity       c) Formality     d) Normality				

Seat No.

### Q.1

c) Formality

d) Normality

- SLR-GA-2 Set P

				3LK-V
	12)		b)	determination of Basic drug None of the above
	13)	/	b) d)	0.5 N Both a and b
	14)	elements takes place. a) Valency	b)	jes in theof reacting Рн Absorbance
	15)	/	b)	Back titration Alkali metric titration
	16)	Which of the following is primary standa a) Oxalic acid c) Sodium thiosulphate		Potassium per magnate Sodium hydroxide
	17)	Non aqueous solvent having prop a) Self dissociation c) Acid base character	pert b) d)	y. Dielectric constant All
	18)	,	b)	eight of the precipitate? Complexometric Titration Gravimetry
	19)	,	b)	zotization titration. Starch iodine solution Starch iodide paper
	20)	, ,	b)	ination of Sulphanilamide All of the above
Q.2	Solv a) b) c)	<b>ve any two questions.</b> Explain different techniques of analysis in Describe the steps involved in gravimetri Define non aqueous titration. Discuss valueed in non aqueous titration.	c ar	nalysis.
Q.3	Solv a) b) c) d) e) f) g) h) i)	<b>Ve any seven questions.</b> Explain end point detection by conductor Explain in detail dropping mercury electro Write note on Diazotization titration. Describe neutralization curve of strong at Explain Mohrs method and Volhards met Write different types of redox titration and Write note on any two reference electrod Define error and write note on Methods of Define and classify complexometric titration	ode cid thoo d ex les u of m	and strong base. I of precipitation titration. plain titration with iodine. used in potentiometry. inimizing error.

Sea No.	t			Set P
	В.	Pharmacy (Semester - I) (CBCS Pharmaceutics	-	
		e: Wednesday, 10-01-2024 0 AM To 01:30 PM		Max. Marks: 75
Instr	uctio	<ul><li>ns: 1) All questions are compulsory.</li><li>2) Figures to the right indicate full n</li></ul>	narks	
Q.1	Mult	iple Choice questions		20
	1)	Lozenges are type of dosage f	orms	
		a) Semisolid	b)	Liquid
		c) Solid	d)	Gaseous
	2)	The first edition of British Pharmacope	oeia v	vas published in
		a) 1864	b)	1964
		c) 1955	d)	1885
	3)	is the potentiation of pharmaco	logic	al response by simultaneous
		use of two drugs.		
		a) Antagonism		Synergism
		c) Allergy	d)	ldiosyncrasy
	4)	160 fluid ounces is equal to ga		
		a) 2	-	3
		c) 4	d)	1
	5)	solution refers to two solutions	havir	ng the same osmotic pressure
		across a semipermeable membrane.	b)	Hypotopic
		a) Hypertonic c) Isotonic	,	Hypotonic None of the above
	$\sim$	,	,	
	6)	are single doses of powdered of cellophane, metallic foil or paper.	urugs	individually wrapped in
		a) Dusting powder	b)	Bulk powder
		c) Divided powder		Effervescent powders
	7)	Buffering agents are added in liquid for		·
	')	a) Solubility	b)	pH
		c) Absorption	d)	•
	8)	are added in suspensions to re	duce	interfacial tension between
	•)	solid particles and dispersion liquid.	uuoo	
		a) Wetting agents	b)	Buffering Agent
		c) Coloring Agent	d)	Flavoring Agent
	9)	Which one of the following is used as	Hum	ectant.
	,	a) Water	b)	-
		c) Ethanol	d)	Glucose
	10)	Particles exist as separate entity in		
	,	a) Flocculated Suspension	b)	Deflocculated Suspension
		c) Both a and b	d)	Emulsion
	11)	In O/W emulsion oil is		
	,	a) Dispersed phase	b)	Dispersion medium
		c) Flavoring agent	d)	Emulsifying agent

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	12)	is the association of small emuls aggregate, which is re-dispersible upor a) Flocculation c) Cracking		aking. Creaming
	13)	Shea butter is obtained from seeds of _ a) <i>Theobroma cocoa</i> c) Adeps solidus		 <i>Butyrospermum parkii</i> None of the above
	14)	Which one of the following is example ( a) Insolubility c) Liquefaction	-	Immiscibility
	15)	means transport of molecules a a) Trans-cellular c) Trans-follicular		ss epithelial cellular membrane. Para-cellular None of the above
	16)	Which one of the following is example ( a) Hard paraffin c) White soft paraffin	b)	eaginous base? Liquid paraffin All of the above
	17)	Which one of the following is main part a) Inscription c) Subscription	b)	he prescription? Superscription Transcription
	18)	Skin irritation test is performed for a) Solid dosage forms c) Injections	 b) d)	Liquid dosage forms Semisolid dosage forms
	19)	should not be applied to the bro a) Liniments c) Solutions		Lotions
	20)	Solutions are dosage forms. a) Monophasic c) Semisolid	b) d)	Biphasic None of the above
Q.2	Ans a) b) c) d) e) f) g) h)	wer any seven of the following questic What are career opportunities in pharma What are different methods of preparatio Write a note on Indian Pharmacopoeia. What are different errors in prescription? What is therapeutic incompatibility? Write a note on Ear drops and Eye drop Write different evaluation test for ointme Define powders. Add a note on dusting What is Imperial system of measuremen	acy? on o ? os. ents. pow	f suppository?

### Q.3 Answer any two of the following questions.

- Define and classify dosage forms. Discuss in detail solid dosage forms. Explain different factors affecting posology. Write a note on Emulsions. a)
- b)
- C)

35

Sea No.	t				Set	Ρ
	B. Pharmacy (Semester - I) (CBCS) Examination: Oct/Nov-2023 Pharmaceutical Inorganic Chemistry (801107)					
		e: Friday, 12-01-2024 0 AM To 01:30 PM			Max. Marks	: 75
Instr	uctio	<b>ns:</b> 1) All questions ar 2) Figures to the r	e compulsory. ight indicate full mark	(S.		
Q.1	<b>Mult</b> 1)	iple choice question In Bronsted Lowry co a) Proton donor	<b>s.</b> oncept acid is	<b>b</b> )	Electron donor	20
		c) Proton accepter		d)	Electron accepter	
	2)	impurities. a) Qualitative	k	b)	and control small quantities of Quantitative	
	3)	c) Imperative Alum is assayed by		d)	All of these	
	0)	<ul><li>a) Oxidation reduct</li><li>c) Precipitation</li></ul>	tion k	b) d)	Complexometric Gravimetric	
	4)	When cyanide poiso a) Oxyhemoglobin c) Carboxyhaemog	k		n, it convert blood haemoglobin to Haemoglobin Methemoglobin	1
	5)	The standard and tes a) Nesslers cylinde c) Wet cylinder	er k	b)	are prepared in Cooper cylinder All of these	
	6)	Which of following is a) Soft water c) Distilled water		b)	norganic impurities? Tap water None	
	7)	First edition of B.P. F a) 1945 c) 1948	k	b) d)	1864 1955	
	8)	In the limit test of ars a) Gutzeit c) Disintegration		b)	sed. Dissolution None of above	
	9)	The pH value of urine a) 7.4 to 7.5 c) 4.6 to 8.0	k	'	5.4 to 7.5 2.0 to 4.0	
	10)	To prevent dental ca a) Sodium fluoride c) Both a and b	k	b)	ng should be used. Sodium iodide Sodium hydroxide	
	11)	Oral rehydration salta a) Sodium chloride c) Glucose	k	b) d)	Potassium chloride All of these	

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12)	The synonym for magnesium sulphate is a) Epsom salt c) Green vitriol	s b) d)	Precipitated chalk None of above
13)	Dental caries is medical term of a) Cleaning action c) Tooth decay or cavities	b) d)	Polishing action None of these
14)	Replacement therapy is needed to a) Heavy loss of water c) Diarrhoea	 b) d)	Prolonged fever All of the above
15)	The condition in which excessive secret a) Achlorhydria c) Hypochlorhydria	b)	of gastric HCL is called as Hyperchlorhydria None of these
16)	Mechnical Antidote prevents of p a) Distribution c) Excretion		n. Absorption Mechanical
17)	Radiation having more penetrating a) Alpha c) Gamma	-	pacity. Beta None of these
18)	Select the unit for Radioactivity. a) Curie c) Ohms	b) d)	Rutherford Both a and b
19)	A device which is used for the radioactiv a) Mass spectrometer c) Nuclear reactor	-	Cyclotron
20)	is used to prepare dental cement a) Sodium bicarbonate c) Zinc oxide	b) d)	Sodium Fluoride Calcium carbonate
a) b) c) d) e) f) g) h)	Explain in detail ORS. Write a note on mechanism of action of a Highlight precautions and pharmaceutica radiopharmaceuticals. Give preparation, assay and uses of cop Write principle and reaction involved in th Define isotonicity and how it is adjusted. Explain preparation and stability of buffer Explain protective. Write in detail zinc ox	antim Il app per s ne lin - ide a	nicrobial agents. plications of sulphate. nit test of iron.
a)		etail	sodium thiosulphate and
	<ol> <li>13)</li> <li>14)</li> <li>15)</li> <li>16)</li> <li>17)</li> <li>18)</li> <li>19)</li> <li>20)</li> <li>Ansy a)</li> <li>b)</li> <li>c)</li> <li>d)</li> <li>e)</li> <li>f)</li> <li>g)</li> <li>h)</li> <li>i)</li> <li>Ansy</li> </ol>	<ul> <li>a) Epsom salt</li> <li>c) Green vitriol</li> <li>13) Dental caries is medical term ofa) Cleaning action</li> <li>c) Tooth decay or cavities</li> <li>14) Replacement therapy is needed toa) Heavy loss of water</li> <li>c) Diarrhoea</li> <li>15) The condition in which excessive secretian</li> <li>a) Achlorhydria</li> <li>c) Hypochlorhydria</li> <li>16) Mechnical Antidote prevents of prastron a) Distribution</li> <li>c) Excretion</li> <li>17)Radiation having more penetrating a) Alpha</li> <li>c) Gamma</li> <li>18) Select the unit for Radioactivity.</li> <li>a) Curie</li> <li>c) Ohms</li> <li>19) A device which is used for the radioactivity a) Mass spectrometer</li> <li>c) Nuclear reactor</li> <li>20) is used to prepare dental cement a) Sodium bicarbonate</li> <li>c) Zinc oxide</li> </ul> Answer the following the question. (Any Set a) Explain in detail ORS. <ul> <li>b) Write a note on mechanism of action of a actiopharmaceuticals.</li> <li>d) Give preparation, assay and uses of coppel Write principle and reaction involved in the fill Define isotonicity and how it is adjusted. g) Explain protective. Write in detail zinc oxidi a) Describe any two dental products in pharmaceutic in pharma is a signature of the solution in the analytical context in the solution of a solution is a stability of buffer in the solution is a signation. (Any Two) <ul> <li>a) Define and classify antidote. Explain in detail products in pharmaceutical in the solution in the</li></ul></li></ul>	<ul> <li>a) Epsom salt</li> <li>b) c) Green vitriol</li> <li>d)</li> <li>13) Dental caries is medical term of</li></ul>

Q.2

Q.3

- **b)** Describe various sources and type of impurities in pharmaceuticals. Discuss the limit test of chloride and sulphate.
- c) Discuss the role of antacids with example and explain concept of cathartics.

20

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Seat No.	t	Set	Ρ
	B. P	harmacy (Semester - II) (CBCS) Examination: Oct/Nov-2023 Human Anatomy and Physiology- II (801201)	
		e: Friday, 05-01-2024 Max. Marks: 5 D PM To 05:30 PM	75
Instr	uctior	<ul><li><b>ns:</b> 1) All questions are compulsory.</li><li>2) Figures to the right indicate full marks.</li></ul>	
Q.1	Multi 1)	ple Choice questions.2Somatic nervous system is formed bya) Ramus dorsalisb) Ramus ventralisc) Ramus communicansd) Both a & b	20
	2)	Voluntary activities of body are controlled by:a) Diencephalonb) Cerebrumc) Crura cerebrid) cerebellum	
	3)	Brain ventricles are lined bya) Neuronsb) Schwann cellsc) Neurogliad) Ependymal cells	
	4)	is the second largest part of the human brain.a) Brain stemb) Diencephalonc) Cerebellumd) Cerebrum	
	5)	Upper respiratory tract includes except a) Pharynx b) Epiglottis c) Larynx d) Trachea	
	6)	What valve separates the stomach and duodenum?a) Cardiac sphincterb) Pharyngeal sphincterc) Tricuspid valved) Pyloric sphincter	
	7)	Cholecystokinin is synthesized and secreted by?a) Large intestineb) Stomachc) Small Intestined) Liver	
	8)	The function of trypsin is?a) To synthesis vitaminsb) To break down proteinsc) To break down carbohydrated) To produce adrenaline	
	9)	Rate of respiration is directly affected by:a) Concentration of carbon dioxideb) Oxygen in tracheac) Concertation of oxygend) Diaphragm expansion	
	10)	Which of the following is NOT a waste product eliminated by the kidneys?a) Ureab) Ammoniac) Creatinined) Sodium	
	11)	The Bowman's capsule and glomerulus together form the:a) Renal columnsb) Loop of Henlec) Nephrond) Renal Corpuscle	
	12)	Progesterone is produced bya) Graafian Follicleb) Corpus luteumc) Pituitary glandd) Prostate gland	

20

### c) Excess thyroxine Insulin is secreted from . 14)

a) Excess (LH)

13)

a)  $\beta$  cells of islets of Langerhans

"Myxoedema" due to \_\_\_\_\_.

- b)  $\alpha$  cells of islets of Langerhans
- c) Kuffer cells of liver
- d) Gall bladder

#### 15) The menstrual cycle is normal adult women is of

- a) 48 Days 28 Days b)
- c) 38 Days d) 10 Days
- 16) Which of following produces the male sex hormone?
  - a) Rete testis b) Leydig cell
  - c) Seminiferous tubule d) Scrotum
- 17) The first phase of translation is
  - a) Binding of m RNA to ribosome
  - b) Recognition of DNA Molecule
  - c) Aminoacylation of tRNA
  - d) Recognition of anti-codon

Amino acid sequence in protein synthesis is decided by the sequence of . 18)

b)

d)

Decreased insulin

Decreased thyroxine

- a) rRNA b) mRNA
- c) tRNA d) cRNA
- How many phosphate groups are attached to an Adenine base to form ATP? 19)
  - a) Two
  - c) Three d)

20) The volume of air that remains in the lungs after breathing out is

- a) Residual volume b) Total lung capacity
  - c) Vital capacity d)

### Q.2 Answer any seven of the following questions.

- a) Define neuroglia, Describe the structure and function of types of neurons.
- b) Give anatomy and functions of kidney.
- c) Give physiology of menstruation.
- d) Discuss anatomy and function of liver.
- e) Write a formation and role of ATP.
- f) Draw a neat labeled diagram of spinal cord and enlist cranial nerves.
- g) Explain anatomy and function of lung.
- **h)** Write note on spermatogenesis and oogenesis.
- Explain detail structure, location and function of thyroid gland. i)

#### Answer any two of the following questions. Q.3

- a) Give the anatomy of small intestine and large intestine. Add note on Digestion and absorption of nutrients.
- **b)** Classify hormones. Explain in detail structure and functions of Pituitary gland.
- c) Give the structure of nephron, Explain in detail physiology of urine formation.

- Tidal volume

- b) Four
- Five

		SLR-G	<b>A-6</b>
Seat No.	t	Set	Ρ
	В.	harmacy (Semester - II) (CBCS) Examination: Oct/Nov-2023 PHARMACEUTICAL ORGANIC CHEMISTRY – I (801203)	
		: Monday, 08-01-2024 Max. Mark AM To 05:30 PM	s: 75
Instr	uctio	<ul><li>s: 1) All questions are compulsory.</li><li>2) Figures to the right indicate full marks.</li></ul>	
Q.1	Mult 1)	Decision of an alkane from the alkyl halide treated with sodium metal in dry ether is known as       b)       Frankland reaction         a)       Cannizzaro reaction       b)       Frankland reaction         c)       Kolbe reaction       d)       Wurtz reaction	20
	2)	Acid -catalyzed hydrolysis of ester to give a) Acid b) Alcohol c) Both A and B d) Alkane	
	3)	Rate of reaction in SN1 reaction depends on structure of halidesa) $3^0 > 2^0 > 1^0$ b) $1^0 > 2^0 > 3^0$ c) Both a) and b)d) None	
	4)	Carboxylic acid reacts with alcohol in presence of H <sub>2</sub> SO <sub>4</sub> to form a) Ester b) Alcohol c) Alkene d) Amine	
	5)	Ether and alcohol are isomer. a) Chain b) Position c) Functional d) Not isomer	
	6)	<ul> <li>Which of the following reaction can produce ketones?</li> <li>a) Oxidation of primary alcohol</li> <li>b) Dehydrogenation of primary alcohol</li> <li>c) Dehydrogenation of tertiary alcohol</li> <li>d) Dehydrogenation of Secondary alcohol</li> </ul>	
	7)	The addition of HCN to carbonyl compound is an example ofa)Nucleophilic additionb)Electrophilic additionc)Free radical additiond)Electromeric addition	
	8)	Formaldehyde are treated with Grignard reagent to give a) Primary alcohol b) Secondary alcohol c) Tertiary alcohol d) Both a) and b)	
	9)	Ketones undergoes reduction with the presence of NaoH/NH <sub>2</sub> NH <sub>2</sub> to give alkane. This reaction is known as a) Clemmensen reduction b) Wolf-Kishner reduction c) Rosenmund reduction d) Reformastky reaction	
	10)	1,1-dichloroethane are hydrolysed in presence of NaoH to give a) Ketones b) Aldehydes c) Alcohol d) Acids	
	11)	Lucas test is used to determine the type of a) Acids b) Amines c) Alcohol d) Aldehydes	

	12)	Conversion of a carboxylic acid to an ester is known as a) Reduction b) Oxidation			
		a) c)	Esterification	d)	Polymerisation
	13)	•	halides are treated with alcoholic l		
		a) c)	Amine Alkene	d)	Alkane Alcohol
	14)		chlorides reacts with nitrous acids		
		a) c)	Amide Acetone	b) d)	Alkane Aldehydes
	15)	Whic Co <sub>2</sub> ?	h of the following compound on tre	eatme	ent with NaHCO₃ with liberate
		a) c)	Acetic acids Acetone	b) d)	Ethylamine Ethanol
	16)		h of the following most basic? Ammonia	ь)	Mathul amina
		a) c)	Dimethyl amine	b) d)	Methyl amine Trimethyl amine
	17)	Wher a)	n formaldehyde treated with 50% ۱ Cannizzaro condensation		l solution it undergoes Wurtz reaction
		a) c)	Aldol condensation	d)	
	18)	Whic a)	h of the following alcohol are comp Hexanol	oletel b)	ly soluble in water? Butanol
		а) с)	Both A & B	d)	
	19)	Propa a)	adiens CH2=CH2=CH2 is called a Conjugated	s b)	 Non conjugated
		c)	Cumulated	d)	Isolated
	20)	The I a)	UPAC name of CH <sub>3</sub> COCH(CH <sub>3</sub> ) <sub>2</sub> i 2-methyl-3-butanone	s	 4-methylisopropyl ketone
		c)	3-methyl-2-butanone	d)	Isopropylmethyl ketone
Q.2	Ans		y seven of the following question		
	a) b)		the structural isomerism with exan ss in detail halogenation reaction c		ane.
	c) d)	Give a	any five chemical reaction of alcoh		
	e)	Explain in detail Aldol condensation. Explain in detail electrophilic addition reaction of conjugated diene.			
	f) g)		s the effect of substituents on the a in in detail Perkin condensation.	aciali	y of carboxylic acid.
	h) i)		any five method of preparation of a in qualitative test of alcohol.	mine	3.
Q.3	Ans	wer an	y two of the following questions	S.	
4.0	a)	Descr	ibe in detail Markonikov and anti -ı	mark	
	b)	vvrite	any five method of preparation and	a che	emical reaction Aldehydes.

c) Discuss in detail SN1 and SN reaction and compare the SN1 and SN2 reaction.

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		SLR-GA-7		
Seat No.		Set P		
	B. Pharmacy (Semester - II) (CBCS) Examination: Oct/Nov-2023 Biochemistry (801205)			
		e: Wednesday, 10-01-2024 Max. Marks: 75 D PM To 05:30 PM		
Instru	uctio	<ul><li><b>ns:</b>1) All questions are compulsory.</li><li>2) Figures to the right indicate full marks.</li></ul>		
Q.1	<b>Mult</b> i 1)	ple Choice questions.20Which of the following is semi essential amino acids??a) Arginineb) Valinec) Both a and bd) Methionine		
	2)	$\begin{array}{llllllllllllllllllllllllllllllllllll$		
	3)	Synthesis of glucose from glycogen calleda)Glycogenesisb)c)Glycolysisd)Glycolysisd)		
	4)	Aldolase is an example of the class of enzyme namelya)Lyasesb)Transferasesc)Hydrolasesd)Ligases		
	5)	A holoenzyme isa) Apoenzymeb) Coenzymec) Functional unitd) None of the above		
	6)	The enzyme which involves in the joining of molecule isa) Transferasesb) Ligasesc) Oxidoreductasesd) Isomerases		
	7)	Carbohydrate reserved in plant is a) Starch b) Glucose c) Glycogen d) Insulin		
	8)	Protein containsa) Only L-α- amino acidb) Only D- amino acidc) DL- amino acidb) Both a and b		
	9)	The amino acid that does not participate in transamination isa) Lysineb) Threoninec) Tryptophand) Both a and b		
	10)	Combination of base and sugar is calleda)Nucleotideb)Nucleoproteinc)Nucleosided)Nuclease		
	11)	Transcription results in product known asa) Proteinb) DNAc) RNAd) None of the above		
	12)	Urea is synthesized in organ. a) Skin b) Kidney c) Liver d) Brain		

		SLK-GA
13	) The initiating codon in protein bio a) AUG c) UGA	synthesis is b) UAG d) All of them
14	) An non essential amino acid in hu a) Aspartate c) Methionine	uman is b) Argenine d) Histidine
15	) Glucose and galactose are a) Anomer c) Enantiomer	 b) Epimer d) Geometrical isomer
16	) Aromatic amino acid is a) Tyrosine c) Both a and b	b) Tryptophan d) Aspartic acid
17	,	glycolysis catalyses an reversible reaction. b) Phosphofrutctokinase d) All of the above
18	) Positive Barfoeds test is obtained a) Glucose c) Lactose	l with b) Maltose d) None of the above
19	) The protein present in nails is a) Keratin c) Collagen	 b) Elastin d) Myosin
20	<ul> <li>After the osazone test sample sugar will be</li> <li>a) Glucose</li> <li>c) Maltose</li> </ul>	gar give powder puff shaped crystal b) Lactose d) Cellulose
a)	<b>Ive any two.</b> Explain TCA Cycle. Discuss oxidative phosphorylation Explain Urea cycle.	and its mechanism.
S( a) b) c) d) e) f) a)	Note any seven. Write structure and function of RN Classify lipids and carbohydrates Write note on genetic code. Write note on transamination. Define and classify Enzyme with s Explain Hyperuricemia and gout d Write note on energy rich compou	and write its function. uitable example. isease

- **g)** Write note on energy rich compounds.
- h) Write note on enzyme inhibition
- i) Discuss replication of DNA

Q.2

Q.3

20

Seat No.		Set P				
	B. Pharmacy (Semester - II) (CBCS) Examination: Oct/Nov-2023 Pathophysiology (801209)					
		E: Friday, 12-01-2024 Max. Marks: 75 D AM To 05:30 PM				
Instru	ictior	<ul><li>as:1) All questions are compulsory.</li><li>2) Figures to the right indicate full marks.</li></ul>				
	Multi 1)	ple choice question.20Decrease in size and number of parenchymal cell is called as- a) Dystrophyb) Atrophy d) Metaplasia				
	2)	In the cardinal signs of inflammation, calor refers to a) Redness b) Swelling c) Pain d) Temperature				
	3)	More frequent onset of angina pain of prolonged duration even at rest isobserved ina) Stable Anginab) Prinzmetal Anginac) Variant Anginad) Crescendo Angina				
	4)	Impaired ciliary movement is a major cause ofa) Chronic bronchitisb) Emphysemac) Bronchial asthmad) Bronchiectasis				
	5)	Abnormal increase in Blood Urea Nitrogen and Creatinine id termed asa) Uraemiab) Uricemiac) Azotaemiad) Hematuria				
	6)	The appearance of RBC in iron deficiency anemia isa) Macrocytic, Normochromicb) Normocytic, Hypochromicc) Microcytic, Hyperchromicd) Microcytic, Hypochromic				
	7)	Which of the following is a clinical feature of hypothyroidism?a) Heat intoleranceb) Cold intolerancec) Wet skind) drowsiness				
	8)	<ul> <li>Main clinical feature of Parkinson's disease is</li> <li>a) Pre-senile dementia</li> <li>b) Down's syndrome</li> <li>c) Sensory loss</li> <li>d) Abnormalities of posture and movement</li> </ul>				
	9)	Which of the following type of cell in GIT is responsible for secretion of HCI?a) Chief cellb) Parietal cellc) Goblet celld) Peptic cell				
	10)	Which of the following is a clinical feature of AIDS?				

- Which of the following is a clinical feature of AIDS?
  a) Wasting syndrome
  b) Dementia complex
  c) Opportunistic infection
  d) All of the above 10)

	SLR-GA	-8
11)	Rheumatoid factor (Anti-IgG antibody) in Rheumatoid arthritis is released by _ a) T-Cells b) B-Cells c) Endothelial cells d) Cartilage	
12)	<ul> <li>Which of the following is/are the characteristic of benign tumor?</li> <li>a) Encapsulated</li> <li>b) Retention of basal polarity</li> <li>c) Compression of surrounding organ</li> <li>d) All of the above</li> </ul>	
13)	S.typhi is spread bya) Waterb) Airc) Sexual contactd) Mosquito	
14)	Which of the following is Not a route of transmission of HIV?a) Sexual contactb) Sharing needles and syringesc) Sharing utensilsd) Perinatal transmission	
15)	In chronic renal failure, deposition of urea on skin after evaporation of sweat is termed as a) Uremic cloud b) Uremic mist c) Uremic frost d) Uremic froth	
16)	Which of the following is the main clinical feature of Alzheimer's disease?a) Convulsionsb) Progressive dementiac) Cerebral ataxiad) Abnormalities of posture	
17)	Which of the following type of Hepatitis is spread by faeco-oral route?a) Hepatitis Ab) Hepatitis Bc) Hepatitis Cd) Hepatitis D	
18)	Dark black coloration in gangrene is due to production of pigment. a) Hydrogen sulfide b) Iron nitrite c) Iron sulfide d) Acid hematin	
19)	Cretinism is a result ofa) Hyperthyroidismc) Thyrotoxicosisb) Hypothyroidismd) Hypoparathyroidism	
20)	Distended air sacs are main histological characteristic in a) Emphysema b) Bronchiectasis c) Tuberculosis d) Chronic bronchitis	
Long a) b)	<b>g answers. (Any Two)</b> Describe the etiopathogenesis of hypertension. Write a note on classifications, symptoms, and clinical complications of Diabetes Mellitus.	20

c) Describe the causes, pathogenesis and classification of Epilepsy.

Q.2

### Q.3 Short answers. (Any Seven)

- a) Describe the process of emigration of leucocytes in inflammatory condition.
- b) Define cell injury. Enlist the causes of cell injury.
- c) Write a note on types, causes and risk factors of bronchial asthma and chronic bronchitis.
- d) Describe the clinical complications of Chronic Renal Failure.
- e) Describe the classification of Anemia.
- f) Explain the risk factors for development of Peptic ulcers and inflammatory bowel disease.
- g) Describe the causes and clinical manifestations of gout.
- h) Write a note on etiology of cancer.
- i) Write a note on the causative organism, mode of transmission and symptoms of Tuberculosis.

Sea No.	t	Set P
	B. P	harmacy (Semester - III) (CBCS) Examination: Oct/Nov-2023 Pharmaceutical Organic Chemistry II (801301)
		e: Thursday, 18-01-2024 Max. Marks: 75 0 AM To 01:30 PM
Instr	uctio	<ul><li>ns: 1) All questions are compulsory.</li><li>2) Figures to the right indicate full marks.</li></ul>
Q.1	Mult 1)	iple Choice questions.20Cyclopentane ring is having bond angle of0.0.a) 90b) 60c) 108d) 120
	2)	Which of the following compounds does not contains isolated ring structures.a) Naphthaleneb) Biphenylc) Anthracened) Both A & C
	3)	Anthracene on oxidation with dil HNO3 gives a) 1,2 Anthraquinone b) 9,10 Anthraquinone c) 2,7 Anthraquinone d) 1,4 Anthraquinone
	4)	Which of the following groups are activating groups? a) NH2 b) OH c) R or Ar d) All of these
	5)	Coulson-Moffitt model explain about.a) Banana bondsb) Staggered bondsc) Nature of covalent bondsd) Co-ordinate bonds
	6)	Which of the following group is deactivating group but it is ortho & meta director? a) CN+ b) NO2+ c) COOH+ d) X+
	7)	Anthracene is very reactive at Position.a) 1,2b) 1,4c) 9,10d) 2,7
	8)	are prepared by reaction of aromatic amines with Nitrous acid at 0-50C.a) Nitronium saltsb) Diazonium saltsc) Oxonium saltsd) Hydrazoic salts
	9)	Identify the compound with highest ring strain. a) Cyclopropane b) Cyclobutane c) Cyclopentane d) Cyclohexane
	10)	is not a criterion of Huckels rule for benzene. a) Planar b) Conjugated double bonds c) SP3 hybridised d) Contain 4n+2 Pi electrons
	11)	Phenanthrene ring is presentdrug structures.a) Steroidsb) cardiac glycosidesc) Morphined) All of the above

	12)	In comparison between aniline and N, N is more basic?	-dim	ethyl aniline, which compound	
		<ul><li>a) N, N-dimethyl aniline</li><li>c) Both A &amp; B</li></ul>	,	Aniline None of the above	
	13)	a) Br- c) Br.+	b)	ion of benzene. Br+ Br	
	14)	value is a measure of the amount a) Sap c) Ester	b)	insaturation in the given oil or fat Iodine Acid	Ċ.
	15)	<ul><li>Aniline on bromination with Br2/H2O give</li><li>a) 2,4-dibromoaniline</li><li>c) 4-bromoaniline</li></ul>	b)	2,6-dibromoaniline 2,4,6-tribromoaniline	
	16)	Which of following is Resonance energy a) -28.6 c) +55.4	b)	enzene is Kcal/mol. -36 +36	
	17)	<ul><li>Stability of cycloalkanes is not influenced</li><li>a) Torsional strain</li><li>c) Angle strain or Baeyer strain</li></ul>	b)	Steric strain	
	18)	Acetophenone is prepared by reaction of a) Benzyl chloride c) Benzoyl chloride	b)	nzene with by using AICI3 Acetyl chloride Acetoacetic acid	3.
	19)	Baeyer proposed any deviation of bond a value (109.5 0) produces a in a m a) Strain c) Steric effect	olec b)		
	20)	lodine number is the number of grams or gram/grams of oil or fat?			
		a) 1 c) 50	b) d)	5 100	
Q.2	a) b) c) d) e) f) g) h)	<b>t Answer Question. (Solve any seven).</b> Write the structures & uses of DDT and S How alkyl substituted benzene is ortho ar Write on different methods of preparation Write in detail on Coulson Moffits modific Elaborate on Aromaticity of benzene. Write with suitable examples on acidity of Discuss on Baeyer's strain theory. Discuss in detail on Acid Value. Write on synthesis & reactions of phenan	nd P of a atior	harin. ara director? Explain. Inthracene. n. matic carboxylic acids.	35
Q.3		<b>y Answer Question. (Solve any two).</b> Discuss method of preparation and reacti Elaborate on orientation of monosubstitut		of Naphthalene.	20

- , substitution reaction with suitable examples.
   c) What are Fats & oils? Elaborate on Saponification value and lodine value.

of **2** 

How	v does the solubility of gases vary v	vith p	ressure?					
a)	Increases with Pressure	b)	Decreases with Pressure					
c)	First increases then decreases	d)	None of the Above					
Whi	ch law explained solubility of gases	s in lic	juid?					
a)	Boyle's Law	b)	Henry's law					
c)	Charle's law	d)	Raoult's law					
Rair	n drops in spherical in shape becau	se of						
a)	Surface tension	b)	Capillary					
c)	Downward motion	d)	Acceleration due to gravity					
	If the surface of a liquid is plane, then the angle of contact of the liquid with the walls of container is							
a)	Acute angle	b)	Obtuse Angle					
c)	90°	d)	0°					
			Page 1					

Multiple Choice questions.

2) Figures to the right indicate full marks.

- The phenomenon in which a substance exists in more than one crystalline 1) form is called as

d)

B. Pharmacy (Semester - III) (CBCS) Examination: Oct/Nov-2023 Physical Pharmaceutics - I (801302)

- Polymorphism Crystallinity a) b)
  - Anisotropy c)
- At constant temperature the product of pressure and volume of given 2) amount of gas is constant this is b) Charle's law
  - Gay lussac law a)
  - Boyle's law c) d) Dalatant law
- Gases are deviate from ideal behaviour because molecules are . 3)
  - Colourless a) b)
  - Attract to each other d) c)
- 4) Which of the following is not a type of Vander waal's force? b)
  - **Ion-Dipole forces** a)
  - **Dipole Induced Dipole forces** C)
- Who proposed the concept of dispersion forces? 5)
  - Fritz London b) Vander waal's a)
  - Gay-lussac d) All of the above C)
- 6) What characteristic of water accounts for its unique properties as a solvent? b) Cohesive

d)

- Flexible a)
- c) Polar
- 7) The solubility of a substance in a solvent depends on b) Pressure
  - Temperature a)
  - Nature of solute and Solvent d) c)
- • 8) How does the solubility of gases v
  - Increases with Pressure a)
  - First increases then decrease C)
- 9) Which law explained solubility of g
  - Boyle's Law a)

11)

- 10) Rain drops in spherical in shape b
  - Surface tension a)
  - Downward motion c)



Day & Date: Saturday, 06-01-2024

Instructions: 1) All questions are compulsory.

Time: 10:30 AM To 01:30 PM

Q.1

Max. Marks: 75

20

Ρ

Spherical

Polycrystallinity

- High speed
- London forces d) **Dipole-Dipole forces**

Low viscosity

All of the above

	12)	At the critical temperature, the surface tension of the liquid is a) Zero b) Is infinity c) Is the Same as that at the other d) Cannot be determined	
	13)	<ul> <li>When a soap bubble is charged</li> <li>a) It Contracts</li> <li>b) It expands</li> <li>c) It does not undergoes any change in size</li> <li>d) None of these</li> </ul>	
	14)	If common salt water is dissolved in water, then the surface tension of salt water is a) Increased b) Decreased c) Not Changed d) First increased then decreased	
	15)	What is the molecular weight of Human serum albumin?a) 5000 Daltonb) 65,000 Daltonc) 60,000 Daltond) 75,000 Dalton	
	16)	Human serum albumin comes under which protein family? a) Globulin b) Enzymes c) Receptor d) Catalyst	
	17)	<ul> <li>Which of the given drugs binds to α-1 globulin binding site?</li> <li>a) Steroidal Drugs</li> <li>b) Vitamin A, D, E, K</li> <li>c) Ferrous ion</li> <li>d) Carotenoids</li> </ul>	
	18)	pH of Neutral Salt is a) 7   b) <7 c) >7   d) 0	
	19)	Range of pH Scale is         a) 7 to 10       b) 0 to 10         c) 0 to 14       d) 7 to 14	
	20)	Which of the following is an example amphoteric molecules? a) Acetic acid b) Malic acid c) Sugar d) Water	
Q.2	a) b)	Discuss in details methods used for determination of Surface tension and interfacial tension? Define complexation. Give its classification with example.	20
Q.3	a) b) c) d) e) f) g) h)	State and derive the Vander waal's equation with their constants. <b>wer any four the following question (Any Seven)</b> Write the principle and working of Linde's method for liquefaction of gas. Write note on: Spreading coefficient. Discuss in detail methods used for determination of pH? What is kinetic molecular theory of gases? Give its Assumptions. Explain in detail factors affecting of solubility gases in liquid. Define Specific Refraction and Molar Refraction. Write note on Optical activity. Discuss about the biological application of Buffer? Define the Partition Coefficient. Give its application. What is polymorphism? Give its Applications.	35

Seat No.	t	Set P
	B. I	harmacy (Semester - III) (CBCS) Examination: Oct/Nov-2023 Pharmaceutical Microbiology (801303)
		: Tuesday, 09-01-2024 Max. Marks: 75 ) AM To 01:30 PM
Instr	uctio	<ul><li>s:1) All questions are compulsory.</li><li>2) Figures to the right indicate full marks.</li></ul>
Q.1	Mult 1)	ple Choice questions.20Which of the following disease was used as the basis for Koch's postulates?a) Anthraxb) TBc) AIDSd) Syphilis
	2)	If the magnification of an eyepiece is 10x and the magnification of an objective is 45x then total magnification of microscope is a) 100X b) 4500X c) 45X d) 450X
	3)	Which of the following is a differential staining technique? a) Simple b) Spore c) Gram d) Flagella
	4)	Fungi used for production of citric acid and gluconic acid isa) Penicillum notatumb) Aspergillus nigerc) C. albicand) S. cerevisiae
	5)	Viruses are best grown ina)Blood agarb)Enriched mediac)Liquid media with Serumd)Media with living cells
	6)	Phenol coefficient indicates the of disinfectant.a) Quantityb) Efficiencyc) Purityd) Activity
	7)	<ul> <li>'H' stands in HEPA filter is</li> <li>a) High</li> <li>b) Heavy</li> <li>c) Hot</li> <li>d) Hold</li> </ul>
	8)	Test based on the rise of body tempertaure of rabbits isa) Sterility testingb) MICc) Pyrogen testingd) None
	9)	Temperature needed for Autoclave isa) Above 100° Cb) Exact 100° Cc) Below 100° Cd) None of above
	10)	A three dimentional picture is commonly observed by a) SEM b) TEM c) Both a and b d) None
	11)	is counter stain used in Gram staining. a) Safranin b) Iodine c) Crystal violet d) None

Page 1 of 3

12)	Lyso	somal enzyme is useful in viral	·	
	a)	Penetration	b)	Biosynthesis

- a) Penetration
  - c) Uncoating
- 13) Durham's tube is kept inserted in tube containing medium to detect gas production.
  - Sugar a)

c)

c) Enriched b) Indicator d) None of the above

b) Mesophiles

b) Ethylene oxide

b) Phycology

d)  $\beta$  – Propiolactone

d) All of above

- The organ of locomotion of bacteria is 14)
  - a) Capsule Slime

- b) Flagella d) Fimbriae
- 15) Bacteria are growing within range of 20-40°C.
  - Thermophiles a)
  - **Psychrophiles** All of the above c) d)

#### 16) One of the chemical is not used for gaseous sterilization

- Formaldehyde a)
- Carbon dioxide c)
- Study of Algae is called as 17)
  - Mycology a)
  - c) Virology d) Protozoology
- The term vaccine was given by \_\_\_\_\_. 18)
  - b) E. Jenner R. koch a)
  - c) L. pasteur d) Flaming

#### 19) disinfectant is used in drinking water.

- Chlorine Alcohol b) a) Phenol d) lodine c)
- 20) Test microorganisms used for preservative efficacy test are all of the following except \_\_\_\_\_
  - S. aureus b) B. subtilis a) c) A. niger d) C. albican

#### Q.2 Solve any two.

- Draw a flow diagram of an aseptic area and add note on main sources of a) contamination of an aseptic area.
- What is Sterilization? Discuss various methods of sterilization. b)
- Differentiate Lytic and lysogenic cycle and add note on Cultivation of virus. C)

#### Q.3 Solve any seven.

- Write types of microscope and explain SEM. a)
- Explain growth curve of bacteria. b)
- Explain different types of Media. C)
- Enlist different types of staining technique. Add note on Gram staining method. d)
- Explain Phenol coefficient test. e)
- Write characteristics of Saccharomyces species with importance of Fungi. f)
- g) Write contribution of Paul Ehrlich in field of microbiology.

35

- h) Define the terms with suitable examples:
  - Disinfectant
  - i) Disinfectar ii) Pathogen
  - iii) Antiseptic
  - iv) Bacteria
  - v) Sanitization
- What are Microbiological assay? How will you perform assay of antibiotic by i) Cup plate method.

Seat No.	t		Set	Ρ
	B. F	Pharmacy (Semester - III) (CBCS) Examination: Oct/ Pharmaceutical Engineering (801304)	Nov-2023	
		e: Thursday, 11-01-2024 30 AM To 01:30 PM	Max. Mark	s: 75
Instr	uctio	<ul><li><b>ns:</b>1) All questions are compulsory.</li><li>2) Figures to the right indicate full marks.</li></ul>		
Q.1	Mult 1)	tiple choice questionsWhich of the following is not type of flow meters?a) Orifice meterb) Pitot tubec) Potentiometerd) Rotameter		20
	2)	Ball mill is used fora) Cuttingb) Attritionc) Coarse grindingd) Both a and c		
	3)	Size Reduction is also known asa) Communicationb) Compactionc) Segregationd) Separation		
	4)	In Ball mill, maximum Size reduction is obtain at a) Low Speed b) Very High Speed c) Critical Speed d) High Speed		
	5)	Borosilicate glass is also known as a) Type I b) Type II c) Type III d) Type IV		
	6)	Which of the following is of cast iron alloys available in marketa) Durironb) Durichlorc) Both a and bd) Duraderm	?	
	7)	With what is the feed introduced in the spary dryer? a) Spray b) Atomizer c) Nucleator d) Heat exchanger		
	8)	Corrosion can be Prevent by a) Use of corrosion Inhibitor b) Coating and Lining c) By changing the environment d) All of the Above		
	9)	<ul> <li>The biological corrosion is due to</li> <li>a) Changing resistance to surface film</li> <li>b) Developing corrosive environment</li> <li>c) Altering rate of anodic/cathodic reaction</li> <li>d) All of the above</li> </ul>		
	10)	Transport of material in pneumatic Conveyors done through a) Air b) Screw c) High Velocity of Air d) Belt		
	11)	Addition of Produce amber colored glass. a) Iron Oxide b) Zinc Oxide c) MgO d) Aluminum oxide		age 1 of '

- Material Used as Lining material \_\_\_\_\_. 12)
  - a) Plastic b) Latex
  - d) Glass c) Iron
- 13) Cyclone Separator is based on the principle of
  - a) Centrifugal force
  - c) Internal Force
- b) Hydrogen force
- d) None of these
- The transfer of thermal heat is transfer from hot place to cold place in 14) same material is
  - a) Conduction b) Convection
  - c) Radiation
- d) Evaporation

b) Drum dryer

#### Heat sensitive or easily oxidizable materials are dried by \_\_\_\_\_. 15)

- a) Flash dryer
- c) Fludized bed dryer d) Rotary dryer
- Evaporation takes place at \_\_\_\_\_. 16)
  - b) Freezing Point a) All temperature
  - c) Melting Point d) Boiling Point

#### The enzyme, vitamins, glycoside and alkaloids are extracted by \_\_\_\_\_. 17)

- a) Steam Distillation
- b) Flash Distillation
- c) Vacuum distillation
- d) Distillation under reduce pressure

#### 18) Which of the following is not a filter aid ?

- b) Perlite a) Diatomaceous earth
  - c) Cellulose d) Cotton
- 19) Which of the following factors influence rate of filtration ?
  - a) Surface area b) Viscosity of filtrate
  - c) Pressure drop
- d) All of above

#### 20) Which of the following evaporator is also known as Rising Film Evaporator?

- a) Horizontal tube evaporator
  b) Steam jacked kettle
  c) Climbing film evaporator
  d) Forced circulation evaporator

#### Answer any seven of the following questions. Q.2

- Define evaporation and Distillation. Write their objective and application. a)
- Write the mechanism of heat transfer. b)
- Define size reduction and write the factors affecting of size reduction. C)
- Write the types of corrosion and there prevention. d)
- Write the objective, principle and application of centrifugation. e)
- Write the principle and working of fluidized bed dryer. f)
- Explain about Climbing Film evaporator in brief. g)
- Explain Cyclone Separator with diagram. h)
- Explain Reynolds experiment. i)

#### Answer any two of the following questions. Q.3

- Write the objective, principle, construction, working and pharmaceutical use a) of Ball mill.
- Write long note on: b)
  - **Double Cone Blender** i)
  - ii) Flash distillation
- Explain Bernoulli's theorem with its diagram and application. C)

35

Seat No.	Set P
В.	Pharmacy (Semester - IV) (CBCS) Examination: Oct/Nov-2023 Pharmaceutical Organic Chemistry – III (801401)
	te: Tuesday, 16-01-2024 Max. Marks: 75 30 PM To 05:30 PM
Instructio	ons: 1) All questions are compulsory. 2) Figures to the right indicate full marks.
<b>Q.1 Mu</b> 1)	Itiple choice questions20Isomerism is not a type of structural isomerism.a) Chainb) Positionalc) Stereoisomerismd) Functional
2)	reaction involves migration of aryl group. a) Dakin b) Beckmann c) Schmidt d) Claisen-schmidt
3)	Birch reduction does not involves the use of as reducing agent as catalyst. a) Na/liq ammonia & alcohol b) K/Liq ammonia & Ethanol c) Li in liq. Ammonia/Butanol d) Na/Na2S2O3 /alcohol
4)	Electrophilic aromatic substitution in pyrimidine takes place at position. a) 2 b) 4 c) 5 d) 6
5)	Oxidation of acridine with alkaline KMnO4 gives a) Quinoline-2,3-dicarboxylic acid b) Quinoline-3,4-dicarboxylic acid c) Quinoline-2,4-dicarboxylic acid d) Quinoline-5,3-dicarboxylic acid
6)	reaction is the conversion of carboxylic acid to amine or amide in presence of azide with expulsion of nitrogen gas. a) Schmidt b) Beckmann c) Curtius d) Claisen-schmidt
7)	Pyrrole behaves as a a) weak acid b) neutral c) weak base d) strong acid
8)	Electrophilic aromatic substitution in imidazole takes place at position. a) 4 b) 5 c) Both A & B d) 3
9)	Are methods of preparation of isoquinoline. a) Pomeranz-Fritz b) Bischler-Napieralski c) Picket-Spengler d) All of the above
10)	Conversion of benzophenone oxime to benzanilinde in presence of PCI5isrearrangement reaction.a) Hoffmannb) Schmidtc) Beckmannd) Claisen
11)	Benzaldehyde when treated with Zinc amalgam /HCI gives a) Toluene b) Benzene c) Benzyl alcohol d) Benzophenone

		5LK-GA-13
	12)	Reagent is used in Schmidt rearrangement reaction. a) HN3/H2SO4 b) Hydrazine c) Hydrazone/KOH d) NH3/NH4OH
	13)	Thiazole ring is present in which of the following drugs? a) Niridazole b) Sulphathiazole c) Famotidine d) All of the above
	14)	Conformation in n-butane is more stable. a) Fully eclipsed b) Eclipsed c) Anti d) Skew
	15)	Purine undergo electrophilic aromatic substitution at position. a) 5 b) 4 c) 7 d) 8
	16)	LiAlH4 reduces functional group to amine. a) Nitrile b) Aryl Nitro c) amide d) All of the above
	17)	If movement of the priority order for given chiral molecule is 1, 2, 3 & 4 is anticlockwise configuration assigned given to the molecules is a) R b) S c) D d) L
	18)	Which of the following heterocyclic compounds undergo Diels-Alder reaction? a) Furan b) Oxazole c) Thiophene d) Both A & B
	19)	reaction is one in which one stereoisomer predominates over another when two or more may be formed. a) stereospecific b) Stereoselective c) enantiospecific d) diastereospecific
	20)	Is more active than& heterocyclic compound.a) Pyrrole, furan & thiopheneb) Pyrrole, thiophene & furanc) Thiophene, furan & pyrroled) Furan, Pyrrole & thiophene
2	Sho a) b) c) d) e) f) g) h)	rt Answer Questions. (Any Seven)35Define and classify Isomerism, Give suitable examples.What is Oppenauer oxidation rearrangement reaction? Explain with mechanism.Discuss with suitable examples R&S system of nomenclature of optical isomers.Discuss with suitable examples Stereospecific reactions.Discuss reactions of furan &Thiophen.Write any two methods of synthesis of Oxazole. Write any three reactions of it.Write any two methods of preparation for Indole. Write any three reactions of it.Electrophilic substitution reaction in Pyridine takes place at which position?Explain.Elaborate on Clemmensens reduction reaction.
8	a)	g Answer Questions. (Any Two)20Elaborate with mechanism of reaction on Beckmann & Oppenauer oxidation rearrangement.20
	b)	Write on synthesis, reactions & medicinal uses of Quinoline.

Q.2

Q.3

b) Write on synthesis, reactions & medicinal uses of Quinoline.
c) Explain conformational isomers of Cyclohexane molecules. Write a note on stereoselective reaction & atropisomerism.

Sea No.	t	Set	Ρ
	B. F	Pharmacy (Semester - IV) (CBCS) Examination: Oct/Nov-2023 Medicinal Chemistry – I (801402)	
		e: Thursday, 18-01-2024 Max. Marks 30 PM To 05:30 PM	: 75
Instr	uctio	<ul><li>ns: 1) All questions are compulsory.</li><li>2) Figures to the right indicate full marks.</li></ul>	
Q.1	<b>Mult</b> 1)	tiple Choice questions.Identification of a new chemical entity as a potential therapeutic agent(From Hit to Lead) is known asa) Drug discoveryb) Drug developmentc) Bothd) None of them	20
	2)	Who is founder of modem medicine?a) Hippocratesb) Clarkc) Charakd) Henry's	
	3)	Physicochemical properties are Studied by a) Darwin b) Ferguson c) E.J. Ariens d) Hippocrates	
	4)	Following are the Phase I reactions excepta) Oxidative reactionsb) Hydrolytic reactionsc) Reductive reactionsd) Sulphides reactions	
	5)	Which enzyme is important in the Phase II reactions?a) Esteraseb) Amidasesc) Transferased) Aldo-keto-reductase	
	6)	Addition of polar group in a drug increases its interaction with a) Water b) Lipid c) Both A & B d) None of these	
	7)	Beta-2 receptors specifically found in a) Heart b) Bronchi c) Liver d) Kidney	
	8)	3,4-dihydroxy benzene isa) Phenolb) Benzhydrolc) Resorcinold) Catechol	
	9)	is the prodrug of Colterol.a) Albuterolb) Bitolterolc) Isoproterenold) Salbutamol	
	10)	The basic ring to study the SAR of sympathomimetic agents isa) Phenyl propyl amineb) Phenyl methyl aminec) Phenyl ethyl amined) Phenyl butyl amine	
	11)	Adrenaline, noradrenaline, dopamine belongs to classa) Phenylethylaminesb) Diphenylaminesc) Catecholaminesd) None of these	

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# SLR-GA-14

- 12) Prazosin contains a) Quinazoline ring b) Piperazine ring d) All of the above c) Acyloxy group
- 13) commercially used for insecticide.
  - a) Atropine b) Salbutamol c) Parathion d) Methadone
- Parasympathetic system is mainly concern with 14)
  - a) Motility b) Secretion c) Flight d) Both A & B
- is the tropic ester of atropine. 15)
  - a) Procyclidine
  - c) Biperidine
- Hypnotics are often referred as \_\_\_\_\_. 16)
  - a) Sleeping Pills
  - c) Cholinergic drug
- IUPAC name for Phenytoin is \_\_\_\_\_. 17)
  - a) 5,5'-dimethyl hydantoin
  - c) 5,5'-diethyl hydantoin
- 18) anti-motility agent.
  - a) Loperamide
  - c) Methadone
- 19) COX is
  - \_. a) Cycloperoxidase
  - c) Cyclooxygenase
- 20) inhalational anesthetics.
  - a) Ketamine
  - c) Fentanyl
- Q.2 Answer the following question. (Any Seven)
  - a) What are hypnotics and sedatives? Discuss the SAR of hydantoin derivatives.
  - **b)** Give the biosynthesis of norepinephrine with enzyme involve in biosynthesis.
  - c) Describe the SAR of Anthranillates.
  - d) Discuss the SAR of Barbiturates with suitable examples.
  - e) Draw the structures of Desflurane, Isoflurane Enflurane, Halothane, Ketamine.
  - Draw the structure of propranolol give its synthesis. f)
  - g) Discuss the chemistry of morphine molecule.
  - **h)** Discuss the class 2-arylimidazoline as a sympathomimetic agent.
  - Add a note on narcotic antagonist. i)

#### Answer the following questions. (Any Two) Q.3

- a) Explain the SAR of sympathomimetic agents.
- b) Discuss the SAR of morphine.
- c) What are hypnotic and sedative? Discuss the SAR of benzodiazepine.

d) Psychotic drug

b) Adrenergic drug

- b) 5,5'-diphenyl hydantoin
- d) 5,5'-dipentyl hydantoin
- b) Naloxone

b) Hyoscine

d) Acetylcholine

- d) Heroin
- b) Cyclohydrogenase
- d) None of these
- b) Thiobarbiturate
- d) Nitrous oxide

	4							
Seat No.	C	Set P						
B. Pharmacy (Semester - IV) (CBCS) Examination: Oct/Nov-2023 Physical Pharmaceutics – II (801403)								
		Saturday, 06-01-2024         Max. Marks: 75           PM To 05:30 PM         Max. Marks: 75						
Instr	Instructions:1) All questions are compulsory. 2) Figures to the right indicate full marks.							
Q.1	Multi 1)	De Choice questions       20         The particle size of dispersion from 1 nm to 0.5 μm is comes under       a)         a)       Molecular dispersion         b)       Colloidal dispersion         c)       Course dispersion         d)       None of the above						
	2)	The stability of colloidal system is depends on a) Magnitude b) Charges c) Both a & b d) Sign of Charge						
	3)	is the forcing a liquid to flow through a plug or bed of particles creates the potential. a) Zeta potential b) Sedimentation potential c) Electro-kinetic Potential d) Streaming potential						
	4)	method is commonly used for destruction of colloid. a) Addition of electrolyte b) Condensation c) Dialysis d) Filtration						
	5)	Which of the following is an association colloid? a) Protein b) Sol of gold c) Soap d) Starch						
	6)	Which is the stability zone for UK? a) Zone-I b) Zone-II c) Zone-III d) None of the above						
	7)	Which of the following correct guideline for stability study? a) ICH Q3 b) ICH Q8 c) ICHQ10 d) ICH QI						
	8)	How many batches should be considered for Photostability testing as per ICH? a) at least 2 b) at least 3 c) at least 4 d) at least 5						
	9)	Which of the following is the half-life equation for first order reaction? a) $t_{1/2} = A_0/2K$ b) $t_{1/2} = 0.693/k$ c) $t_{1/2} = 0.693/2k$ d) $t_{1/2} = 2k$						
	10)	Accelerated stability testing is done to a) Predict shelf life of formulation b) Predict dissociation constant c) Predict diffusion constant d) Determine activation energy						
	11)	method is used for determination of particle volume. a) Optical microscopy b) Sedimentation c) Sieving d) Coulter Counter						

20

Page 2 of 2

- The word micrometric was given by \_\_\_\_ 12) b) Johns peter a) J.M. Dallavalle d) Michael Menten c) Alfred martin 13) 1 micrometer is equal to \_\_\_\_\_. a)  $10^{-6} cm$ b)  $10^{-3} cm$ c)  $10^{-6}m$ d) None of these 14) b) Number a) Gaussian c) Normal d) Weight It is difficult to express the size of particles in a meaningful diameter. a) Irregular in shape b) Irregular surface area c) Spherical shape d) Uniform size 16) The HLB value of w/o type of emulsifying agents is in between . a) 3 to 6 b) 7 to 12 c) 13 to 16 d) more than 16 In flocculated suspension, the rate of sedimentation is a) Low b) High c) Medium d) 50% The ratio of ultimate volume of sediment to actual volume of sediment before 18) setting is called a) Degree of flocculation b) Emulsification Volume c) Phase volume d) Sedimentation Volume For an ideal suspension sedimentation volume should be: a) Equal to one b) Less than one c) More than one d) Zero The unit of kinematic viscosity is \_\_\_\_\_. b) Centipoise a) Poise c) dyne.sec/cm<sup>2</sup> d) Stoke's Explain the effect of electrolyte on lyophobic colloid? Explain in detail optical properties of colloids. Explain Pseudoplastic flow with examples. Write Note on Falling Sphere Viscometer. Differentiate between Elastic deformation and plastic deformation. Explain different climatic Zones with example. Explain different factors affecting on degradation of drug. Write Note on Association Colloids.
- a) Explain any two methods used for determination of particle size and size determination.
- Discuss in detail methods used for determination of order of Reaction. b)
- Write principle and working of Cone and plan method and Cup Bob Method. C)

- 19)
- 20)

### Q.2 Answer any seven of the following questions.

- a)
- b)
- C)
- d)
- e)
- f)
- g)
- Define micromeretics. Give its Importance of micromeretics in pharmacy. h)
- i)
- Q.3 Answer any two of the following questions.

- Which one of the distribution is more important in the design of dosage form?
- 15)
- 17)

Seat No.		Set	Ρ					
	B. Pł	armacy (Semester - IV) (CBCS) Examination: Oct/Nov-2023 Pharmacology - I (801404)						
		Tuesday, 09-01-2024 Max. Mark PM To 05:30 PM	s: 75					
<b>Instructions:</b> 1) All questions are compulsory. 2) Figures to the right indicate full marks.								
Q.1	1) I	Ie Choice questionsDisulfiram inhibitsenzyme.a) Alcohol dehydrogenaseb) Aldehyde dehydrogenaseb) Acetaldehyde dehydrogenased) All of these	20					
	i	Which of the following is not a metabotropic receptor?a) Enzyme linked receptorb) G-protein coupled receptorc) Ion channel receptord) Nuclear receptor						
		used for infantile spasm. a) Valproate b) Vigabatrin c) Gabapentin d) None of the above						
		is a selective serotonin reuptake inhibitor. a) Bupropion b) Sertraline b) Desipramine d) Duloxetine						
	i	dentify newer non benzodiazepine drug? a) Pentobarbitone b) Diazepam c) Thipentone d) Zopiclone						
	, i	Which of the following drug is used as an opioid antagonist?a) Picrotoxinb) Bicculinec) Nalaoxoned) Amantadine						
	, i	Graded dose response curve measured on a) Continuous scale b) All or none response c) Safety level d) All of the above						
		assigned by United States adopted council. a) Chemical name b) Proprietary name c) Nonproprietary name d) None of the above						
		is an ability to bind to the receptor. a) Efficacy b) Intrinsic activity b) Affinity d) Potency						
	i	Acidic drugs bind to a) Albumin b) Globulin c) Fibrinogen d) None of the above						
	i	Auscarinic receptors are belonging to a) Ion channel receptor b) Enzyme linked receptor c) G-protein coupled receptor d) Intracellular receptor						
		is a rapid development of tolerance. a) Tolerance b) Cummulation c) Allergy d) Tachyphylaxis						

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### SLR-GA-16

- Nicotonic neuronal (NN) receptor is present in . 13)
  - a) Skeletal muscle
  - c) PSNS ganglia
- 14) is an alpha2 selective antagonist.
  - a) Yohimbine c) Prazosin
- Alpha 1 receptor causes in blood vessels. 15)
  - a) Vasoconstriction
  - c) Bronchoconstriction d)
- 16) is an irreversible nonselective drug.
  - a) Ergotoxine
  - c) Yohimbine

- b) Prazosin d) Phenoxybenzamine
- 17) GABAA receptor is belong to receptor.
  - a) Ion channel Enzyme linked b) c) G-protein coupled Intracellular d)
- Which of the following is directly acting muscle relaxant drug? 18)
  - a) Propranolol Dantrolene b)
  - d) Phentolamine c) Mivacurium
- 19) Which route of administration is suitable for depot preparation?
  - a) Oral b) Intravenous
  - c) Intramuscular d) Subcutaneous
- is the study of drugs effect at the population level. b) Pharmacoepidemology d) Pharmacoet 20)
  - a) Pharmacoeconomic
  - c) Pharmacotherapeutic

#### Q.2 Answer any seven of the following questions.

- a) Define agonist, explain the types of agonist.
- Discuss the nature and sources of drugs. b)
- Classify antidepressant agents. C)
- Classify local anaesthetic agents, write mechanism of action of procaine. d)
- Write the difference between competitive and non-competitive antagonist. e)
- Classify sedative and hypnotic drugs and write a note on benzodiazepine. f)
- Describe the pharmacology of morphine. g)
- Write pharmacological actions of adrenaline. h)
- Define the terms- Tolerance, Pharmacogenomics, Sedative, Therapeutic i) index, Receptor.

#### Answer any two of the following questions. Q.3

- Describe the absorption and metabolism of drugs. a)
- b) Write general structure and general mechanism of enzyme linked receptor.
- Classify general anaesthesia, discuss the stages of general anaesthesia. C)

- b) Smooth muscle d) ANS ganglia
- Tolazoline b)
- d) Reserpine
- b) Vasodilatation
  - Bronchodilation

INO.							
B. Pharmacy (Semester - IV) (CBCS) Examination: Oct/Nov-2023 Pharmacognosy and Phytochemistry - I (801405)							
		e: Thursday, 11-01-2024 Max. Marks: 80 PM To 05:30 PM	75				
Instr	uctio	<ul><li>ns: 1) Figures to the right indicate full marks.</li><li>2) All questions are compulsory.</li></ul>					
Q.1	Mult 1)	t <b>iple choice questions. (MCQ)</b> Who is known as Father of Homeopathy?	20				
		a) Hippocrates b) Aristotle c) Robert Koch d) Samuel Hahnemann					
	2)	Select the unorganized crude drug used as a perfume in the formulation of cosmetic products.					
		a) Turmeric b) Sandalwood c) Musk d) Aloe					
	3)	In short term droughts, percentage of sennoside A and B in the senna will be					
		a) Increases b) Decreases c) Remains constant d) Highly reduced					
	4)	gm of powdered crude drug is weighed for the determination of Extractive Value according to official text.					
		a) 1 b) 1.5 c) 2.5 d) 5					
	5)	Select the crude drug used in the treatment of leprosy. a) Cassia b) Beeswax c) Olive oil d) Chaulmoogra oil					
	6)	<ul> <li>Select the true statement for the cultivation of medicinal and aromatic plants.</li> <li>a) Cultivation ensures irregular supply of crude drugs.</li> <li>b) Cultivation bears low cost compared to wild sources.</li> <li>c) Cultivation of medicinal plants leads to small scale industry.</li> <li>d) Cultivation ensures poor quality along with less yield of crude drugs</li> </ul>					
	7)	All of the following are exogenous factors affecting cultivation technologyexcepta) Altitudeb) Temperaturec) Rainfalld) Soil Fertility					
	8)	should be packed in the goat skin. a) Colophony b) Aloe b) Asafoetida d) All of the above					
	9)	When the vegetative part of the plant is used for the cultivation of medicinal plants, then it is known as method of propagation.a)Sexualb)Asepticc)Micropropagationd)Asexual					

Set P
- All of the following crude drugs are examples of secondary metabolites 10) except
  - a) Senna

- b) Dioscorea
- Ginger d) Honey C)
- 11) Which of the following enzyme cannot be used for the removal of cell wall from plant cell?
  - a) Cellulase b) Polymerase
  - d) Zymolase c) Pectinase
- 12) Plant cells from which the cell wall is removed are called .
  - Plastids b) Ribosomes a) c)
    - Chloroplast d) Protoplast
- Yin and Yang theory and Triguna theory is based on and 13) system of medicine respectively.
  - a) Siddha, Chinese

- b) Chinese and Ayurveda
- c) Chinese and Siddha
- d) Chinese and Homeopathy
- 14) are complex organic, non-nitrogenous and non-crystalline substances, occurs as a mixture of polyphenols and form colloidal solutions with water that are widely distributed in plant kingdom.
  - b) Tannins a) Glycosides
  - Alkaloids d) Resins c)
- 15) Select the examples of Hydrolysable class of tannins.
  - Catechu, Behda and Pterocarpus a)
  - b) Myrobalan, Behda and Pterocarpus
  - Catechu, Behda and Arjuna c)
  - Amla, Myrobalan, Behda d)
- 16) Choose the false statement for the volatile oil.
  - Volatile oils are lighter than water a)
  - b) Commonly found in the species Labiatae, Piperaceae, Zingiberaceae and Umbelliferae
  - Volatile oils get easily saponify. c)
  - Volatile oils do not permanently get stain to the filter paper. d)
- Astragalus gummifer is the botanical name of 17)
  - Acacia b) Tragacanth a)
  - Serratiopeptidase c) d) Gelatin
- Select the dried latex of the drug which have therapeutic value? 18)
  - Opium and catechu a)

Streptokinase

- b) Catechu and Guggul
- Papain and Catechu d) Opium and Papain c)
- 19) is the enzyme useful in the thromboembolic diseases.
  - Papain a)

c)

- b) Bromelain d) Protease
- 20) is the botanical name of Gunny belongs to \_\_\_\_\_ family.
  - a) Corchorus barbadensis, Malvaceae
  - Corchorus mori. Tiliaceae b)
  - Corchorus olitorius. Tiliaceae c)
  - Gossypium barbadensis, Malvaceae d)

#### Q.2 Answer any Seven of the following questions.

- a) Write a note on Pharmacological System of Classification.
- **b)** Brief account on different sources of drags of natural origin with suitable examples.
- c) Define Cultivation. Write its merits and demerits.
- d) Write a note on Drying of drugs of natural origin.
- e) Elaborate nutritional requirements useful for the growth of plant tissue culture.
- f) Explain Homeopathic System of Medicine.
- g) What are volatile oils? Write its physicochemical properties.
- h) Write source, chemical constituents and uses of Hydnocarpus oil and Honey.
- i) Write source, method of preparation and uses of Papain.

#### Q.3 Answer any Two of the following questions.

- a) Discuss quantitative microscopy with reference to Leaf Constants. How does stomatal number differentiate from stomatal index?
- **b)** Define Alkaloids. Classify with suitable examples. Write qualitative chemical tests used for detection of alkaloids.
- c) Write the pharmacognostic scheme of Acacia and Agar.

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Sea	t	Set	Ρ
No.	В.	Pharmacy (Semester - V) (CBCS) Examination: Oct/Nov-2023	
		Medicinal Chemistry–II (801501)	
		te: Wednesday, 17-01-2024 Max. Marks: 7 30 PM To 05:30 PM	75
Instr	ructio	ons: 1) All questions are compulsory. 2) Figures to the right indicate full marks.	
Q.1	Mult	tiple Choice questions.	20
	1)	Which of the following drug belong to vasodilator	_ •
		<ul> <li>a) Dipyridamole</li> <li>b) Isosorbide dinitrate</li> <li>c) Verapamil</li> <li>d) Both A &amp; B</li> </ul>	
	2)	Mechanism of action of mexiletine HCl is	
		<ul> <li>a) Blocks Na+ channel</li> <li>b) Blocks Ca+ channel</li> <li>c) Blocks K+ channel</li> <li>d) β- blockers</li> </ul>	
	3)	What drug increases blood sugar by stimulating Glycogenolysis in the liver.	
		a) Glucagon b) Glimepiride c) Glyburide d) Acarbose	
	4)	Histamine is	
	4)	a) 1,2,4-imidazoyl ethylamine b) 2,4-imidazoyl ethylamine	
		c) 2,2,4-imidazoyl ethylamine d) 3,4-imidazoyl ethylamine	
	5)	Which one of the following drug acts by sequestering the bile acid in the GIT $\_$	·
		a) Colestipol b) Lovastatin c) Probucol d) Niacin	
	6)	Florouracil is	
	0)	a) Purine analogue b) Pyrimidine analogue	
		c) Folic acid analogue d) All of above	
	7)	Which drugs acts by competitive inhibition of vitamin K reductase	
		a) Heparin b) Warfarin c) Ezetimibe d) Niacin	
	8)	Which of the following drugs is inhibitor of Na+/K+ATPase.	
	0)	a) Digoxin b) Nesiritide	
		c) Bosentan d) Terosentan	
	9)	Which of the following diuretic compet with aldosterone	
		a) Furosemide b) Amiloride c) Spironolactone d) Isosorbide	
	10)	2-diethylamino-2,6-acetoxyxylidide is	
	10)	a) Procaine b) Lignocaine	
		c) Halothane d) Benzocaine	
	11)	Mostly calcium channel blocker act by inhibiting influx of Ca+ ion through	
		a) P-type calcium channel b) T- type calcium channel c) L- type calcium channel d) N-type calcium channel	

c) L- type calcium channel d) N-type calcium channel

12)	Mechanism of action of Sotalol is a) Blocks Na+ channel c) Blocks K+ channel	b) d)	Blocks Ca+ channel $\beta$ - blockers	
13)	Diabetes is an diseases. a) Endocrinochronic c) Bacterial	b) d)	Infectious Microbial	
14)	Which of the following antibody is res a) IgG c) IgA	pons b) d)	ible for allergic phenomenon IgM IgE	·
15)	One of the following is HMG-CoA red a) Lovastatin c) Colestipol	luctas b) d)	se inhibitor. Clofibrate None of above	
16)	Chlorobucil is an eg of a) Nitrosourea c) Aziridines	b) d)	Nitrogen mustard Arylsulphonate	
17)	Protains C & S are dependent on whi a) Vitamin C c) Vitamin E	ich vil b) d)	amin for synthesis Vitamin B Vitamin K	
18)	Mechanism of action of Digitalis is a) Decrease in Ca+ uptake c) Modification of actin molecules		Increase in ATP synthesis Increase in intracellular Ca+ level	
19)	Bumetanide belongs to which class _ a) Loop diuretics c) Potassium sparing diuretics	b) d)	Osmotic diuretics Carbonic anhydrase diuretics	
20)	Mechanism of action of furosemide is a) Osmotic diuretics c) Carbonic anhydrase diuretics	s b) d)	 Inhibits Na+/K+/2CI-symport Competitive inhibit aldosterone	
<ul> <li>Answer the following questions. (Any seven)</li> <li>a) Give the synthesis &amp; uses of Nitroglycerine, Isosorbide dinitrate.</li> <li>b) What are calcium channel blockers in anti-arrhythmic agent.</li> <li>c) Write the SAR of H<sub>2</sub> receptor antagonist.</li> <li>d) Comment on oral anticoagulants.</li> <li>e) What are positive ionotropic agents give their mechanism of action.</li> <li>f) Write a note on carbonic anhydrase inhibitors.</li> <li>g) Write a note on Sex harmones.</li> <li>h) Write a note on cardiac glycoside used in CHF.</li> <li>i) Discuss in details of class II drug.</li> </ul>				35
Ans a)	wer the following questions. Discuss in detail MOA & SAR of Fibra	tes w	ith e.g.	20

- Describe in details of Antimetabolites and explain any two drugs in this category. Discuss numbering & stereochemistry of Steroids. b)
- C)

Q.2

Q.3

	B. Pharmacy (Semester - V) (CBCS) Examination: Oct/Nov-2023 Industrial Pharmacy – I (801502)				
	Day & Date: Friday, 05-01-2024 Max. Marks: 75 Time: 02:30 PM To 05:30 PM				
Instr	ructio	<ul><li>ns: 1) All questions are compulsory.</li><li>2) Figures to the right indicate full marks.</li></ul>			
Q.1	Mult 1)	tiple Choice questions.20The ability of compound to exist in more than one crystalline form is known asa) Crystallizationb) Amorphous formationc) Polymorphismd) None of the above			
	2)	If the solvent present within a crystal lattice of the drug is other than water then it is known as a) Solvates b) Hydrates c) Clathrates d) Adduct			
	3)	Flow property of powder can be determined by a) Angle of repose b) Friability c) Hardness tester d) Screw gauge			
	4)	Distribution of an unionised drug between the organic phase and aqueous phase at equilibrium is known as a) Partition law b) Henderson Hasselbalch c) Rault's law d) None of the these			
	5)	Among the following which has higher solubility. a) Crystalline form of drug b) Amorphous form of drug c) Both [a] and (b) d) None of the these			
	6)	The diameter of mesh aperture of disintegration test apparatus as per I.P isa) 2.00 mmb) 4.00 mmc) 1.00 mmd) 1.50 mm			
	7)	Name of the equipment/s used to measure hardness of tablet.a) Pfizer testerb) Strong Cobb testerc) Erweka testerd) All of the above			
	8)	Pre-formulation is about ensuring. a) Stability b) Safety c) Efficacy d) All of the above			
	9)	A super disintegrant in tablet formulation is a) Sodium starch glycolate b) Starch c) PVP d) Mg-Aluminum silicate			
	10)	Slugs are prepared in which kind of granulation techniques? a) Wet granulation b) Dry granulation c) Stem granulation d) Melt granulation			
	11)	The moisture content of capsules ranges between% w/w. a) 12-16 b) 20-25 c) 30-40 d) 50-60			

### Seat No.

20

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				SLR-GA-	19
	12)	A hypotonic solution may induce a) Shrinking of blood cells c) Fever	,	Haemolysis All of the above	
	13)	a) 1 a) 000	b) d)	2 00	
	14)	Which one of the following is used as a) Dextrose c) NaCl	b)	onicity adjuster? Boric acid All of the these	
	15)	The dip tube in the aerosol container a) Polypropylene c) Glass	b)	ade from one of the following. Aluminum Stainless steel	
	16)	Filling of aerosols with liquefied prope a) Cold fill process c) Both (a) and (b)	b)	ts is done by Pressure fill process None of the above	
	17)	Method used for finishing the capsule a) Pan polishing c) Brushing	b)	 Cloth dusting All of these	
	18)	HLB system is used to classify a) Surfactants c) Antioxidants	b) d)	Preservative Sequestering agent	
	19)	In which type of packaging system the packaging material? a) Primary Package c) Tertiary Package	b)	oduct is in direct contact with Secondary Package All of the above	
	20)	Elixirs aresolution. a) Aqueous c) Hydroalcoholic	b)	Alcoholic None of the above	
Q.2	a) b) c)	wer any seven of the following quest What is pre-formulation? Give the object of pre-formulation. What is polymorphism? add a note on p Define and classify tablets with suitable What is enteric coating? Write the ratio	ctive coly e exa	es and physicochemical parameters morphism. amples.	3
	e) f) g)	enteric coating. What are emulsifying? Classify emulsify Explain the importance of isotonicity in Discuss LAL (Limulus amoebocyte lysa Write the principle and procedure involv	ying pare ite) t	agent with suitable examples. entrals. test for parenteral products.	۱.

What is bloom strength? Explain how is it determined? i)

#### Answer any two of the following questions. Q.3

- a) Discuss quality control tests for aerosol.
- b) Discuss different quality control tests for tablets.
- c) Discuss different quality control tests of hard gelatine capsules.

- ove
- above

Seat No.	t	S	et P
	<b>B</b> .	Pharmacy (Semester - V) (CBCS) Examination: Oct/Nov-202 Pharmacology – II (801503)	3
		te: Monday, 08-01-2024 Max. M 30 PM To 05:30 PM	arks: 75
Instr	uctio	<ul><li><b>ons:</b> 1) All questions are compulsory.</li><li>2) Figures to the right indicate full marks.</li></ul>	
Q.1	Mult 1)	Itiple Choice questions. Prehypertension systolic Blood Pressure (mm of Hg) is a) 120 to 139 b) 140 to 159 c) Less than 120 d) ≥160	20
	2)	All laxatives are contraindicated in a) Undiagnosed abdomen pain b) Colic/Vomitting c) Secondary constipation d) all of above	
	3)	is mostly episodic less prone to status asthmaticus. a) Bronchial asthma b) Extrinsic asthma c) Intrinsic asthma d) Other than A, B and C	
	4)	is the example of osmotic purgative. a) Isapghula b) Tegaserod c) Lactulose d) Castor oil	
	5)	is the proton pump inhibitor. a) Omeprazole b) Misoprostol c) Famotidine d) Sucralfate	
	6)	drug having oral bioavailability is higher and more consistent. a) Amlodipine b) Felodipine c) Nifedipine d) Diltiazem	
	7)	Dose of isosorbide dinitrate isa) 0.4 to 0.8 mg sublingualb) 5 to 10 mg sublingualc) 5 to 15 mg orald) 20 to 40 mg oral	
	8)	Presence of food in stomach absorption of digoxin as well as digitoxin.a) increaseb) not affect d) delay	
	9)	Primary indication for use of erythropoeitin is a) Megaloblastic anemia b) Anemia of chronic renal failure c) Pernicious anemia d) Iron deficiency anemia	e
	10)	Total osmolarity of oral rehydration solutions as per world health organization's new formula is a) 110 m Osm/L b) 75 m Osm/L c) 275 m Osm/L d) 200 m Osm/L	
	11)	The drug of choice in anaphylactic shock is a) dobutamine b) atropine c) adrenaline d) chlorpheniramine	

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12)	Streptokinase is obtained from a) Group A c) Group C	Beta b) d)	Group B
13)	Canrenone is an active metabolite of a) Spironolactone c) Amiloride	aldos b) d)	terone antagonist called Triamterene None of these
14)	The most important adverse effect of a) Hypokalaemia c) Hyperlipidemia	thiazi b) d)	
15)	Treatment and general measures of a a) gastric lavage c) artificial respiration		physostigmine 1-3 mg
16)	is called an inodilator. a) Amrinoone c) Dobutamine	b) d)	Milrinone Other than A, B and C
17)	is not a thiazide and related Di a) Xipamide c) Metolazone	iuretic b) d)	Indapamide
18)	Most common adverse effect of ACE is a) Cough c) Bleeding	inhibi b) d)	Hyperuricemia
19)	The drug of choice for an ongoing atta a) Oral nitroglycerine c) Oral Amlodipine	b)	<u> </u>
20)	<ul> <li>Which of the following class of drugs</li> <li>Type-2 Diabeters</li> <li>a) β-Blockers</li> <li>c) Vasodilators</li> </ul>		t choice in Hypertensives with ACE inhibitors Diuretics
a) b) c) d) e) f) g) h)	wer any seven of the following quest What is digoxin toxicity and give its ma Give classification of anti coagulants a Describe the mechanism of action of a Write a note on uterine muscle relaxar Enlist the therapeutic uses and advers What are laxatives? Classify them with What is hypoglycemia? Give the contr hypoglycemic drugs. Define the Autacoids, give detail class Define ischemia, angina pectoris, siler and shock.	anage Idd no aspirir Its. Se effe n exal a indi ificati	ement? ote on pharmacology of heparin. n. ects of antihistaminic drugs. mples. cations and adverse effects of on of autocoids.
	ver any two of the following questio		nechanism of action uses and

Q.2

Q.3

- Classify antiarrhythmic drugs. Discuss the mechanism of action, uses and a) adverse effects of quinidine.
- Describe general principles of treatment of poisoning. Write about symptoms and treatment of arsenic poisoning. Enumerate drugs used in the treatment of asthma with examples. Add a note b)
- C) on corticosteroids as anti-asthmaticus.

20

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Sea No.	τ	Set P
	<b>B</b> .	Pharmacy (Semester - V) (CBCS) Examination: Oct/Nov-2023 Pharmacognosy and Phytochemistry – II (801504)
		e: Wednesday, 10-01-2024 Max. Marks: 75 0 PM To 05:30 PM
Instr	uctio	<ul><li>ns: 1) All questions are compulsory.</li><li>2) Figures to the right indicate full marks.</li></ul>
Q.1	Mult 1)	iple Choice questions.20Steroidal saponins are biosynthesized viaa) Shikimic acid Pathwayb) Kreb's Pathwayc) Aceto acetate Pathwayd) Mevalonic acid Pathway
	2)	is extracted with alcohol and to the extract, add water, milky white solution is formed. a) Benzoin b) Myrrh c) Colophony d) Guggul
	3)	All of the following phytoconstituent are the classes of alkaloids excepta) Curcuminb) Vincristinec) Yohimbind) Reserpine
	4)	acts as a precursor for the synthesis of steroidal compounds. a) Diosgenin b) Sennoside c) Amygdalin d) Podophyllin
	5)	Number of isoprene units found in Hexaterpene are a) 4 b) 6 c) 12 d) 24
	6)	Which of the following method is mainly used for the separation of charged particles? a) HPTLC b) PAGE c) TLC d) HPLC
	7)	Solvents used in chromatography can be a) Gas / Liquid b) Solid / Liquid c) Only solid d) Only liquid
	8)	Quinine and quinidine shows colour with Thalleoquine test.a) Orangeb) Emerald Greenc) Brownd) Pink
	9)	Prunus amygdalus belongs to family.a) Rosaceaeb) Liliaceaec) Solanaceaed) Apocynaceae
	10)	When is treated with 2-3 ml of ethanol and few drops of concentrated H2SO4, shake well, add 0.5 gm of magnesium turnings, then it produces colour.a) Rutin, Pinkb) Curcumin, Yellow d) Digoxin, Red
	11)	belongs to Umbelliferae family. a) Fennel & Coriander b) Coriander & Dill c) Asafoetida & Fennel d) All of the above

piperita

35

20

12)	is not an example of Resin.		<b>•</b> • • •
	a) Guggul c) Turmeric	,	Cannabis Aloe
13)	is used for the detection of c	,	
10)	a) Bromine vapour		Potassium reagent
	c) lodine chamber	,	Sodium chamber
14)	Select the alkaloid which contains t	-	• •
	a) Papaverin	,	Quinine
45)	c) Cinchonine	•	Hyoscyamine
15)	Acacia chundra is mainly used as _ a) Astringent		Binding agent
	c) Suspending agent		Emulsifying agent
16)		ned fror	n dried leaves of <i>Mentha</i>
	belongs to family	F.)	
	a) Triterpene, Labiatae c) Diterpene, Labiatae		Monoterpene, Labiatae Tetraterpene, Labiatae
17)	does not occur in Ginger.	ч,	
,	a) Starch	b)	Volatile Oil
	c) Tannins	d)	Resins
18)	Gentian extract shows fluore		
	a) Light Blue c) Dark red		Light yellow Dark orange
19)	Botanical name of Devil's Dung is _	-	Durk ordinge
10)	a) Ferula foetida	 b)	Ferula Shinoda
	c) Ferula actinoda	d)	Ferula foeniculum
20)	Forskolin is useful in condition		A (1
	a) Rheumatism c) Fever	b) d)	Asthma Analgesic
۸ne	,	,	-
a)	wer any seven of the following que Write a short note on utilization of ra		
-	biogenetic studies.		
b)	Explain Lignan with suitable example		os of Eovalovo and Sonm
c) d)	Write source, chemical constituents How does Pale catechu differentiate		
e)	Explain isolation and identification of	f Curcu	min.
f) a)	Give brief account on analysis of Re		5
g) h)	Explain industrial production and use Enlist various extraction techniques.		
i)	Write a note on agarose gel electrop		
Ans	wer any two of the following quest	ions.	
a)	Discuss pharmacognostic scheme o	f Opiur	
b)	Enlist different spectroscopic technic	ques. W	/rite the application of UV

- 2) Used in psychiatry disorders
- 3) Used as dental analgesic
- 4) Used as a sweetening agent
- 5) Used as anticancer

- Q.2 а
  - igation of

  - mukhi.

  - on process.
  - i

#### Q.3

- ĉ
  - V, FT-IR, NMR and Mass Spectroscopy.
- Write source, active constituent and uses of any one crude drug of the C) following classes:
  - 1) Used as anti-malarial

Seat No.	t	Set	Ρ
	В.	Pharmacy (Semester - V) (CBCS) Examination: Oct/Nov-2023 Pharmaceutical Jurisprudence (801505)	
-		e: Friday, 12-01-2024 Max. Marks: 0 PM To 05:30 PM	75
Instru	uctio	<ul><li>ns: 1) All questions are compulsory.</li><li>2) Figures to the right indicate full marks.</li></ul>	
Q.1	<b>Mult</b> 1)	<b>iple Choice questions.</b> The drugs and cosmetics rules were passed in a) 1940 b) 1944 c) 1948 d) 1945	20
	2)	Schedule H drug belongs toa) List of prescription drugb) Narcotic drugc) Misbranded drugd) Imported drug	
	3)	Central research Institute situated at a) Lucknow b) Kolkata c) Kasauli d) Izatnagar	
	4)	Which of following is artificial color a) Annattod b) Carotene c) Caramel d) Chlorophyll	
	5)	According to The Prevention of Cruelty to Animals Act, 1960 non official member/s who member/s who is/are actively engaged in the promotion animal welfare is nominated by Central Government. a) 5 b) 6 c) 2 d) 1	
	6)	Given the following are schedule-X drugs except a) Amobarbital b) Amphetamine c) Gluthimide d) Phenformin	
	7)	Hatch Waxman Act is related toa) Banned drugsb) over- the-counter drugsc) Dangerous drugsd) Generic drugs	
	8)	According to the Prevention of Cruelty to Animals Act, 1960, Experiment on animal is carried out for the purpose except. a) development of new drug b) to have practice c) production of vaccine and sera d) development of medical field	
	9)	<ul> <li>Which types of advertisement is not prohibited under Drug and magic remedies act?</li> <li>a) any advertisement published by government</li> <li>b) any advertisement in technical journal</li> <li>c) any advertisement contain information of disease</li> <li>d) all of the above</li> </ul>	
	10)	If it is so colored, coated, powdered, or polished that damage is concealed or if it is made to appear of better or greater therapeutic value than it rally. a) Adulterated drug b) Misbranded drug c) spurious drug d) spurious cosmetics	

11)	What is Schedule M?a) Good Manufacturing Practiceb) Only Registered practitionerc) only licensed) Standard for disinfectant
12)	India appointed a drug inquiry committee under the chairmanship of a) Rosalind Franklin b) Louis Pasteu c) Colonel R.N. Chopra d) none of above
13)	Left hand top corner of the label of schedule X drugs contains symbol a) XRx b) Rx c) RMP d) TDS
14)	The non-bonded laboratory shall be inspected by the excise officera) Twice a two yearb) Once in yearc) once in a six monthsd) Once in four year
15)	Licence for the retail sale of schedule C and C1 drugs is given in form. a) 18 b) 19 c) 21 d) 22
16)	Penalty for use of Government analyst report for advertisement isa)Rs. 5,000b)Rs. 2,500c)Rs. 1,000d)Rs. 500
17)	Which schedule is related to standard for cosmetics? a) O b) U c) T d) S
18)	Biological and biological products belongs to schedule. a) E b) C c) H d) D
19)	<ul> <li>Charas as per the Narcotic drugs and Psychotropic Substances Act means</li> <li>a) Resin in a crude or purified form obtained from cannabis plant</li> <li>b) Flowering and fruiting tops, leaves and seed of Cannabis sativa</li> <li>c) Roots of Cannabis sativa</li> <li>d) All parts of Cannabis Sativa</li> </ul>
20)	A magic remedies act was passed in year. a) 1930

# c) 1945 d)

### Q.2 Answer the following (Any Seven)

a) Give an account of the constitutions and functions of Pharmacy Council of India.

1954

- **b)** What are the offences and penalties under the Narcotics drugs and psychotropic substances act?
- c) Define the following terms under Drugs and Magic Remedies (Objectionable Advertisement Act):
  - i) Advertisement
  - ii) Magic remedy
- d) Write the constitution and function of DTAB as per D and C Act.
- e) Define the terms Misbranded, Adulterated and Spurious drug.
- **f)** What are the objectives of Pharmacy act and write offences and penalties under the Pharmacy act 1948?
- g) Give an account of Pharmaceutical legislation of India?
- **h)** Write a note to the Animal Ethics committee.
- i) What are the types of Intellectual property right?

### Q.3 Answer the following questions. (Any Two)

- 1) Write the qualification, duties and powers of drug inspector. Explain in brief inspection procedure.
- 2) Give an account of cultivation and production of poppy straw, manufacture, sale and export of pium?
- **3)** What are the objectives of Narcotics drugs and Psychotropic substances Act? Discuss manufacture, possession and sale of Narcotic and Psychotropic drugs.

Sea	t	Set	Ρ
No.	B	harmacy (Semester - VI) (CBCS) Examination: Oct/Nov-2023	
	0.1	Medicinal Chemistry - III (801601)	
		: Monday, 01-01-2024 Max. Marks: ) AM To 01:30 PM	75
Instr	uctio	<ul><li>s: 1) All questions are compulsory.</li><li>2) Figures to the right indicate full marks.</li></ul>	
Q.1	Mult 1)	ple Choice questions. Tick the drug, a bezimidazole derivative. a) Praziquantel b) Mebendazole c) Suramin d) Pyrantel	20
	2)	<ul> <li>Antibiotics act by inhibition of nucleic acid metabolism.</li> <li>a) Beta lactam antibiotic</li> <li>b) Glycopeptides</li> <li>c) Tetracycline</li> <li>d) Griseofulvin</li> </ul>	
	3)	Amphotericin B comes under which class of druga) Anti TBb) Antifungalc) Antivirald) Anthelmintic	
	4)	All of the following Anti-malarial drugs are 4-quinoline derivatives, excepta) Chloroquineb) Mefloquinec) Primaquined) Amodiaquine	
	5)	Tick the drugs for the treatment of an intestinal form of amebiasis.a) Metronidazole & diloxanideb) Diloxanide & streptomycinec) Diloxanide & iodoquinold) Emetine & metronidazole	
	6)	Drug which is used for leprosya) Sulphamethizoleb) Sulphapyridinec) Trimethoprimd) Dapsone	
	7)	Select the drug that acts by inhibiting HIV protease enzymea) Zalcitabineb) Efavirenzc) Stavudined) Nelfinavir	
	8)	Prodrugs with teo active compounds are known asa) Mixed type prodrugsb) Pro-prodrugsc) Bioprecursorsd) Mutual prodrug	
	9)	Hammetts constant used to find which parametera) Hydrophilicb) Electrophilicc) Stericd) Lipophilic	
	10)	Which parameter is used to find steric property?a) Freewilsonb) Hanch analysisc) Tafts steric constantd) Hammatt constant	
	11)	is a piperazine derivative.a) Mebendazoleb) Piperazine citratec) DECd) Pyrantel pamoate	

		SLR-GA-	-23
	12)	<ul> <li>Chemically tetracyclin is a derivative of</li> <li>a) Pyrimidine derivative</li> <li>b) Purin derivative</li> <li>c) Octahydro napthacene derivative</li> <li>d) Phenanthrene derivative</li> </ul>	
	13)	Tolnaftate is synthesis froma) 2-naptholb) phenolc) Catechold) Benzil	
	14)	Pyrimethamine act by inhibit the enzymea) Folate reductaseb) Transaminasec) Peptidased) Amylase	
	15)	Idodquinol is aa) Quinoloneb) Hydroxychloroquinec) Diiodohydroxyquined) Iodochloroquine	
	16)	Chemically INH is aa) Isonicotinic acid hydrazideb) Acid hydrazidec) Nicotinic acidd) Nicotinic hydrazine	
	17)	Select the drug that is active against both HIV & herpatitis B virus. a) Lamivudine b) Indinavir c) Didanosine d) Efavirenz	
	18)	<ul> <li>'Cascade lantentiation' concept takes into account which kind of prodrug.</li> <li>a) Mixed type prodrugs</li> <li>b) Pro-prodrugs</li> <li>c) Bioprecursors</li> <li>d) Carrier linked prodrugs</li> </ul>	
	19)	The basic ring structure for all sulphonamides area) Sulphanilamideb) Benzoic acidc) Purined) Pteridine	
	20)	Which is basic ring present in sulphamethoxazolea) Oxazoleb) Isoxazolec) Thiazoled) None of the above	
Q.2	a) b) c) d) e) f) g) h)	<ul> <li>wer the following questions (Any Seven)</li> <li>Write SAR &amp; MOA of Sulphonamide.</li> <li>Write synthesis Diethyl carbamazine citrate, Metronidazole &amp; Mebendazole.</li> <li>Write a note on azoles derivative.</li> <li>Write a note on combination treatment of Tuberculosis.</li> <li>Define &amp; classify Anti-protozoal Agents with eg.</li> <li>Write SAR &amp; MOA of 4-amino Quinoline with eg.</li> <li>Write in details of different types of prodrugs with eg.</li> <li>Write SAR &amp; MOA oi Ethambutol.</li> <li>What is Sulphonamide &amp; Classify with eg.</li> </ul>	35
Q.3		<b>ver the following question (Any Two)</b> Write a note on Reverse transcriptase inhibitors with eg. Discuss in details of different approaches used in drug design	20

- b) Discuss in details of different approaches used in drug design.
  c) Write SAR & MOA Of Penicillin & cephalosporin.

		Filarinacology – III (601602)
		Wednesday, 17-01-2024 Max. Marks: 75 AM To 01:30 PM
Instru	uction	<ul> <li>1) All questions are compulsory.</li> <li>2) Figures to the right indicate full marks.</li> </ul>
Q.1	<b>Multi</b> j 1)	Ie Choice questions.20Is the foundation therapy for Chronic Obstructive Pulmonary Disease.a) Ipratropium+Tiotropiumb) B2 Adrenergic agonistsc) Both A & Bd) Theophylline
	2)	is centrally acting emetic. a) Xylazine b) Concentrated Sodium Chloride c) Syrup of Ipecac d) Zinc Sulphate
	3)	Chronic diarrhoea is caused by a) Diabetes b) Tumours c) Addison's disease d) All of above
	4)	act directly on the cell membrane of the micro-organism increasing heir permeability and leading to leakage of intracellular components. a) Penicillin b) Amphotericin-B b) Erythromycin d) Sulphonamides
	5)	affect bacterial nucleic acid synthesis and decrease DNA-gyrase. a) Quinolones b) Rifampicin b) Tetracycline d) Nystatin
	6)	is intermediate acting sulphonamide agent. a) Sulfisoxazole b) Sulphamethoxazole b) Sulphadoxine d) Mafenide
	7)	reported to cause imbalance in blood sugar level. a) Sparfloxacin b) Levofloxacin c) Gatifloxacin d) Moxifloxacin
	8)	The success of a penicillin antibiotic is causing cell death is related to antibiotics a) Size b) Charge c) Hydrophobicity d) All of above
	9)	is an example of fourth generation cephalosporin. a) Cefepime b) Cefixime c) Cetizoxime d) Cefuroxime
	10)	Renally impaired patients should not be treated with any of the tetracyclineexcepta) Tetracyclineb) Chlortetracyclinec) Oxytetracyclined) Doxycycline
	11)	Chloramphenicol show adverse drug reaction. a) Anemia b) Gray babay syndrome

## Seat No.

B. Pharmacy (Semester - VI) (CBCS) Examination: Oct/Nov-2023 Pharmacology – III (801602)

### (

- c) Bone marrow depression
- d) All of above

# SLR-GA-24

Set Ρ

- Secondary anti tuberculosis drug used in standard therapeutic regimen is \_\_\_\_\_. 12) b) Ethionamide
  - a) Rifampicin
  - c) Pyrazinamide
- Drug used in leprosy \_\_\_\_\_. 13)

a) Amphotericin-B c) Flucytosine

- a) Acedapsone
- c) Thiacetazone
- disrupts the fungal cell membrane. b) Griseofulvin

b) Rifampicin

d) All of above

d) Streptomycin

- d) Other than A, B & C
- Anti viral agent is 15)

14)

- a) Providing protection
- c) Inhibiting replicating virus
- b) Started early d) All A, B & C
- Effective control of Sexually Transmitted Diseases can be done by \_\_\_\_\_. 16)
  - a) Contact tracing
  - b) Specific & curative treatment schedules
  - c) Regular post-treatment surveillance.
  - d) All of above
- 17) Interferon- \_\_\_\_\_ is approved for use in relapsing type multiple sclerosis.
  - b) β a) a
  - d) δ c)  $\gamma$
- is used as an antidote in Heavy metal poisoning. 18)
  - a) Dimercaprol b) Succimer
    - c) Edetate calcium disodium d) All A, B & C
- 19) is cytokine having red blood production property.
  - a) Erythropoietin b) Thymopoietin c) TNF- $\alpha$ d) Interleukin-24
- 20) is the main problem in cancer chemotherapy.
  - a) Low margin of safety c) Recurrence
- b) Normal cells also killed
- d) All of the above

#### Answer the following questions. (Any Seven) Q.2

- Explain mechanism of action, adverse effect and therapeutic uses of a) selective Beta 2 agonist.
- What are laxative and purgative? Classify them with example. b)
- Discuss about the mode of action of tetracyclines and its drawbacks. C)
- Write down the drug regime as per recommendation of WHO guidelines for d) Multi Drug Resistant tuberculosis.
- Comment on current & new drugs used in malaria therapy. e)
- Explain recent advances in treatment of fungal infections. f)
- Describe in detail drug used in urinary tract infection. g)
- Explain the term chronopharmacology. Write significance of chronopharmaoclogy. h)
- i) Write note on cotrimoxazole.

#### Answer the following questions. (Any Two) Q.3

- Classify antiamoebic agents with examples. Write MOA, adverse effect and uses a) of metronidazole.
- Give the general principle of treatment of poisoning. Add note on lead, b) arsenic and mercury poisoning.
- Classify penicillin. Explain in detail pharmacology of penicillin. C)

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Seat No.	t	Set	Ρ				
	B. Pharmacy (Semester - VI) (CBCS) Examination: Oct/Nov-2023 Herbal Drug Technology (801603)						
		te: Friday, 05-01-2024 Max. Marks: 30 AM To 01:30 PM	75				
Instr	uctio	<ul><li>ans: 1) All questions are compulsory.</li><li>2) Figures to the right indicate full marks.</li></ul>					
Q.1	Mult 1)	tiple Choice questions.General requirements necessary for the factory premisesa) Buildingb) waste disposalc) water supplyd) All of the above	20				
	2)	Select the natural non excipient crude drug from the following a) karaya gum b) acacia c) guar gum d) neem powder					
	3)	<ul> <li>The ultimate goal of GMP is</li> <li>a) entire manufacturing process should be maintained standards</li> <li>b) safe guarding the health of the patient</li> <li>c) product should be acceptable quality.</li> <li>d) all the above</li> </ul>					
	4)	Natural sweeteners like Stevia powder are used informulation. a) Chuma b) Syrups c) Face cream d) Lotions					
	5)	Stability test is useful in determination of a) Packing material test b) dosage c) Shelf life d) physical status					
	6)	Standard sample used for determination of bitterness value as per WHO guideline is a) Gentiopicrin b) Sweretin c) Quinine d) Tannic acid					
	7)	Herbal drug should be stored at a) Cool place b) Cool & dry place c) Dry place d) Moist & cool place					
	8)	The residue remaining after incineration is called as a) Ash					
	9)	Karl Fischer method is used in the determination ofa) Water contentb) Ash contentc) Bitterness contentd) Chemical residue content					
	10)	<ul> <li>The use of Indian hemp herb requires specific license under which of the following act</li> <li>a) Medicinal &amp; Toilet Preparations Act.</li> <li>b) Drugs &amp; Magic Remedies Act.</li> <li>c) Drugs and Cosmetic Act</li> </ul>					

- c) Drugs and Cosmetic Act.d) Narcotic Drug and Psychotropic substance Act.

	SLR-
11)	lodine value, Acid value are employed as Quality control for a) Hair Colorant b) Hair Oil c) Hair Gel d) Hair Fixer
12)	Important documents in GMP as per guidelines is a) Manuals b) Protocols c) Policies d) All
13)	As per Drug & Cosmetic Rules 1945, no 161(3), which of the following product is allowed to contain high content of alcohol a) Drakshasava b) Dasmularisth c) Mahadrakshasava d) Pancharistha
14)	Pharmacovigilance means to know abouta) Quality testingb)Chemical testingc) Biological testingd)Adverse effect prevention
15)	Factors affecting stability of herbal medicine. a) Physical instability b) chemical instability c) Environmental factors d) All of the above
16)	Schedule T relates withof herbal medicines. a) GAP b) GMP c) GACP d) GLP
17)	<ul> <li>What is the full form of ICH.</li> <li>a) International conference on harmonization.</li> <li>b) International council of harmonization.</li> <li>c) Intermittent council on harmonization.</li> <li>d) intermittent conference on harmonization.</li> </ul>
18)	Trade Mark of product in market helps in a) Identify Products b) Increase Turnover c) Reduce Cost d) Improve Quality
19)	Which of the following tool used for Efficacy of herbal medicine? a) Behavior studies b) side effect c) Clinical Trials d) Therapeutic Data
20)	Alkaloids are confirmed from the following chemical test a) Molischs test b) Mayers test c) Liebermann-Burchard test d) Benedicts test
Ans 1) 2)	wer any seven of the following questions. Define Bhasma Explain their method of preparation with evaluation parameters. Explain the source of herbal raw material.

Explain the source of herbal raw material. 2) 3)

Q.2

- Write importance and role of Standardization.
- Write Bio dynamic Agriculture method in production of Herbs. 4)
- Write a note on Herbal -food, herbal-drug interaction. 5)
- What are cosmetics. Write any skin product preparation and evaluation 6) methods.
- Write ICH guidelines for assessment of herbal drugs. 7)
- write in brief account of plant based institution involved in work on medicinal 8) and aromatics Plants in India.
- Explain in short with case study on patenting aspects of natural products. 9)

### Q.3 Answer any two of the following questions.

- 1) What are Nutraceuticals? Classify and write their role.
- 2) Write a note on
  - i) Ashwagandha
  - ii) Amla
  - iii) Pepper
  - iv) Kava-kava
- 3) What are Asava & Arista. Write the method of preparation and evaluation.

Sea No.	t		Set	Ρ			
	B. Pharmacy (Semester - VI) (CBCS) Examination: Oct/Nov-2023 Biopharmaceutics & Pharmacokinetics (801604)						
	Day & Date: Monday, 08-01-2024 Max. Marks: 75 Time: 10:30 AM To 01:30 PM						
Instr	uctio	<ul><li>ons: 1) All questions are compulsory.</li><li>2) Figures to the right indicate full marks.</li></ul>					
Q.1	Mult 1)	Itiple Choice questions.Orally administered Sabin polio vaccine is absorbed bya) Phagocytosisb) Phagocytosisc) Passive Diffusiond) Ion-Pair Transport	 port	20			
	2)	Noyes-Whitney equation is used to describe a) Protein Binding b) Dissolution c) Elimination d) Disintegration					
	3)	Identify class of the drug as per <i>Biopharmaceutical Classifi</i> (BCS) which is highly Soluble and low permeable. a) Class-I b) Class-II c) Class-III d) Class-IV	cation System				
	4)	Drugs upon administration undergoes first pass met a) Oral b) Intramuscular c) Transdermal d) Parenteral	abolism.				
	5)	<ul> <li>Passive diffusion is best expressed by</li> <li>a) Diffusion layer model</li> <li>b) Fick's first law of diffusion</li> <li>c) Penetration or surface renewal theory</li> <li>d) Interfacial barrier model</li> </ul>					
	6)	Vit-B12 is absorbed bya) Passive diffusionb) Facilitated diffusionc) Endocytosisd) All of the above					
	7)	A drug is transferred from the absorption site into systemic a) Splanchnic circulation b) Lymphatic circ c) Both a and b d) None of the ab	ulation				
	8)	equation is used to calculate the pH of a buffer solu a) Noyes – Whitney b) Henderson – H c) Michaelis – Menten d) Stokes					
	9)	Passive diffusion is also called asa) Uphill transportb) Downhill transportc) Sink conditiond) Antiport	port				
	10)	<ul> <li>PARALLEL ARTIFICIAL MEMBRANNE PERMEABILITY A model is used to study</li> <li>a) Dissolution of drug</li> <li>b) Excretion of drug</li> <li>c) Absorption of drug</li> <li>d) Toxicity of drug</li> </ul>	ug				

- The volume of distribution (Vd) is \_\_\_\_\_. 11)
  - a) Total body volume
  - b) Indication of patient total body volume
  - c) Indication of patient total fluid volume
  - d) The hypothetical Volume of body fluid into which a drug is dissolved or distributed.
- 12) Which is correct order for dissolution of different solid forms of drugs?
  - a) Amorphous > Metastable > Stable
  - b) Amorphous < Metastable > Stable
  - c) Amorphous > Metastable < Stable
  - d) Amorphous < Metastable < Stable

#### 13) Bioavailability is of unchanged form of drug from its dosage form.

- a) Rate of drug absorption b)
- c) Rate of drug elimination
- Rate of drug distribution
- Rate and extent of absorption d)

Lipoproteins

Detoxification

Alpha-1 Globulin

14) Which one of the following blood protein is having large drug binding capacity?

b)

- a) Human serum albumin b)
- c) Haemoglobin d)
- Drug metabolism is \_\_\_\_\_ Process. 15)
  - a) Toxic
  - c) Degradation Dehydration d)

16) First binding site on human serum albumin is

- a) Diazepam binding site
- c) Digitoxin binding site
- b) Warfarin binding site
  - d) Tamoxifen binding site

The term open indicates that the input and output are and that the 17) drug can be eliminated from the body.

- a) Bidirectional b) Multidirectional
- c) Unidirectional Both a and b d)
- Drugs with molecular weight \_\_\_\_\_ excrete mainly in urine. 18)

  - a) Below 300 Daltons
    b) Above 500 Daltons
    c) Between 300 to 500 Daltons
    d) Above 1000 Daltons Above 1000 Daltons
- 19) gives rate and extent of absorption or the amount of drug that reaches the Circulation.
  - a) AUC
  - c) Cmax d) MEC
- Hydrates and Solvates are \_\_\_\_\_. 20)
  - a) Polymorphs b) Monotropic polymorphs
  - c) Enatiotropic polymorphs Pseudopolymorphs d)

### Q.2 Answer any seven of the following questions.

What is non-linear pharmacokinetics? Describe various causes of non-linearity. a)

b)

Tmax

- Write a note on "Non-compartment analysis." b)
- Define Pharmacokinetics. Describe the Pharmacokinetic parameters. C)
- d) Define
  - 1) Therapeutic range
  - 2) Bioavailability
  - 3) Biotransformation
  - 4) MSC
  - 5) MEC

- e) Explain concept of Enterohepatic cycling of drug.
- f) Explain the factors affecting renal excretion.
- **g)** Give difference between Compartment modelling and Physiological modelling.
- h) Explain carrier-Mediated transport mechanism.
- i) Enlist the physiological barriers to distribution of drug explain any two physiological barriers.

#### Q.3 Answer any two of the following questions.

- a) Explain in detail about methods for enhancement of bioavailability of drug.
- **b**) Explain in detail one compartment open model I.V Bolus administration.
- c) Enlist the factors influencing GI absorption of a drug. Discuss in detail Pharmaco- technical factors.

	Day & Date: Wednesday, 10-01-2024         Max. Marks: 75           Time: 10:30 AM To 01:30 PM         Max. Marks: 75					
Instru	<b>Instructions:</b> 1) All questions are compulsory. 2) Figures to the right indicate full marks.					
Q.1	<b>Multi</b> 1)	e Choice questions.20 proposed an idea that separate X and Y chromosomes determine sex.) Louis Pasteurb) Fleming) Wilson and Stevensd) Earnst Seyler				
	2)	he most important discovery that lead to the development of rDNA echnology was ) Discovery of Watson & crick helix DNA model ) Discovery of restriction endonuclease ) Discovery of ligase ) Discovery of tissue culture cloning				
	3)	developed BCG vaccine in 1908. ) Chain Weizmann b) Selman Waksman ) William Kolhe d) Calmette and Guerin				
	4)	lentify the purine base present in DNA. ) Adenine b) Cytosine ) Guanine d) Both a & c				
	5)	parger is used in fermentation for addition of ) Antifoaming agent b) Antimicrobial agents ) Sterile air d) Sterile medium				
	6)	<i>grobacterium tumefaciens</i> is soil borne bacteria. )  Gram positive				
	7)	lentify the strains used for commercial production of vitamin B <sub>12</sub> ) <i>Streptomyces olivaceus</i> b) Streptomyces <i>griseus</i> ) Streptomyces <i>albidoflavus</i> d) All of these				
	8)	n enzyme that cleaves DNA at specific site is called ) Restriction ribonuclease b) Restriction endonuclease ) Trypsin d) <i>E. coli</i> DNA ligase				
	9)	does not require aeration during their production by fermentation echnology. ) Penicillin b) Streptomycin ) Dextran d) Cobalamine				
	10)	CR is useful in the diagnosis of ) HIV				
	11)	orthern blotting technique is used for the confirmation of ) DNA				

# No.

B. Pharmacy (Semester - VI) (CBCS) Examination: Oct/Nov-2023 Pharmaceutical Biotechnology (801605)

Seat

### (

- c) Both DNA & RNA d) Proteins

# SLR-GA-27

Set

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ll of these		
maceutical industry. r with neat labeled diagram. ith their applications. s and demerits.		35
DNA ligase. m.		
ors.		
niques with their applications gy. c acid.		20
	Page	<b>2</b> of <b>2</b>

Tag Enzyme utilized in PCR is \_\_\_\_\_. 12) a) DNA without 3' to 5 'proofreading exonuclease activity b) DNA with 3' to 5 'proofreading exonuclease activity c) DNA without 5' to 3' proofreading exonuclease activity d) DNA with 5' to 3' proofreading exonuclease activity 13) Shotgun method used in a) DNA sequencing b) Gene mapping c) Gene transformation d) Genomic library creation 14) extract is most commonly used for growth of animal cells and it's substituted by mixture of amino acids. a) Chick embryo b) Liver c) Spleen d) Bone marrow The extra-chromosomal circular DNA found in the E.coli is \_\_\_\_\_. 15) a) Plasmid b) DNA ligase c) Vector d) Cytokinin 16) discovered cholera and typhoid vaccine in 1896. a) Phoebus Levene b) Rous c) Guarine d) Wilhelm Kolle Temperature needed for DNA strand separation in PCR is \_\_\_\_\_. 17) a) 74°C b) 45°C c) 100°C d) 95°C 18) Tag polymerase is used in PCR because of its b) high fidelity a) low thermal stability c) high speed d) high thermal stability 19) Southern blotting technique is used for specific identification of a) RNA b) Proteins c) DNA d) Lipids 20) DSP is carried out to b) remove insoluble matter a) Separate cells and cell debris d) Al c) Get pure product Discuss future scope of biotechnology in phar 1) Explain construction of conventional fermenter 2) Write a note on cryopreservation technique wit 3) Add a note on electroporation with their merits 4) 5) Explain plasmid as a vector. 6) Add a note on restriction endonucleases and D 7) Discuss the methods of enzyme immobilization Describe the structure of immunoglobulins. 8) 9) Write the working and applications of biosenso Q.3 Answer any two of the following questions. Describe Western and Southern blotting techn 1)

- 2) Discuss insulin production by r-DNA technolog
- Describe the production of penicillins and citric 3)

Q.2 Answer any seven of the following questions.

Seat	t						
No.		Set	Ρ				
	B. Pharmacy (Semester - VI) (CBCS) Examination: Oct/Nov-2023 Quality Assurance (801606)						
		e: Friday, 12-01-2024 Max. Marks: 30 AM To 01:30 PM	75				
Instru	uctio	<ul><li>ns: 1) All questions are compulsory.</li><li>2) Figures to the right indicate full marks.</li></ul>					
Q.1		tiple Choice questions.	20				
	1)	Is also called as premarket Validation.a) Retrospective Validationb) Prospective validationc) Concurrent Validationd) Revalidation					
	2)	<ul> <li>A type complaint does not include</li> <li>a) Purity and safety</li> <li>b) Potency</li> <li>c) Product Stability</li> <li>d) extraneous contamination mix-ups.</li> </ul>					
	3)	Treated soda lime glass isa) Type 1b) type 2c) Type 3d) type 4					
	4)	Highest air pressure is maintained in a) Clean room b) Gowning area c) factory hallway d) None					
	5)	Which of the following is for Environmental Management? a) ISO 9000 b) ISO 1400 c) ISO 26000 d) ISO 31000					
	6)	Accreditation to a laboratory shall be valid for a period of Years. a) Five b) Three c) Six d) Two					
	7)	ICH Q3 Guideline is fora) Impuritiesb) Raw materialsc) APId) Product Development					
	8)	Concept of QbD is based on a) Validation b) Calibration c) Quality risk management d) None of these					
	9)	Good distribution practices is part of a) Quality Control b) Quality Assurance c) IPQC d) None of these					
	10)	Premises should be of suitable sizes and construction to facilitate a) Cleaning b) Storage c) Maintenance d) All					
	11)	Calibration of an instrument involves adjusting its so that its readings come in accordance with the established standard. a) Accuracy b) Precision c) Both A&B d) None of these					

		SEN-GA-20	,
	12)	In podwered glass test leached alkali is titrated with N Sulphuric acid. a) 2 b) 0.01 c) 0.02 d) 1	
	13)	A common saying in GMP that "if it is not documented it never" a) Happened b) Reported c) Analysed d) Taught	
	14)	To approve or reject starting, packaging material is a responsibility ofa) Head of QC departmentb) Head of production Departmentc) Both A&Bd) None of these	
	15)	A systematic approach to development begins with objectives.a) Predefinedb) Establishedc) Futured) Historical	
	16)	is the building block of TQM. a) Training b) Teamwork c) Leadership d) All	
	17)	The purpose of ICH is to make recommendation on ways to achieve greater a) Quality b) Harmonization c) Safety d) Optimization	
	18)	In GLP, it is prescribed that study director should be a a) Doctor b) Pharmacist c) Scientist d) None of these	
	19)	Calibration minimizes uncertainties by assuring the of the test equipment.a) Accuracyb) Robustnessc) LOQd) LOD	
	20)	Department should evaluate all aspects of the received material. a) QA b) R&D c) QC d) production	
	1) 2) 3) 4) 5) 6) 7) 8)	ver the following. (Any Seven)35Define Calibration and write a note on its significance.Explain the contents of an SOP.Explain the steps handling of complaint.Define TQM and explain the Key elements of TQM.Explain the IS09000 family standards.What is Batch Manufacturing Record (BMR)? Explain content of BMR.Define validation and add a note on types of validation.Discuss the requirements of good warehousing practices.Explain the concept of QA and QC	•
5	1) 2)	<b>ver the following. (Any Two)</b> Explain in detail Quality Control tests for containers and rubber closures. Write in detail about NABL accreditation, principles and procedures. Enlist ICH Q-series guidelines and explain any one in detail.	)

3) Enlist ICH Q-series guidelines and explain any one in detail.

Q.2

Q.3

Set B. Pharmacy (Semester - VII) (CBCS) Examination: Oct/Nov-2023 Instrumental Methods of Analysis (801701)

Day & Date: Tuesday, 16-01-2024 Time: 02:30 PM To 05:30 PM

Seat

No.

**Instructions:** 1) All questions are compulsory.

2) Figures to the right indicate full marks.

#### **Multiple choice questions** Q.1

- is a column packing technique used in adsorption column 1) chromatography.
  - a) Wet Method b) Dry method c) Both A & B d) Semi-dry method
- In bending vibration, if both atoms move to one side of plane such type is 2) called as

b)

- a) Wagging
- c) Rocking
- 3) A hallow cathode lamp is used in the production of . b) Different wavelength radiation
  - a) Similar wavelength radiation
  - c) Specific wavelength radiation
- Which type of the chromatographic technique used for demineralization of 4) water?
  - a) Gel chromatography c) Adsorption chromatography
- b) Ion exchange chromatography

d) Constant wavelength radiation

- Which of the major chemical components present in Whatman filter paper? 5)
  - a) Alpha cellulose c) Ash
- 6) The intensity of the transmitted light is usually measured at which angle?
  - a) 80<sup>0</sup> b) 180<sup>0</sup>
  - c) 90<sup>0</sup> d) 100<sup>0</sup>
- 7) Flame ionization detectors is measured.
  - Melting point a) Resistance b)
  - Absorbance c) Current d)

8) An isocratic elution in HPLC is one in which the composition of solvent

- a) Remains constant
- b) Changes continuously
- c) Changes in a series of steps d) Increases continuously
- 9) Which of the following stationary phase is not used in gel chromatography?
  - a) Sephade Sephacryl b)
  - c) Bio-Gel Resin beads d)
- The columns in ion exchange chromatography is operated by \_\_\_\_\_. 10)
  - a) Elution development b) Frontal analysis
    - c) Displacement analysis d) All of these

SLR-GA-29 Ρ

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Max. Marks: 75

- d) Pentosan
- b) Beta Cellulose

- d) Gas chromatography

Scissoring

d) Twisting

35

- PH changing of the fluorescence substance to produce 11) a) Collional guenching b) Static Quenching c) Chemical Quenching d) Concentration Quenching Nernst glower rod is heated to produce IR radiation at 12) a) 1500°C b) 2000°C c) 3000°C d) 5000°C Turbidimetry deals with measurement of intensity of 13) a) Scattered light b) Transmitted light d) None of these c) Both A and B a) Pouring b) Dipping d) Spreading c) Spraying a) Alpha cellulose b) Beta Cellulose c) Ash d) Pentosan Give an example of free electrophoresis technique . a) Gel electrophoresis b) Paper electrophoresis c) Cellulose acetate electrophoresis d) Moving Boundary electrophoresis Non- reciprocating pump is also called as \_ a) Constant pressure pump b) Constant flow pump c) Syringe type pump d) Single head pump Diffraction grating is consist of a \_\_\_\_ b) Quartz a) Glass c) Alkyl halide d) All of the above 19) Which spectroscopy is measure intensity of the FLUORESCENCE of molecule? a) IR b) NMR d) All of the above c) Flurometry Which material are used to prepare rod of globar source? a) Silicon dioxide b) Silicon carbide c) Silicon oxide d) All of the above Answer the following question. (Any Seven) Write in detail about electronic transitions of UV- Visible spectroscopy. a) What is fluorescence? Explain in brief energy level diagram of b) photoluminence molecule. Write the modes of vibrations when a molecule interacts with IR radiation. C) d) Explain the burner used in flame photometer.
- What is AAS? Write radiation source used in AAS. e)
- Explain development technique used in thin layer Chromatography. **f**)
- Describe the preparation of plate and adsorbent used in TLC. g)
- Write a note on columns used in gas chromatography. h)
- Write a brief note on principle involved in ion exchange chromatography. i)

- 14) Which is the easy and convenient method to prepare the TLC glass plate?
- Which of the major chemical components present in Whatman filter paper? 15)

16)

### 17)

18)

Q.2

20)

20

### Q.3 Answer the following question. (Any Two)

- a) Draw a neat diagram of HPLC. Explain pumps and Bulk property detector used in HPLC.
- **b)** Write various development technique and spot detecting method used in paper chromatography.
- c) Write in detail Monochromator and detector used in UV-Spectroscopy.

Seat No.	t				Set	Ρ
	B. Pharmacy (Semester - VII) (CBCS) Examination: Oct/Nov-2023 Industrial Pharmacy – II (801702)					
		e: Thursday, 18-0 0 PM To 05:30 Pl	1-2024	J	Max. Marks	s: 75
Instru	uctio		ns are compulsory. the right indicate full i	mark	(S.	
Q.1	<b>Mult</b> 1)	iple Choice ques is crucia a) Regulatory o c) Governmen	ll link between compa department	b)	products and regulatory authorities. Laboratories Financial authorities	20
	2)	Therapeutic Goo a) America c) India	ods Administration is	b)	ulatory Authority in Brazil Australia	
	3)	Head office of C a) Patna c) New Delhi	DSCO is located in_		Mumbai Hyderabad	
	4)	Six Sigma is dev a) Motorola c) Samsung	veloped by in <sup>·</sup>		Sony Crown	
	5)	•	ion (OOS) means the acceptance criteria.		result that falls outside the Experiment Field	
	6)	GLP is a formal a) 1977 c) 1978	regulation that was c		ed by the FDA in 1878 1877	
	7)	is the Fat a) Sir Bill Sam c) Sir Albert Sr	her of six sigma. nith	b) d)	Sir Bill Knith Sir Bill Smith	
	8)	MHRA is regulat a) US c) South Africa		 b) d)	UK Canada	
	9)	MFC stand for _ a) Master form c) Manufacturi		b) d)	Master formula card Management formula card	
	10)	<ul><li>b) scale-up and</li><li>c) scale-up and</li></ul>	? d Post approval chan d Post approval chan d Pre approval chanç d Production approva	nces ges	anges	
	11)	gives guid a) Governmen c) WHO	delines for TT. t	b) d)	FDA Canada	

		SLR-GA-3			
	12)	Pilot plant is the part of the pharmaceutical industry where a formula is transformed into a viable product.			
		a) Industry scaleb) Lab scalec) Office scaled) All of the above			
	13)	Following are the Technology transfer agencies except a) TBSE			
	14)	is last step in tablet formulation. a) Compression b) Ejection c) Filling d) Blending			
	15)	BCIL was established in a) New delhi b) Mumbai c) Bangalore d) Kolkata			
	16)	The definition of Quality Risk Management (QRH) has be mentioned in ICH guideline a) Q7 b) Q8 c) Q9 d) Q10			
	17)	RA Professional works in the following areas. a) Pharamaceutical b) Medical devices c) Both A & B d) None of these			
	18)	One IND is submitted and study can be initiated afterdays. a) 30 b) 16 c) 25 d) 60			
	19)	Confidentially agreement can bea) One wayb) Two wayc) Both a & bd) None of these			
	20)	<ul> <li>QRM is systemic process for includes</li> <li>a) Advantage, control, communication and review</li> <li>b) attachement, control, communication and review</li> <li>c) assessment, cause, control</li> <li>d) assessment, control, communication and review</li> </ul>			
Q.2	Ansv a) b)	<b>wer the following questions. (Any Seven)</b> Write a note on Total Quality Management (TQM) What do you mean SUPAC?			
	c)	What are various responsibilities of regulatory affairs professionals?			
	d) e)	What is technology transfer? Write the importance of technology transfer. Discuss in details Six Sigma Concept.			
	f)	Enlist various functions of state drug licensing authority on India.			
	g) h)	Define ISO 14000. Write a note on ISO 14000 standards. What is COPP and its importance?			
	i)	Define Change control. Add a note on OOS.			
Q.3	Ans	wer the following questions. (Any Two)			
	a)	Discuss in details pilot plant scale up techniques for solids.			
	<ul> <li>b) Discuss the organization &amp; responsibilities of CDSCO.</li> <li>c) Describe to the above for a gran size in larding</li> </ul>				

c) Describe technology transfer agencies in India.

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	M To 05:30 PM		IVIC
	1) All questions are compulsory. 2) Figures to the right indicate full	marks	5.
The	<b>Choice questions.</b> e medication history is the part of opportunity to utilize his or he		
a)	nponent Nurses Physicians	b) d)	Pharmacist All
a) b)	bulatory patient are Required emergency treatment Required to admit in ward for tre Required to go home after taking Both A and B		
A۲	lospital formulary usually consists	s of lis	ting therapeutic agents by
,	Synthetic name Generic names		Biological names None of these
a)	e function of hospital pharmacy w Pharmacist Management		ntrolled by hospital? Physicians All
	it dose drug distribution system h	ave się	gnificantly reduced the occ
	Side effect ADR's	b) d)	
a)	esence of ketone bodies in urine in Kidney dysfunction Hypoglycaemia	b)	es Nephrosis Mushroom poisoning
a)	ort term finance is raised for a per 1 to 3 month 7 to 9 year		less than or more 2 to 5 year 10 year
a) c)		•	ns. Induction None
	n-Adherence is a very and		non problem Simple

Day & Date: Saturday, 06-01-2024 Time: 02.30

Seat

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Instructions

#### Q.1 **Multipl**

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B. Pharmacy (Semester - VII) (CBCS) Examination: Oct/Nov-2023

Pharmacy Practice (801703)

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- 2) Α
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  - C

#### 3) Α / their

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- 5) ι currence 0
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6) F

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- S 7)
  - а
  - С
- 8) \_ а
  - С
- 9) Ν
  - a) Complicated b) Simple
  - c) Re-occurring d) None

SLR-GA-31

Set Ρ

20

Max. Marks: 75

	10)	seeing that procedures for control of the a) Physician		
	11)	The drug store should be preferably loc a) Middle floor	,	d on the
	12)	, .	b) d)	Toxicity All
	13)	prescription after hours for seda a) 12		
	14)	a) Retail pharmacy	b) d)	Retail drug outlet None of these
	15)	a) Pharmacist	b) d)	Nurse None of these
	16)	understands. a) Speak	o pa b) d)	tient in the language he Communicate Listen
	17)	communicate with a) Doctors	brima b) d)	ary means by which prescriber Pharmacists None
	18)		_	department of any hospital Pharmacy None
	19)	a) Route of administration	b) d)	Dosage form All of the above
	20)	,	be at b) d)	t list times per year. Two Eight
Q.2	Ans a) b) c) d) e) g) h)	<ul> <li>b) Write the organization and function of pharmacy and therapeutic committee.</li> <li>c) Explain the role of healthcare provider in improvement of medication adherence.</li> <li>d) Define and classify adverse drug reaction.</li> <li>e) Write short note on patient medication history interview.</li> <li>g) Discuss in detail the role of pharmacist in community health education.</li> <li>h) Explain the steps for effective Patient counselling.</li> </ul>		

Explain in details the various laboratory test used for Urine analysis. Explain factors affecting the therapeutic drug monitoring. i)

j)

### Q.3 Answer any two of the following questions.

- a) Define Hospital? Discuss various types of classification of hospital and write organizational structure of hospital.
- **b)** Discuss in details the drug distribution system for in-patient and out-patient department.
- c) What is clinical Pharmacy? Describe the functions and responsibilities of clinical pharmacist

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Seat No.		Set P
B. Pharmacy (Semester - VII) (CBCS) Examination: Oct/Nov-2023 Novel Drug Delivery System (801704)		
Day & Date: Tuesday, 09-01-2024         Max. Marks: 75           Time: 02:30 PM To 05:30 PM         Max. Marks: 75		
Instructions: 1) All questions are compulsory. 2) Figures to the right indicate full marks.		
Q.1	Mult 1)	ple Choice questions.20A non-ionic surfactant based multilamellar or unilamellar vesicular structurea) Microspheresb) Liposomec) Niosomed) Nanoparticle
	2)	Which of the following is a non- erodible insert?a) Ocusertb) Collagen shieldc) NODSd) SODI
	3)	Which of the following does not constitute an appendageal route?a) Sweat glandsb) Hair folliclec) Sebaceous glandd) Stratum corneum
	4)	The size of particles in a parenteral suspension should bea) $10 \text{ to } 20 \mu m$ b) Less than $10 \mu m$ c) $100 \text{ to } 200 \mu m$ d) $50 \text{ to } 100 \mu m$
	5)	<ul> <li>An advantage of Novel Drug Delivery Systems is</li> <li>a) It causes fluctuation of blood levels</li> <li>b) It cannot be target specific.</li> <li>c) It increases toxicity of the drug.</li> <li>d) It reduces side effects of the drug.</li> </ul>
	6)	<ul> <li>Drug release from osmotic drug delivery systems depends on</li> <li>a) Osmotic pressure</li> <li>b) Ionic strength</li> <li>c) Osmotic pressure &amp; ionic strength</li> <li>d) Osmotic pressure &amp; environment in git.</li> </ul>
	7)	Excipient to increase density of GRDDS is a) Zinc oxide b) Talc c) Sodium bicarbonate d) Calcium carbonate
	8)	is a dispersed matrix system. a) Nanospheres b) Nanoparticles c) Nanocapsules d) Nanopolymers
	9)	<ul> <li>Which of the following characteristics is suitable for transdermal drug?</li> <li>a) Large drug dose</li> <li>b) Large molecular size</li> <li>c) Drugs with narrow therapeutic indices</li> <li>d) Drugs which are metabolized in the skin</li> </ul>
	10)	Tablets that are placed under the skin area) Enteric coated-tabletsb) Implantsc) Film Coated tabletsd) Sublingual tablets
35

- Device containing pilocarpine and alginic acid in drug reservoir is used in . a) Tuberculosis therapy b) Ocular therapy c) Diabetes therapy d) Dental therapy Water insoluble mucoadhesive polymer is b) PEG a) Carbopol d) PVP c) Both a and b The force required to remove an adhesion coating from test substrate is determined by a) Peel adhesion test b) Shear adhesion test c) Rolling ball tack test d) Probe tack test A prominent structure for ocular absorption of drugs \_\_\_\_\_. a) Conjunctiva b) Choroid c) Sclera d) Cornea Microspheres are prepared by coacervation by using \_\_\_\_\_method. a) Non-solvent b) Trituration c) pH modification d) pressure What are the characteristics of matrix diffusion-controlled release systems? a) Release the drug along entire GI length. b) Drug disperse in an insoluble matrix of rigid hydrophobic materials. c) Release only at a specific drug.
- d) Employ waxes to control the rate of dissolution.

18) The diameter of small unilamellar vesicle is

- b) 200nm-100nm a) 20nm-100nm d) 100nm-400nm
- c) 10nm-100nm

11)

12)

13)

14)

15)

17)

c) Both a) and b)

- In-situ gelling system is formed by \_\_\_\_\_mechanism. 19)
  - a) Change in pH

- b) Change in glucose level
- d) Change in ion concentration

d) Polymerisation

- 20) In Microencapsulation Wurster process is used in method.
  - a) Coacervation phase separation b) Multi orifice centrifugal process
  - c) Air suspension

c) Change in electric field

## Q.2 Answer any seven of the following questions.

- Write briefly about metered dose inhalers. a)
- Define polymer; explain its types with their applications in pharmaceuticals. b)
- Discuss briefly about intrauterine drug delivery systems. C)
- Describe osmotically regulated implants as new drug delivery system. d)
- Write short note on Gastroretentive floating drug delivery system. e)
- Discuss in detail about reservoir and matrix type of controlled release f) formulations.
- Write in details about types of ocular inserts. g)
- Enlist different techniques of microencapsulation and explain any one in detail. h)
- Describe the Niosomes with its applications. i)

16)

Removal of which type of implant is necessary after completion of therapy \_\_\_\_\_. a) Biodegradable implant b) Non-Biodegradable implant

d) None of these

20

#### Q.3 Answer any two of the following questions.

- a) Discuss basic components of TDDS explain factors affecting permeation of drug through skin.
- **b)** Describe the various physicochemical and pharmaceutical factors to be considered in selection of a drug candidate for controlled delivery formulations.
- c) Explain Liposome as a carrier system.

		0LR-0A-33	_			
Sea No.	t	Set P				
	B. P	Pharmacy (Semester - VIII) (CBCS) Examination: Oct/Nov-2023 Biostatistics & Research Methodology (801801)				
	Day & Date: Saturday, 30-12-2023 Max. Marks: 75 Time: 10:30 AM To 01:30 PM					
Instr	uctio	<ul><li>ns: 1) All questions are compulsory.</li><li>2) Figures to the right indicate full marks.</li></ul>				
Q.1	Mult 1)	<b>iple Choice questions.</b> 20Which of the following is the most comprehensive source of population data?a) Censusb) National Family Health Surveysc) National Sample Surveysd) Demographic Health Surveys				
	2)	Blood group is as example ofa) Ordinal scale datab) Categorical datac) Interval scale datad) None of these				
	3)	Calculate the median from the following values: 1.9,1.9, 1.9, 2.1, 2.4, 2.5, 2.5&2.9 a) 1.9 b) 2.5 c) 2.25 d) 1.2				
	4)	Objective of the research can be enhanced a) by making it more impartial b) by making it more reliable c) by making it more valid d) All of these				
	5)	Quantitative data can be compared by a) Histogram b) Pie chart c) Pictograph d) Spot map				
	6)	In normal distribution curve a) Mean > Mode b) Median > Mean c) Mode > Mean d) Distribution of data is symmetrical				
	7)	is not a measure of central tendency. a) Mode b) Standard deviation c) Median d) Mean				
	8)	What does the correlation coefficient of 0.5 indicate? a) The confidence interval of 95% b) Weak association c) Not statistically significant d) Good association				
	9)	Following are the measures of dispersion all except a) Correlation and regression b) Mean or average deviation c) Range d) Standard deviation				
	10)	The Student's t-test is aa) test for comparing variancesb) parametric testc) test for comparing averagesd) nonparametric test				

- A regression line is a straight line which 11) a) is located as close as possible to all the points of a scatter chart b) is defined by an equation having 2 parameters: the slope and the intercept c) is parallel to one of the coordinate axes d) provides an approximate relationship between the values of two parameters Sample size depends on 12) Required precision a) Resources available b) c) Type of problem investigated d) All of these 13) Which one of these statistics is unaffected by outliers? a) Interguartile range Standard deviation b) c) Mean d) Range 14) The cumulative frequency for a particular class is equal to 23. The cumulative frequency for the next class will be equal to 77 a) less than 23 b) c) 23 plus d) none of these Which of the following is true for a positively skewed distribution? 15) a) Mean<median<mode b) Mode = median=mean c) Mode<median<mean d) Median<mode<mean 16) A large collection of data may be condensed by constructing a) class limits b) a frequency polygon c) classes d) a frequency distribution Appropriate statistical method to compare two proportions is 17) a) Odds ratio b) Student's t-test c) Chi-square test d) Correlation coefficient 18) All of the following statements are true except a) alpha is the maximum tolerable probability of type-I error b) beta is the probability of type -II error c) P-value can be more or less than alpha d) when the Null hypothesis is true but is rejected it is Type -II error For testing the statistical significance of the difference in heights of college 19) students \_\_\_\_\_test is used.
  - a) Student's t-test b) One way ANOVA
    - c) Chi-squared test d) Paired t-test
- 20) Non-parametric test in biostatistics are better than parametric tests because they \_\_\_\_\_.
  - a) are useful for skewed data
  - b) are more powerful
  - c) involve more accurate calculations
  - d) require less data

## Q.2 Answer the following questions (Any Seven)

- 1) Write a note on normal distribution of data.
- 2) Classify and give examples of types of research.
- **3)** Define type-I and type-II errors, level of significance and p-value. Give their examples.
- 4) Describe the various types of measures of dispersion with their significance.
- 5) Explain the different phases of clinical trials.
- 6) Explain how histograms, scatter plots and logarithmic plots are useful in presenting the data.
- 7) What is linear regression? Explain its usefulness in pharmaceutical sciences by giving example.
- 8) Write a note on descriptive statistics.
- **9)** Explain the types of correlations and give its suitable examples. Define correlation coefficient.

### Q.3 Answer the following questions (Any Two)

- 1) Giving relevant examples, describe the process of a research process.
- 2) Explain different methods of describing data using the measures of central tendency.
- **3)** Classify and explain the tests used for hypothesis testing of non-parametric data.

Seat No.	t	Set P
	B. P	Pharmacy (Semester - VIII) (CBCS) Examination: Oct/Nov-2023 Social and Preventive Pharmacy (801802)
		e: Tuesday, 16-01-2024 Max. Marks: 75 0 AM To 01:30 PM
Instr	uctio	<ul><li>ns: 1) All questions are compulsory.</li><li>2) Figures to the right indicate full marks.</li></ul>
Q.1	<b>Mult</b> 1) 2)	iple Choice questions.20Which of the following diseases is caused by the deficiency of niacin?a)a)Scurvyb)c)Pellagrad)pernicious anemiaMacronutrients involve
	-)	a) Protein b) Carbohydrate c) Fat d) All of the above
	3)	Which of the following factors affects health? a) Personal b) Social c) Environmental d) All of the above
	4)	is an infectious disease causes severe watery diarrhoea. a) Cholera b) Pneumonia c) Flu d) Ebola
	5)	Mosquito responsible for Chikungunya transmission a) Aedes aegypti b) Aedes albopictus c) Anopheles d) Both a and b
	6)	Most common symptom of diabetes mellitus a) Thirst b) Polyuria c) Blurring of Vision d) All of the above
	7)	The BCG vaccines protect from which disease? a) Malaria b) Typhoid c) Tetanus d) Tuberculosis
	8)	NLEP was launched in         a) 1983       b) 1990         c) 1980       d) 1985
	9)	Severe acute respiratory syndrome (SARS) is a serious form of a) Pneumonia b) cancer c) AIDS d) Blindness
	10)	WHO established on which year? a) 1947 b) 1948 c) 1949 d) 1955
	11)	A 24/7 call center receive disease alerts all across the country on a toll-free number is a) 1075 b) 108 c) 1096 d) 100

	a)	Which of the following is communicable respiratory disease caused by virusa) Influenzab) Denguec) Chikungunyad) Elephantiasis								
	Which one of the following is the main target of family welfare programs? a) couples in the fertile age b) children below 12 years c) woman after fertile age d) male after fertile age									
			ring	its development stage and taking						
	action during incident. a) Eradication b) Prevention c) Intervention d) Control									
	a)	uired number of populations to est 20000 25000	ablis b) d)	•						
	a)	framework of health promoting sc Education Partnership	b)	includes Environment All of the above						
		e central rural sanitation program w	as re	econstructed in April and renamed						
	as a) Nirmal bharat abhiyan b) Nirmal gram abhiyan c) Bhartiya nirmalta abhiyan d) Total sanitation scheme									
	Lymphatic Filariasis caused by parasitic worms a) Wuchereria bancrofti b) Brugia malayi c) Burgia timori d) All of the above									
	The last polio case in the India was reported from a) West Bengal b) Gujarat c) Delhi d) Orissa									
	<ul> <li>The key public health challenges are</li> <li>a) Weak and dysfunctional public system of outreach</li> <li>b) Poor environmental health, poor housing</li> <li>c) Many slums not having primary health care facility</li> <li>d) All of these</li> </ul>									
swer the following questions. (Any Seven)										
		Kwashiorkor and Marasmus are d ain various aspects of poverty and								
		a note on social problems of sick. e in brief about transmission, preve	ntior	and control of Ebola						
	Write	e in short objective and functioning								
	Expl	ramme. ain in brief different types of diseas								
	Evnl	ain causes and preventive measur	ae ta	he taken for prevention of						

- f) Explain causes and preventive measures to be taken for prevention of g) hypertension.
- Discuss National programme for the health care of the elderly. What are objectives and functions of PHC? h)
- i)

12)

13)

14)

15)

16)

17)

18)

19)

20)

Q.2 Answer

a)

b)

C)

d) e)

#### Q.3 Answer the following questions. (Any Two)

- a) Add a note on mode of transmission and preventive measures for controlling of Dengue and SARS.
- **b)** Write a note on National Urban Health Mission.
- c) Explain main provisions of Tobacco control Act 2003, and add a note on objective of National tobacco control programme.

Sea No.	t		Set P
	B. P	Pharmacy (Semester - VIII) (CBCS) Exa Pharmaceutical Marketing Manag	
		te: Thursday, 18-01-2024 30 AM To 01:30 PM	Max. Marks: 75
Instr	uctior	<ul><li><b>ons:</b> 1) All questions are compulsory.</li><li>2) Figures to the right indicate full marks.</li></ul>	
Q.1	Multi 1)	, , , , , , , , , , , , , , , , , , , ,	20 ban sector one of the above
	2)	, , , , , , , , , , , , , , , , , , , ,	
	3)	, , , , , , , , , , , , , , , , , , , ,	ne marketing mix? roduct ricing
	4)	, , , ,	
<ul> <li>5) Which model is available to explain organizational buying behave a) Webster and Wind Model</li> <li>b) Sheth Model</li> <li>c) Both A &amp; B</li> <li>d) None of the above</li> </ul>		neth Model	
	<ul> <li>6) The term marketing refers to</li> <li>a) Advertising, Sales Promotion, Publicity and Public Relational activities</li> <li>b) A new product needs ideas, Developments, Concepts and Improvements</li> <li>c) Sales Planning, Strategy and Implementation</li> <li>d) A philosophy that stresses customer value and satisfaction</li> </ul>		
	7)	<ul> <li>PSR stands for</li> <li>a) Professional sales representative.</li> <li>b) Product sale representative.</li> <li>c) Marketing representative.</li> <li>d) None of the above</li> </ul>	
	8)	, , , ,	kisting product line at lesser price. oward stretching one of the above
	9)	, , , , , , , , , , , , , , , , , , , ,	

- 10) Segmentation is the process of:
  - a) Splitting of market into groups of similar or different end users within each group
  - b) Selecting one group of consumers among several other groups
  - c) Creating a unique space in the minds of the target consumer
  - d) None of these
- 11) Rural consumers are \_\_\_\_\_.

a) wholesaler

- a) Price sensitive b) Less price sensitive
  - c) Quality conscious d) None of these
- Which of the following is NOT considered a type of reseller? 12)
  - b) retailer
  - c) manufacturer d) distributor
- 13) The stage in the product life cycle that focuses on using a cost-plus formula and creating product awareness and trial is the
  - a) Decline stage
  - c) Growth stage
- b) Introduction stage
- Which is a key factor of financial investigation 14) a) Product mix decision
  - b) Product positioning
  - c) Product portfolio d) None of these
- 15) The two or more organizations join together for marketing purpose to increase their customer base is called as Vertical marketing
  - a) Horizontal marketing b)
  - c) Both A & B d) None of the above
- 16) is the key player of marketing mix that includes '4Ps' i.e. product, price promotion and places.
  - a) Promotion
  - b) Advertising c) Sampling d) Direct mail
- Vertical market is also known as \_\_\_\_\_. 17)
  - b) Hold market a) Niche market
  - c) Harvest market d) Divest market
- 18) The Consumer Protection Act was enacted in
  - a) 1985 b) 1988 c) 1987
    - d) 1986
- 19) Marketing is a process which aims at \_\_\_\_\_.
  - a) Production
  - b) Profit-making
  - c) The satisfaction of customer needs.
  - d) Selling products
- 20) is the father of Modern Marketing. a) Abraham Maslow
  - Lester Wunderman b)
  - c) Peter Drucker

- **Philip Kotler** d)

d) Maturity stage

Page 3 of 3

#### Q.2 Answer any Seven of the following questions.

- a) Describe the duties of Professional Sales Representatives (PSR).
- **b)** Give a detail note on NPPA.
- c) Write a detail note on Consumerism?
- d) Define.
  - 1) Product
  - 2) Promotion
  - 3) Marketing
- e) Explain product life cycle.
- f) Define Pricing? Write its objectives?
- g) Write a detail note on conflict in channels.
- h) Write short note on Rural Marketing?
- i) Give difference between Marketing and Selling.

#### Q.3 Answer any Two of the following questions.

- a) Classify products. Explain in detail about product layers.
- b) What are the roles of advertising? How is it advantageous?
- c) What is global marketing? Discuss in detail need of global marketing.

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Seat No.	t				Set P
110.	B. P	harmacy (Semester - VIII) (CBC	-		lov-2023
		Pharmaceutical Product D e: Thursday, 18-01-2023 0 AM To 01:30 PM	eve	elopment (801814)	Max. Marks: 75
Instr	uctior	<ul><li>ns: 1) All questions are compulsory.</li><li>2) Figures to the right indicate full m</li></ul>	narks	5.	
Q.1	Multi 1)	ple Choice questions. Sodium cyclamate is sweetene a) an artificial c) Both a & b		a natural None of these	20
	2)	Tartrazine is in color. a) blue c) green	b) d)	yellow None of these	
	3)	is an anti-oxidant. a) Starch c) Ascorbic acid	b) d)		
	4)	is a super disintegrant. a) Cross carmellose c) calcium chloride	b) d)	Calcium carbonate None of these	
	5)	is used as chelating agent. a) Lactose c) Both a & b	b) d)	Disodium edetate None of these	
	6)	Magnesium stearate is used as a) Colorant c) Lubricant	-	ablet formulation. coating agent None of these	
	7)	is used as anti-foaming agent. a) Simithicone c) Sucralose	b) d)	Saccharin None of these	
	8)	Starch paste is used as in table a) coating agent c) Preservative	b)	mulation. binder None of these	
	9)	Vanillin is a a) Coloring agent c) flavoring agent	b) d)	binding agent None of these	
	10)	Enteric coated tablets should disintegr a) mouth c) both a & b	b)		
	11)	HLB system is used to classify a) coloring agents c) both a & b	b) d)	flavoring agents None of these	
	12)	The cylindrical glass tubes of the disin a) 55.7 c) 65.7	-	60.7	mm long.

- Type II glass is also called as \_\_\_\_\_. b) Soda lime glass 13)

  - c) both a & b
- Tartrazine is used as a \_\_\_\_\_ agent in tablet formulation. 14) b) coloring
  - a) flavoring
  - d) None of these c) sweetening

#### Water attack test is performed on \_\_\_\_\_. 15)

- a) Whole glass container b) powdered glass
- c) both a & b d) None of these
- Sodium metabisulfite is a water \_\_\_\_\_ anti-oxidant. 16)
  - a) insoluble b) soluble
  - c) both a & b d) None of these
- Fructose is a \_\_\_\_\_ sweetener. 17) a) Caloric

  - b) non-caloric c) both a & b d) None of these
- 18) test is applicable to closures intended to be pierced by hypodermic needle.
  - a) Collapsibility
  - c) both a & b

c) both a & b

b) Fragmentation

d) None of these

- d) None of these
- Glass ampoule is a \_\_\_\_\_ packaging material. 19) a) primary
  - b) secondary
  - d) None of these

### 20)

- Bursting strength is performed on \_\_\_\_\_\_ b) corrugated boxes
- c) both a & b d) None of these

## Q.2 Answer any Seven of the following questions.

- Enumerate the objectives of pharmaceutical product development. Discuss a) formulation development of immediate release tablets.
- Explain the role of Cvclodextrin in pharmaceutical formulation. b)
- Discuss emulsifiers used in pharmaceutical formulation. C)
- Explain the role of directly compressible vehicles in pharmaceutical formulation. d)
- e) Write a note on preformulation studies.
- Discuss plastic as packaging material. f)
- Write a note on Aluminium as pharmaceutical packaging material. g)
- Explain weight variation test for tablets as per Indian pharmacopoeia. h)
- Write the quality control tests for enteric coated tablets. i)

#### Answer any Two of the following questions. Q.3

- Give a detailed account of stability testing of solid dosage forms. a)
- Discuss the excipients used in the formulation of novel drug delivery b) systems.
- Explain the optimisation techniques utilised in pharmaceutical product C) development.

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Seat	:				Set	Ρ
No.		bormooy (Son	nantar VIII) (CBC	e) I	l	
	D. P		erimental Pharma		Examination: Oct/Nov-2023 ogy (801811)	
		e: Thursday, 18-0 0 AM To 01:30 PM			Max. Marks	s: 75
Instr	uctior	, .	ns are compulsory. the right indicate full m	arks	5.	
Q.1	Multi 1)	<ul><li>15(1) of</li><li>a) Ministry of F</li><li>b) Animal Welf</li><li>c) Supervision</li></ul>	atutory Committee esta <sup>:</sup> orest.	ts.	shed under Chapter 4, Section	20
	2)	The biological na a) Mus norvegi c) Rattus musc		b) d)	Mus musculus Rattus norvegicus	
	3)	An experimental a) Moderidae c) Leporidae	animal, a frog belong		ne family Muridae Discroglossidae	
	4)	Which of the follo a) Mouse c) Frog	owing animal belong t	o the b) d)	e family Muridae? Guinea pig Rabbit	
	5)	Among the follow a) Mouse c) Guinea pig	wing which animal's life	e sp b) d)	an is more? Rat Rabbit	
	6)	in animals? a) Tail snip in r b) Orbital sinus c) Cardiac pun	nice		nniques does not require anaesthe pigs & rabbit.	sia
	7)	•	re posteriorly to the ba		rain from the spinal cord by f skull is known as: Pithing Maceration	
	8)	How much volun drug administrat a) <0.5 ml/site c) Up to 0.8 ml	ion in animals.	b)	nded at each site by intradermal >0.5 ml/site 1-2 ml/site	
	9)	Recommended v a) Up to 5 ml/k c) 5-10 ml/kg		b)	tion to guinea pigs is 1-10 ml/kg Up to 15 ml/kg	

- 10) Which of the following techniques is used in terminal blood collection in animals?
  - a) Tarsal vein puncture
  - b) Tail vein puncture c) Cardiac puncture d) Marginal ear vein puncture
- Which of the following methods is not a physical method of euthanasia? 11)
  - a) Stunning
  - b) Cervical dislocation
  - c) Pithing
  - d) Overdose of inhalant anaesthetics.
- Radiant heat, physical pressure and irritant chemicals are used to induce . 12)
  - a) Inflammation in the animals b) Convulsion in the animals
    - d) Pain in the animals
- Which of the following methods is NOT used for screening central analgesic 13) activity?
  - a) Tail flick or other radiant heat methods
  - b) Tail immersion test

c) Pyrexia in the animals

- c) Randall-Selitto test
- d) Hotplate method

The convulsive effect of PTZ is considered to be analogous with \_\_\_\_\_. 14)

- a) Absence seizures c) Atonic seizures
- b) Tonic seizures
- d) Myoclonic seizures
- Identify the GABA-synthesis inhibitor used to induce convulsion in animals. 15)
  - a) Pentylenetetrazole
  - c) Strychnines
- b) Isoniazid d) Maximal Electro-shock
- 16) A plethysmometer is a simple apparatus designed to measure
  - a) Small change in the volume of organs
    - b) Degree CNS stimulation
    - c) Degree of analgesia
    - d) Degree of muscle relaxation.
- 17) Which of the following drugs produces Miotic action on the Eye pupil?
  - a) Atropine b) Phenylephrine
  - c) Tropicamide d) Pilocarpine
- 18) Shay rats are used in screening dings for actions.
  - b) Anti-inflammatory
  - c) Anti-ulcer d) Analgesic
- Rota rod apparatus is used for screening \_\_\_\_\_ properties of drugs. 19)
  - a) Analgesic
    - b) Local anaesthetic d) Sedative and hypnotic
- 20) Which apparatus is used for screening central nervous system stimulant activitv?
  - a) Rota rod apparatus

c) Skeletal muscle relaxant

b) Actophotometer

c) Eddy's hot plate

a) Antidepressant

d) Plethysmometer

## Q.2 Answer any seven of the following questions.

- a) Write the recommendations of CPCSEA in selecting animals for the preclinical study.
- **b)** Explain the different techniques of blood sample collection from experimental animals.
- c) Describe the methods used for screening skeletal muscle relaxant activity of drugs.
- d) What are models used for screening antiepileptic drugs?
- e) Write a note on rat as an experimental animal.
- f) Give the procedure for testing the mydriatics and miotics effect of drugs on rabbit eyes.
- g) Write the screening models used for anti-inflammatory drugs.
- h) Preclinical screening model for diuretic activity.
- i) Explain any one screening model used for centrally acting analgesic activity.

### Q.3 Answer any two of the following questions.

- a) Write the preclinical screening models for antiulcer activity.
- **b)** Explain the different screening models used for antidiabetic activity.
- c) CPCSEA guidelines for sanitation and cleanliness for laboratory animal facilities.

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Page 1 of 3

# SLR-GA-38

No.	Seat	
	No.	

## B. Pharmacy (Semester - VIII) (CBCS) Examination: Oct/Nov-2023 Pharmacovigilance (801806)

Day & Date: Saturday, 06-01-2024 Time: 10:30 AM To 01:30 PM

Instructions: 1) All questions are compulsory.

2) Figures to the right indicate full marks.

#### Multiple Choice questions. Q.1

- Pharmacovigilance course is continued throughout the 1)
  - Pre marketing Surveillance Post marketing Surveillance a) b)
  - c) Both A & B options d) Only B option
- 2) Which of the following condition is most at risk of suffering from an adverse drug reaction?
  - a) A 22-year-old patient with asthma receiving prescriptions for inhalers to relieve and prevent their asthma
  - b) An 8-month year old infant receiving a prescription for an antibiotic.
  - c) A 48-year-old patient who has hypertension and receives a prescription for an ACE inhibitor.
  - d) A 68-year-old patient who has oedema receiving a prescription for a diuretic.
- is applied to spontaneous reporting system. 3)
  - **Blue Card Scheme** a) b) Green Card Scheme
  - c) Yellow Card Scheme d) **Orange Card Scheme**
- is a web-based individual case safety report (ICSR) management system. 4)
  - WHODD a) c) VigiAccess

5)

8)

- VigiBase b) d) VigiFlow
- is the process to make antibodies against antigens of pathogens.
- a) Vaccination Immunization b)
- c) Attenuation d) None of the above
- is a genetically determined adverse drug reactions. 6) a) Teratogenicity
  - Carcinogenicity b)
  - None of the above c) Both A and B options d)

The initiation of ICH took place with representatives of regulatory agencies of 7) a) Japan, Australia, US

- Europe, Australia, US b) d) US, Europe, Japan
- c) US, Europe, India
- assigned by United States adopted council.
- Chemical name a) b) **Proprietary name** 
  - c) Nonproprietary name None of the above d)

Max. Marks: 75

- 9) \_\_\_\_\_ is a statistical measure of drug consumption.
  - a) Daily defined dose
  - b) Essential drug concept
  - c) Anatomical therapeutic classification
  - d) Adverse events following immunization process
- 10) Which of the following guideline is used in electronic transmission of individual case safety reports?
  - a) ICH E2B (R<sub>3</sub>) b) ICHE2B(R<sub>2</sub>)
  - c) ICH E1 d) ICHE3
- 11) \_\_\_\_\_ is used to identify common indications for drug-drug interactions.
  - a) Daily defined dose
    - b) Essential drug concept
    - c) Anatomical therapeutic classification
    - d) Adverse events following immunization process
- 12) The purpose of preclinical testing is\_\_\_\_
  - a) To undergo preliminary testing in healthy humans to monitor the effects of the drug.
  - b) To create a basic outline for the larger scale future tests on a widespread population
  - c) To develop method of drug analysis
  - d) To verify that a drug is sufficiently safe and effective to be tested in humans
- 13) \_\_\_\_\_ drug is usually avoided with breastfeeding.
  - a) Ibuprofen b) Methotrexate
  - c) Propranolol d) Naproxen
- 14) \_\_\_\_\_ is an example of latent adverse drug reactions.
  - a) Tardive dyskinesia b) Severe bronchoconstriction
  - c) Serum sickness d) A
- Antibiotic-associated diarrhea
- 15) WHO-ART has level hierarchical structure.
  - a) 5 b) 7
  - c) 11 d) 4
- 16) Indian Pharmacovigilance system is regulated by \_\_\_\_\_.
  - a) Council of Scientific and Industrial Research
  - b) Central Drugs Standard Control Organization
  - c) Indian Council of Medical Research
  - d) National Institutes of Health
- 17) Which of the following is type of comparative observational study?
  - a) Case control study b) Cohort study
    - c) Cross-sectional study d) Crossover study
- 18) To date, there are \_\_\_\_CIOMS working groups.
  - a) XI b) XII
  - c) XIII d) X
- 19) Type E adverse drug reaction is \_\_\_\_
  - a) An unexpected failure of therapy reaction
  - b) A withdrawal reaction
  - c) A dose-related reaction
  - d) An expected failure of therapy reaction

- 20) Naranjo scale method of causality assessment is \_
  - a) Global introspection

c) probabilistic method

- b) Algebraic Method d) Algorithmic method
- Q.2 Answer any seven of the following questions.
  - 1) Give an exhaustive account of the Periodic safety updated report.
  - 2) Write a note on the anatomical, therapeutic, and chemical classification of drugs.
  - 3) Define Adverse drug reaction, discuss the causality assessment methods.
  - 4) Discuss the adverse events following immunization process
  - 5) Summarize good clinical practice in pharmacovigilance studies.
  - 6) Explain the drug safety evaluation process in pregnancy and lactation.
  - 7) Describe the schedule Y guidelines.
  - 8) Differentiate cross-sectional study and case-control study.
  - 9) Discuss management of adverse drug reactions.

#### Q.3 Answer any two of the following questions.

- 1) Explain in detail WHO-DD and MedDRA dictionary.
- Discuss CIOMS I to VI Working groups and their contribution to pharmacovigilance.
- **3)** Describe active and passive surveillance methods.

Sea No.	t	Set I	Ρ
	B. F	Pharmacy (Semester - VIII) (CBCS) Examination: Oct/Nov-2023 Advanced Instrumentation Techniques (801812)	
		e: Saturday, 06-01-2024 Max. Marks: 0 AM To 01:30 PM	75
Instr	uctio	<ul><li>ns: 1) All questions are compulsory.</li><li>2) Figures to the right indicate full marks.</li></ul>	
Q.1	Mult 1)	tiple Choice questions.tiple parameter measurement in TG isa) dm/dT vs. tempb) dT vs. tempc) dH vs. tempd) mass vs. temp	20
	2)	ionization method may result in disappearance of molecular ion peak. a) Chemical b) Electron spray c) MALDI d) Electron impact	
	3)	Which method of extraction used for fatty acids?a) Liquid liquid extractionb) Solid liquid extractionc) Liquid gas extractiond) Acid base extraction	
	4)	In thermo gravimetry sample is heated at constant temperature, a) Isothermal b) Dynamic c) Quasistatic d) Static	
	5)	Static air atmosphere in TG means.a) Nitrogen free from oxygenb)Air from atmospherec) Compressed aird)None of these	
	6)	Which of the following change gives exothermic peak in DTA? a) Melting b) Sublimation c) oxidation-reduction d) All of the above	
	7)	In which state of matter mass spectroscopy is being performed? a) solid b) liquid c) gaseous d) plasma	
	8)	Time of flight mass analyzer, the separation of the ions takes place due todifferent of ions.a) Magnetic dipoleb) Nuclear spinc) Velocitiesd) Potential	
	9)	<ul> <li>Which of the following main component of mass spectroscopy deal with resolving the ions into their characteristics mass components according to their mass-to- charge ratio?</li> <li>a) Ion Source</li> <li>b) Analyzer</li> <li>c) Detector System</li> <li>d) All of the above</li> </ul>	
	10)	Who discovered the mass spectrometer? a) Francis Aston b) J. J Thomson c) Ernest O. Lawrence d) Walter Kaufmann	
	11)	The chemical shift value for alcohol proton is Delta ppm. a) 10-12 b) 5-9 c) 0.5 – 5 d) 7-9	

	u)					
absorption of	b)	ruclei in a magnetic field? IR radiation Microwaves				
be studied by us method ce method	b)	 X-ray diffraction method X-ray emission method				
		netic field aligns the applied				
ie proton is said :	b)	Shifted				
d ature depend on	,	Shielded n of the following factor?				
ature depend on	WHICI					
erty of the materi on coefficient ve the sample	al					
he number of pro	otons	or neutrons as odd have	-			
		Half integral spin Positive spin				
2-propanol in N						
	b) d)					
olications of Diffe of ions produced sed in Mass Spe	inforr rentia in Ma ctrom	nation is obtained from TG cu Il Scanning Calorimetry. ass Spectrometry. netry. Explain Electron Impact X Ray Production.	rve?	35		
lications of proto	on NM					
ges of hyphenated techniques?						
Ilowing question ors affecting DTA is influencing che es, procedure and	A curv emica		ay.	20		
			Page	<b>2</b> of <b>2</b>		

12) Solvent extraction is governed by which law? a) Boyle's law Ostwald dilution law b) Nernst distribution law c) Beer's law d) 13) No of orientation for magnetic nuclei is given by formula. a) 21+2 21 + 1 b) c) 2I – 2 2I – 1 d) Range of X rays radiation is \_\_\_\_\_. 14) a) 10-400 nm b) 400-800 nm c) 0.01-10 nm d) None of the above 15) NMR is the study of al a) UV radiation c) Radio frequency Crystal structure can b 16) a) X-ray absorption c) X-ray fluorescence 17) In NMR spectroscopy magnetic field then the a) Deshielded c) Hydrogen bonded 18) The T<sub>i</sub> and T<sub>f</sub> tempera a) Cooling rate b) Mechanical prope c) Thermal expansio d) Atmosphere abov 19) Nuclei having either th spin. a) Integral spin c) Zero spin Number of signals for 20) a) 3 c) 4 Q.2 Answer any seven of the f Define Thermo-gravime a) Give principle and app b) Write a note on types of C) Classify ion sources us d) source. What is the range of X e) How UV Visible spectre f) Give principle and appl g)

- h) Write principle and exp extraction.
- i) What are the advantag

#### Q.3 Answer any two of the following the followin

- Describe in detail facto a)
- Explain in detail factors b)
- Discuss principle, type C)

Seat		Sot	Ρ
No.		Set	Γ
	B. P	Pharmacy (Semester - VIII) (CBCS) Examination: Oct/Nov-2023 Cosmetic Science (801810)	
		e: Tuesday, 09-01-2024 Max. Marks: 0 AM To 01:30 PM	75
Instru	uctio	<ul><li>ns: 1) All questions are compulsory.</li><li>2) Figures to the right indicate full marks.</li></ul>	
Q.1	Mult 1)	iple Choice questions.Which of the following bacteria associated with dental cavities?a) Streptococcus mutansb) Lactobacillic) Streptococcus Sobrinusd) All of above	20
	2)	Cyclomethicone is example ofa) Surfactantb) Emollientc) Preservatived) None of these	
	3)	Prickly Heat is also known asa) Miliaria rubrab) Hot Heatc) Moist Heatd) Acne	
	4)	Following is not the preservative.a) Methyl parabenb) Phenolc) Butyl parabend) Magnesium stearate	
	5)	Syndet bars are cleansing bars that contain soapa) Less than 25%b) Less than 30%c) Less than 10%d) None of the above	
	6)	TEWL stands fora) Tetraethylene water lossb) Total level of water lossc) Transepidermal water lossd) All of above	
	7)	Causes of Hair loss are,except.a) Excessive sheddingb) Thyroid glandc) Alopecia areatad) High protein diet	
	8)	gland is also called as Scent gland. a) Eccrine gland b) Apocrine gland c) Both a and b d) None	
	9)	Following country has a specific category of products that are in between cosmetics and drugs called quasi drugs. a) India b) Russia c) Japan d) Turkey	
	10)	Body odour is due to presence of type of acid.a) Formic acidb) Propionic acidc) Both a and bd) None	
	11)	The Bureau of Indian Standards Act was passed by the Parliament in the year a) 1992 b) 1986 c) 1948 d) 1952	

	3LR-GA-40
12)	based compounds are the main ingredients of all antiperspirants. a) Sodium
	c) Magnesium d) Calcium
13)	SPF value gives very high protection from sun and prevent skin cancer.a) 10b) 25c) 50+d) None
14)	Zinc pyrithione in shampoo is used asa) Conditionersb) Clarifierc) Antidandruff Agentd) Detergent
15)	Which of the following is used as humectants in dental preparation?a) Agarb) Sorbitolc) Methyl Cellulosed) Carbopol
16)	The most frequently used surfactant in shampoo area) Anionicb) Cationicc) Non-Ionicd) All of the above
17)	Signs of an Unhealthy scalp.a) Dry or itchy scalpb) Dandruffc) both a and bd) None
18)	Stearate skin cream were commonly calledcream.a) Coldb)Vanishingc) Both a and bd)None
19)	Following are the rheology modifier except. a) Pectin b) Polyvinyl alcohol c) Guar gum d) Sorbitol
20)	In atopic skin the water loss is a) Much lower b) Much higher c) Nil d) Stable
a)	ver the following questions (Any Seven)35Write mechanism of action of antiperspirant and deodorant?Discuss causes and treatment of hair dandruff.

c) Write a note on Corneometer.

Q.2

- d) Discuss active and inactive ingredients in Formulation of Mouth wash.
- e) What do you know about SPF? Enlist different types of sunscreen agents.
- f) Write various benefits of Henna and Amla in hair care.
- g) Write in short about cosmetic as quasi drugs.
- **h)** Define and classify Surfactant.

### Q.3 Answer the following questions (Any Two)

- a) Describe the chemistry and formulation of para-phylene diamine based hair dye.
- **b)** Discuss common problems associated with Skin?
- c) Explain BIS Specification and analytical methods for shampoo.

Sea No.	t		Set	Ρ	
	B. P	Pharmacy (Semester - VIII) (CBCS) Exami Quality Control and Standardization of I			
	Day & Date: Thursday, 11-01-2024 Max. Marks: 75 Fime: 10:30 AM To 01:30 PM				
Instr	uctio	<ul><li>ns: 1) All questions are compulsory.</li><li>2) Figures to the right indicate full marks.</li></ul>			
Q.1	<b>Mult</b> 1)	iple Choice questions. Which drugs gives positive test for hemolytic prop a) Liquorice b) Qualia c) Rita d) All of t	erty.	20	
	2)	The cGMP of Herbal Drugs is a Part of a) Quality b) Qualit c) Quality Assurance d) Manut	y Control facturing		
	3)	Quality systems involves system of the folla) Cleaningb) Designc) Productiond) Evaluation	ning		
	4)	Stability testing drug is necessary to determinea) Effectivenessb) Potenc) Drug interactiond) Shelf	су		
	5)	Analytical Validation comes under guidelin a) Q1 b) Q2 c) Q3 d) Q4	es.		
	6)	What is the full form of ICH. a) International conference on harmonization b) international council of harmonization c) Importent counters of harmonization d) Internal conference on harmony			
	7)	Test parameters used in evaluation of herbal proca) Micro biological testingb) Dissolc) Test for heavy metald) All of the second	ution test		
	8)	Schedule T relates with of herbal medicinea) GAPb) GMPc) GACPd) GLP	S.		
	9)	Purity of herbal sample is determined bya) Boiling pointb) Assayc) Spectroscopyd) None			
	10)	ICH was incepted in the year a) 1990 b) 1991 c) 1992 d) 1993			
	11)	Which is not chromatographic technique? a) TLC b) HPTL c) Mass d) HPLC			

- Definition of crude drug in the pharmacopoeia \_\_\_\_\_. 12)
  - a) Plant part used in medicine
  - b) Plant part containing the highest content of the bioactive characteristic compounds.
  - c) Dried part of the medicinal plant.
  - d) Plant part of its preparations described in the paragraphs of the Pharmacopoeia
- Which licensing authority grant permission to manufacture of new 13) phytopharmaceutical in India.
  - a) Ministry of health and family welfare
  - b) ministry of Human resource development
  - c) Drug Controller General of India
  - d) Ministry of AYUSH
- Labeling of Herbal preparation should contain the following information. 14)
  - a) Date of manufacture and batch no
  - b) Name of drug and quantity
  - c) The name, address of manufacture and license
  - d) All of the above
- The principle of separation of HPTLC is 15)
  - a) Adsorption b) Absorption c) Attraction
    - d) None
- 16) which of the following technique is most useful in standardization?
  - a) NMR

- b) Adsorption
- c) Gel chromatography
- d) HPTLC

- 17) Palisade ratio is
  - a) Total number of palisade cells beneath each upper epidermal cell
  - b) Total number of palisade cells beneath mesophyll
  - c) Average number of palisade cells beneath each upper epidermal cell
  - d) None
- Which chemical test is used to confirm Glycoside ? 18)
  - a) Raymonds test b) Dragendroff's test
  - c) Libermann-Burchard test d) Benedicts test
- 19) The use of Opium plant requires specific license under which of the following act
  - a) Medicinal & Toilet Preparations Act
  - b) Drugs & Magic Remedies Act
  - c) Drugs and Cosmetic Act
  - d) Narcotic Drug and Psychotropic substance act
- Optical rotation is measured by \_\_\_\_ 20)
  - b) Opticometer a) Viscometer
  - c) Polarimeter d) Microtome

#### Q.2 Answer any seven of the following questions.

- a) Write the role of chemical and biological markers in evaluation of herbal medicines.
- **b)** Brief the guidelines on safety monitoring of herbal medicines.
- c) Note on importance of Pharmacovigilance system in herbal medicine.
- d) Write the general requirements of GMP as per D&C Act.
- e) How do you evaluate the commercial herbal raw materials intended for medicinal use?
- f) Write the Research guidelines for evaluating the safety of herbal medicines.
- g) Write Quality control guidelines of herbal drugs as per ICH.
- h) What is meant by monograph analysis as per Pharmacopoeia?
- i) Write short note on Quality assurance in herbal industry.

#### Q.3 Answer any two of the following questions.

- a) Explain stability testing of herbal medicines.
- **b)** Write in detail WHO Guidelines on GACP for medicinal plants.
- c) Explain various Regulatory requirements for Herbal medicines in India.



Seat No.				Set P
B. Pharmacy (Semester - VIII) (CBCS) Examination: Oct/Nov-2023 Pharmaceutical Regulatory Science (801805)				
Day & Date: Thursday, 11-01-2024         Max. Marks: 75           Time: 10:30 AM To 01:30 PM         Max. Marks: 75				
<b>Instructions:</b> 1) All questions are compulsory. 2) Figures to the right indicate full marks.				
Q.1	<b>Mult</b> 1)	iple Choice questions. Biological Products are licensed a) 12 c) 14	exclusivity b) d)	
	2)	Manufacture for sale and distribution form a) 24 c) 46	ution applic b) d)	44
	3)	The concept of generic drug incl a) Line Extension c) New Product	b)	 Retargeting All of the above
	4)	Orphan drug exclusivity lasts for a) 20 c) 12	yea b) d)	11
	5)	Numbers of volunteers used in p a) 20-100 c) 300-3,000	b)	cal trials are 20-300 25-30
	6)	Japanese regulatory body is / ar a) MHLW c) Both A and B	b)	PMDA None of the Above
	7)	EDMF or ASMF Consist of a) 4 c) 3	_ parts. b) d)	
	8)	Common Technical Document v a) WHO c) CDSCO	b)	ed by ICH FDA
	9)	<ul> <li>To export Pharmaceutical Products</li> <li>apply to.</li> <li>a) Drug Controller General of I</li> <li>b) Health Ministry</li> <li>c) State Licensing Authority</li> <li>d) Director General of Foreign</li> </ul>	ndia	r countries, an exporter has to
	10)	Document mandatory to enrol su is a) Protocol	-	unteers in clinical research study Informed Consent

a) Vietnam

c) Cambodia

- d) Singapore
- 12) The series of 21 CFR involves everything from labeling to research of cosmetics.
  - a) 500 b) 600
  - c) 700 d) 800
- Contents of orange book include \_\_\_\_\_ 13)
  - a) Pharmaceutical Equivalent b) Bioequivalent drug product
    - c) Therapeutic Equivalent
- d) All of the above
- Australian regulatory body is \_\_\_\_\_. 14)
  - b) MHRA a) TGA
  - c) EMA d) CDSCO
- As per ANDA requirements the bioequivalence of test to reference formulation 15) is \_
  - a) 80-120% b) 100-150%
  - c) 70-130% d) 70-80%
- 16) Animal Studies and Clinical Trials are part of which applications?
  - a) IND b) NDA
  - c) Both A and B d) None of the Above
- Initial Screening identifies a potential target. What is the next phase? 17)
  - a) Target Validation b) Lead Optimization
  - c) Pre-clinical trials d) Non-clinical trials
- 18) When does a company seek permission to market a product in the US?
  - a) Following the completion of Phase 1
  - b) Following the completion of Phase 2
  - c) Following the completion of Phase 3
  - d) Following the completion of Phase 4
- Purple book contains which type of product? 19)
  - a) Bio similar
  - b) Interchangeable biological products
  - c) Both A and B
  - d) None
- Import of new drug application made through form . 20)
  - a) 44 b) 24 c) 43 d) 46

#### Q.2 Answer any seven of the following questions.

- Explain in brief about chapters of CFR title 21. a)
  - b) Add a note on Preclinical research in drug development process.
  - Describe the organizational structure of CDSCO. C)
  - What is IEC number? What are the different requirements to obtain IEC number? d)
  - What is DMF? Elaborate parts of DMF. e)
  - Discuss safety monitoring in clinical trials. f)
  - What is GCP Obligations? List them. g)
- Explain in detail requirement for registration of Indian drug in overseas market. h)
- Differentiate between Innovators and generic drug product. i)

- Q.3 Answer any two of the following questions.a) What are the stages of drug discovery? Discuss them in detail.
  - What is CTD? Explain in detail modules of CTD. b)
  - Discuss in detail Clinical Trial Protocol along with its applications. C)