SLR-FK-1

Seat No.	

Set P

B. Pharmacy (Semester - I) (CBCS) Examination Nov/Dec-2019
HUMAN ANATOMY AND PHYSIOLOGY - I

Day & Date: Wednesday, 04-12-2019 Max. Marks: 75
Time: 10:00 AM To 01:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 20

1) Paranasal sinuses are located in which bone?
   a) Frontal b) Mandible
   c) Temporal d) Zygomatic

2) Microcirculation and macro circulation are classified as two part of _____.
   a) Lymphatic Circulation b) Pulmonary Circulation
   c) Systemic Circulation d) None of the above

3) What is aortic normal blood pressure?
   a) 110/10 b) 110/60
   c) 120/10 d) 120/80

4) Engulfing of bacteria by white blood cells is called as _____.
   a) Phagocytosis b) Pinocytosis
   c) Exocytosis d) Endocytosis

5) Junction that prevents two cell compartments from mixing is _____.
   a) Gap junction b) Tight junction
   c) Desmosomes d) Cell junction

6) An example of holocrine glands in human body is _____.
   a) Sebaceous gland b) Apocrine gland
   c) Ceruminous gland d) Eccrine gland

7) Clumping of cell is known as _____.
   a) Mutation b) Clotting
   c) Agglutination d) Glutathione

8) The connective tissue that connects muscle to bone is called _____.
   a) Ligament b) Tendon
   c) Both A & B d) None of the above

9) Outer bony labyrinth is filled with a fluid called _____.
   a) Vitreous humour b) Endolymph
   c) Perilymph d) Aqueous humour

10) Which of the following co-ordinates muscular activity?
   a) Cerebrum b) Cerebellum
   c) Medulla oblongata d) Thalamus

11) _____ is a contractile protein of a muscle.
   a) Tubulin b) Tropomyosin
   c) Myosin d) All of these

12) The joint between the Humerus and the Ulna is a _____ joint.
   a) Saddle b) Hinge
   c) Ball and Socket d) Gliding

13) The Skin belongs to _____ system.
   a) Nervous b) Skeletal
   c) Integumentary d) Muscular

14) Hematopoiesis is takes place in _____.
   a) Bone Marrow b) Lungus
   c) Pancreas d) Liver

15) Lymph nodes are found in _____.
   a) Axilla b) Groin
   c) Both a & b d) None of the above

16) The _____ layer contain droplets of “eleidin” which is precursor of keratin.
   a) Stratum corneum b) Stratum germinativum
   c) Stratum spinosum d) Stratum lucidum

17) _____ stretch receptor is found in carotid, aortic body.
   a) Baroreceptors b) Thermoreceptors
   c) Mechanoreceptors d) Photoreceptors

18) Shoulder and hip joint is _____ type of joint.
   a) Condyloid joint b) Ball and socket joint
   c) Hinge joint d) Fibrous joint

19) Endothelium of blood vessels is made up of _____ epithelium.
   a) Simple cuboidal b) Simple squamous
   c) Glandular d) Simple columnar

20) Junction between two neurons is called as _____.
   a) Nodes of ranvier b) Loop of henle
   c) Synapse d) Dendrites

Q.2 Long Answers. (solve any two) **20**

a) Describe anatomy of heart with neat labeled diagram, write circulation system of heart.
b) Discuss the cell division and transport across cell membrane process.
c) Explain origin and function of spinal and cranial nerves.

Q.3 Short Answers. (solve any seven) **35**

a) Write the forms of intracellular signaling process.
b) Discuss the anatomy of nose and physiology of smell.
c) Give physiology of muscle contraction.
d) Write structure and functions of artery, vein and capillaries.
e) Give circulation and function of lymphatic system.
f) Write about Integumentary System.
g) Discuss the structure, location and function of connective and nervous tisuue.
h) Explain structural and functional classification of joint with examples.
i) Write a short note on electrocardiogram.

SLR-FK-10

Seat No.	

Set P

B. Pharmacy (Semester – III) (CBCS) Examination Nov/Dec-2019
PHARMACEUTICAL ORGANIC CHEMISTRY - II

Day & Date: Thursday, 05-12-2019 Max. Marks: 75
Time: 10:00 AM To 01:00 PM

Instructions: 1) All Questions are compulsory.
2) Figures to right indicate maximum marks.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 20

1) Which of the following compound have highest ring strain?
   a) Cyclopropane b) Cyclobutane
   c) Cyclopentane d) Cyclomethane

2) Anthracene undergo oxidation with O_2/V_2O_5 at $500°C$ to give _____.
   a) Benzoic acid b) Anthraquinone
   c) Phthalic acid d) Benzophenone

3) On sulphonation of naphthalene at 165°C. _____.
   a) 1-Naphthalene sulfonic acid
   b) 2-Naphthalene sulfonic acid
   c) 3-Naphthaline sulfonic acid
   d) 1 and 2-Naphthaline sulfonic acid

4) Amines can be prepared using ammonia and _____.
   a) Alkyl halides b) Acids
   c) Esters d) Nitriles

5) Aromatic compounds are ____.
   a) alkanes b) linear
   c) nonconjugated and cyclic d) conjugated and cyclic.

6) Which of the amine does not react with acid chloride?
   a) 1^0 amine b) 2^0 amine
   c) 3^0 amine d) 4^0 amine

7) Which of the following method is most suitable for the preparation of cyclopropane?
   a) Dieckmann Condnsation b) Freunds method
   c) Diels Aider reaction d) None of the above.

8) Which of the following substituents is not an ortho-para director?
   a) CN b) Br
   c) Cl d) I

9) How are the physical properties of phenol affected by the hydroxyl group?
   a) Higher boiling points
   b) increased solubility in polar solvent
   c) Large intermolecular interaction
   d) all of theses

10) Which of the following is a secondary amine?
   a) Trimethylamine b) Ethylmethylamine
   c) Dimethylethylamine d) Ethylamine

11) The complete hydrolysis of a nitrile gives _____.
   a) An acid b) an ester
   c) an anhydride d) an acid halide

12) Which of the following is a synthetic detergent?
   a) a mixture of triglycerides
   b) glycerol
   c) a mixture of sodium 4-alkylbenzensulphonate
   d) a mixture of Sodium salts of fatty acids

13) Which of the following is aromatic compound?
   a) C_2H_2 b) C_6H_{12}
   c) $C_6H_4Br_2$ c) C_5H_{10}

14) The amino (NH2) group in aniline is _____.
   a) An activating substituents
   b) a deactivating substituents
   c) Neither an activating nor a deactivating substituents
   d) a Meta directing substituents.

15) The acidity of phenol is _____.
   a) Greater than alkyl halide but less than amines
   b) greater than amines but less than alcohol
   c) Greater than alcohol but less than carboxylic acid
   d) equal to carboxylic acid

16) All carbon atoms in anthracene are ____.
   a) Sp hybridised b) Sp^2 hybridised
   c) sp^3 hybridised d) none of the above

17) The cyclohexane molecule is ____.
   a) flat b) chair shaped
   c) a five membered ring d) acyclic

18) The strongest acid is ____.
   a) 2-chloroacetic acid b) 2,2-Dichloroacetic acid
   c) 3-Chloroacetic acid d) 2,3Dichloroacetic acid

19) The common name for hydroxybenzene is ____.
   a) Aniline b) Benzoic acid
   c) Phenol d) Fenol

20) The intermediate in an electrophilic substitution reaction is _____.
   a) an anion b) a radical
   c) an unpaired electron d) a Carbocation

Q.2 Answer any two. **20**

a) Write the synthesis, reaction and medicinal uses of Naphthalene.
b) Explain the general mechanism of electrophilic aromatic substitution reaction along with nitration, sulphonation , halogenation as an example.
c) Write the preparation and reaction of Phenol.

Q.3 Answer any seven. **35**

a) Explain Huckel rule along with example.
b) Explain the structure and uses of DDT and Saccharin.
c) Describe the effect of electron releasing and electron withdrawing groups on the basicity of amines.
d) Write the reactions of fatty acids.
e) Explain the sachse Mohrs theory.
f) Define acid value and RM value.

g) Write the synthesis and uses of diphenylmethane.
h) Describe the baeyers strain theory along with their limitation.
i) Write brief about Rancidification and saponification.

SLR-FK-11

Seat No.	

Set P

B. Pharmacy. (Semester-III) (CBCS) Examination Nov/Dec-2019
PHYSICAL PHARMACEUTICS – I

Day & Date: Saturday, 07-12-2019 Max. Marks: 75
Time:10:00 AM To 01:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Fill in the blanks by choosing correct alternatives given below. 20

1) Chelates are which type of complex?
   a) Organic molecular b) Inclusion
   c) Metal ion d) None of the above

2) As the temperature increases, the surface tension _____.
   a) Increases b) Remain constant
   c) Decreases d) None of the above

3) The difference between work of adhesion and work of Cohesion is called _____.
   a) Spreading coefficient b) Surface tension
   c) Interfacial tension d) Viscosity

4) Solubility of gas _____ with increase in temperature.
   a) Decreases b) Increases
   c) Remains constant d) First decreases then increases

5) Amorphous solid do not have _____.
   a) Sharp melting point
   b) Characteristic geometrical shapes
   c) Regulating of the structure
   d) All of these

6) Isotonic solutions have the same _____.
   a) Vapour pressure b) Osmotic pressure
   c) Atmospheric pressure d) Internal pressure

7) When benzoic acid dissolves in Benzene, it undergoes _____.
   a) Dissociation b) Association
   c) No change d) None of these

8) The solubility of a substance depends on the _____.
   a) Temperature b) Solvent used
   c) Pressure d) All of the above

9) Fick's law is used for study of_____.
   a) Dissolution rate b) Disintegration rate
   c) Dissociation rate d) Diffusion rate

10) Mass transfer of molecules in the substance from higher concentration to lower concentration is _____.
   a) Diffusion b) Osmosis
   c) Active transport d) Passive transport

11) Which of the following is also known as supercooled liquid?
   a) Amorphous solid b) Ionic solid
   c) Molecular solid b) Crystalline solids

12) Pressure require to bring about liquefaction at the critical temperature is called as _____.
   a) Vapour pressure b) Critical pressure
   c) Atmospheric pressure d) None of the above

13) Dielectric constant of solvent is measure of _____.
   a) Ionization b) Polarity
   c) Conductivity d) Viscosity

14) Interfacial tension is _____ Surface tension.
   a) Less than b) More than
   c) Double than d) Equal to

15) Which of the following is Unidentate ligand?
   a) Ammonia b) Oxalate ion
   c) EDTA d) Ethylene diamine

16) Which of the following is not a classification of metal ion complex?
   a) Inorganic type b) Chelates
   c) Aromatic type d) Polymer type

17) The buffer index can be define as the ratio of the increment of strong base (or acid) to the _____.
   a) Change in pH b) Change in buffer capacity
   c) Change in osmotic pressure d) Change in viscosity

18) For the proper wetting of solids by the liquids, the contact angle should be nearly _____.
   a) Zero b) 90^0
   c) 180^0 d) 270^0

19) Iodine forms complex when it is dissolved in _____.
   a) Hexane b) Toluene
   c) Alcohol d) Carbon tetrachloride

20) Buffer solutions _____.
   a) Are strong acids b) Resist change in pH
   c) Decreases the pH of solution d) Increases the pH of solution

Q.2 Answer the following (any five) **20**

a) State the distribution law and give its limitations and applications.

b) What do you understand by polymorphism? Giving suitable example give its importance in pharmacy.

c) Define and classify complex. Give its analysis techniques in detail.

Q.3 Answer the following (any seven) **35**

a) Explain factors influencing solubility of gas in liquid.
b) What is refractive index? Give its applications in pharmacy.
c) Write a note on eutectic mixtures.
d) Draw and explain HLB scale stating different HLB value of surfactants.
e) Give the applications of buffer in pharmacy.
f) Describe capillary rise method for determination of surface tension.
g) Give the applications of complexation in pharmacy.
h) Write a short note on Raoult's law with its derivation.
i) Write a note on biological buffers.

SLR-FK-12

Seat No.	

Set P

B. Pharmacy (Semester-III) (CBCS) Examination Nov/Dec-2019
PHARMACEUTICAL MICROBIOLOGY

Day & Date: Tuesday, 10-12-2019 Max. Marks: 75
Time:10:00 AM To 01:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 20

1) Most bacteria grow best around pH _____.
   a) 5.4 b) 7.2
   c) 3.5 d) 9.2

2) Flagella are made up of _____.
   a) Sugars b) Lipids
   c) Polysaccharides d) Proteins

3) Which is indirect method used for *measurements* of cell mass?
   a) Turbidmetric method b) Dry weight measurement
   c) Plate count technique d) Breed Method

4) The concept of sterilization was introduced by _____.
   a) Robert Koch b) Joseph Lister
   c) Alexander Fleming d) Louis Pasteur

5) Which of the following is a primary stain for acid fast staining?
   a) Crystal violet b) Geimsa
   c) Carbol fuchsin d) Methylene blue

6) UV radiations possess greatest activity of destroying microorganisms in region of _____.
   a) 2537 A° b) 4532 A°
   c) 10 A° d) 7643 A°

7) Talc powder is generally sterilized by _____.
   a) Autoclave b) Hot air oven
   c) Radiations c) Filtration

8) Select yeast from following _____.
   a) *Aspergillus* b) *Saccharomyces*
   c) *Microsporum gypseum* d) *Penicillium*

9) In Rideal Walker test the strain used is _____.
   a) *E-coli* b) *S.typhi*
   c) *C.tetani* d) *S.pyogenes*

10) _____ is an agent that prevents the growth of microorganisms.
   a) Preservative b) Disinfection
   c) Sanitization d) Germicide

11) Sterility test can be carried out by _____.
   a) Membrane filtration b) Direct inoculation
   c) Both a & b d) None of the above

12) Efficiency of HEPA filter is _____.
   a) 99.97 % b) 90.97 %
   c) 97.97 % d) 88.97 %

13) Best suitable media for isolation of *Candida albicans* is _____.
   a) Sabouraud dextrose agar b) Salmonella typhi
   c) Triple sugar-iron agar d) MacConkey's agar

14) Test microorganism used for microbiological assay of Vitamin B_{12} is _____.
   a) *Lactobacillus leichamannii* b) *Lactobacillus casei*
   c) *Lactobacillus Viridescens* d) *Lactobacillus plantarum*

15) *Staphylococcus aureus* is used for I.P. assay of _____.
   a) Bleomycin b) Carbenicillin
   c) Doxycycline d) Kanamycin

16) The HEPA Filter stands for _____.
   a) High-Efficiency Particulate Air
   b) High-Energy Particles in Air
   c) High-Evaluation Protection
   d) Hepatitis A

17) DOP test is used for validation of _____.
   a) Membrane filter b) HEPA filter
   c) Aseptic room d) Autoclave

18) Magnification of an oil-immersion objective is _____.
   a) 10x b) 1000x
   c) 100x d) 50x

19) Which of the following agents are used as a preservative in ophthalmic solutions?
   a) Chlorocresol b) Benzalkonium chloride
   c) Phenol d) Dichlorobenzyl alcohol

20) Who successfully produced a transgenic sheep named dolly from foetal fibroblast cells.
   a) Wilmut and co-workers b) Robert Koch and co-workers
   c) Joseph and co-workers d) Pasteur and co-workers

Q.2 Answer the following questions. (Any Two) **20**

a) Define sterilization. Classify different methods of sterilization. Explain dry heat sterilization.

b) Define Microbiology. Explain in detail scope of microbiology related to pharmaceutical field.

c) 1) Discuss factors influencing disinfectant action.
   2) Explain factors affecting microbial spoilage

Q.3 Answer of the following questions: (Any Seven) **35**

a) Discuss contribution of Louis Pasteur in the development of Microbiology.

b) Write a note on bacterial growth curve.

c) List out various staining techniques. Explain Gram staining in detail.

d) Enlist IMViC tests. Write in detail any two IMViC tests.

e) What are Fungi? Explain classification of fungi.

f) Describe any two methods of cultivation of viruses.

g) Explain with neat labeled diagram designing of aseptic area.

h) Describe in detail sources and types of microbial contamination.

i) Discuss methods of microbiological assay of antibiotics.

SLR-FK-13

Seat No.		Set	P

B. Pharmacy (Semester – III) (CBCS) Examination Nov/Dec-2019
PHARMACEUTICAL ENGINEERING

Day & Date: Thursday, 12-12-2019 Max. Marks: 75
Time: 10:00 AM To 01:00 PM

Instructions: 1) All Questions are compulsory.
2) Figures to right indicate maximum marks.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 20

1) Reynolds number depends on one of the following factors _____.
   a) Roughness of the pipe b) Surface area of the pipe
   c) Viscosity of the liquid d) Volume of the liquid

2) Which of the following mill works on the principle of combined impact and attrition?
   a) Hammer mill b) Ball mill
   c) Disintegrator mill d) Roller mill

3) Elutriation is a process of _____.
   a) Size reduction using mechanical forces
   b) Size separation using stationary fluid
   c) Size reduction using electrical repelling forces
   d) Size separation using a moving fluid

4) According to Stefan-Bolzmann law, Ideal radiators emit radiant energy at a rate proportional to _____.
   a) Absolute temperature
   b) Square of temperature
   c) Forth power of absolute temperature
   d) Forth power of temperature

5) The following method is commonly used in pharma industry for drying of soft shell capsule _____.
   a) Tray drying b) FBD
   c) Vacuum drying d) Spray drying

6) The main mechanism of double cone blender is _____.
   a) Diffusion mixing b) Turbulent mixing
   c) Shear mixing d) Laminar mixing

7) Which one of the following is continuous filter?
   a) Plate and frame filter press b) Filter leaf
   c) Rotary Drum filter d) None of the above

8) This type of corrosion occurs due to concentration difference in a component _____.
   a) Uniform b) Galvanic
   c) Intergranular d) Stress

9) The process which uses centrifugal force for suspension purpose is known as _____.
   a) Distillation b) Evaporation
   c) Clarification d) Centrifugation

10) Corrosion fatigue is combined effect of _____.
   a) Corrosive environment and mechanical stresses
   b) Cyclic loading and corrosion
   c) Velocity and mechanical stresses
   d) None of the above

11) When the flow is weather viscous or turbulent, which equation is used to calculate frictional loss?
   a) Fanning's equation b) Bernoulli's theorem
   c) Stocks law equation d) All of the above

12) In ball mill maximum size reduction is obtained at _____ speed.
   a) low b) high
   c) very high d) critical

13) Nominal apertures size indicates _____.
   a) gap between tow adjacent wires
   b) Clear space between wires of screen opening
   c) Number of meshes in a linear length
   d) Number of holes

14) Evaporation takes place at _____.
   a) All temperature b) Freezing point
   c) Melting point d) Boiling point

15) Which of the following is not a filter aid?
   a) Diatomaceous earth b) Perlite
   c) Cellulose d) Cotton

16) Which of the following example of static mixture?
   a) Ribbon blender b) Vane blender
   c) Double cone blender d) Silverson emulsifier

17) In which of the following dryer atomizers are used _____.
   a) Tray b) Spray
   c) Roller d) Freeze

18) Which equation is useful in the analysis of simple distillation?
   a) Reyleigh equation b) Hagan Poiseullis equation
   c) Bernoullies equation d) Miers theory

19) The SI unit of Reynolds number is _____.
   a) Nm^{-2} b) m/s
   c) poise d) No unit

20) This mill does not have any moving part in the grinding area _____.
   a) Disintegrator mill b) Hammer mill
   c) Colloidal mill d) Fluid energy mill

Q.2 Answer any two. **20**

a) Describe and explain Bernoullis theorem Write its applications.
b) Explain the theory of drying with suitable diagrams.
c) What is mixing? Write objectives, applications and factors affecting mixing.

Q.3 Answer any seven. **35**

a) Describe construction and working of Ball mill.
b) Define black body. Explain Stefan Boltzmann's law.
c) Give difference between evaporation and other heat processes.
d) Write principle and working of flash distillation.
e) Draw a well labeled diagram of Fluidized Bed Dryer. Write applications of FBD.
f) Discuss the factors affecting mixing.
g) Describe applications of centrifugation.
h) Write principle of pneumatic and belt conveyer.
i) Write the importance of glassed steel in Pharma Industry.

SLR-FK-14

Seat No.	

Set P

B. Pharmacy (Semester - IV) (CBCS) Examination Nov/Dec-2019
PHARMACEUTICAL ORGANIC CHEMISTRY - III

Day & Date: Thursday, 05-12-2019 Max. Marks: 75
Time: 02:00 PM To 05:00 PM

Instructions: 1) Figures to the right indicate full marks.
2) All Questions are compulsory.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 20

1) Angle strain is maximum in ____.
   a) Cyclopropane b) Cyclobutane
   c) Cyclohexane d) None of these

2) The group with the highest R/S priority is _____.
   a) –H b) $–CH_3$
   c) $--CBr_3$ d) —OH

3) Cis geometric isomers have similar groups on _____.
   a) The same side b) Opposite side
   c) Neither side d) None of these

4) Which of the following conformation has highest stability?
   a) Gauche b) Fully eclipsed
   c) Staggered d) Partially eclipsed

5) The optically active tartaric acid is named as D (+) tartaric acid because it has a positive _____.
   a) Optical rotation and is derived from D - glucose
   b) pH in an organic solvent
   c) Optical rotation and is derived from D (+) glyceraldehydes
   d) Optical rotation only when substituted by deuterium

6) A racemic mixture rotates plane polarised light _____.
   a) Clockwise b) Counterclockwise
   c) In neither direction d) all of these

7) In quinoline which of the ring is more electron rich _____.
   a) Nitrogen containing ring b) Carboxylic ring
   c) Both a and b d) none of the above

8) According to Cahn-Ingold which of the following has highest priority _____.
   a) OH b) H
   c) COOH d) CH_3

9) Electrophilic Substitution in Furan usually occurs at _____.
   a) C_3 atom b) C_2 atom
   c) Both C_3 and C_2 atoms d) None of the above

10) How many optically active stereoisomers are possible for Butane -2,3-diol?
   a) 1 b) 2
   c) 3 d) 4

11) A meso compound ____.
   a) Is optically active
   b) has plane of symmetry
   c) has non superimposable mirror image
   d) is Chiral

12) Dakin reaction is useful for synthesis of _____.
   a) Alcohols b) Aldehydes
   c) Phenols d) Carboxylic acid

13) Nucleophile attack on pyridine ring occurs preferably at _____.
   a) Position 1 of pyridine ring b) Position 2 of pyridine ring
   c) Position 3 of pyridine ring c) Position 4 *of* pyridine ring

14) Optically active molecule which rotate plane polarised light in anticlockwise direction is _____.
   a) Levorotatory b) R Configuration
   b) Dextrorotatory d) S Configuration.

15) Furfural on decarbonylation at 673K gives.
   a) Pyrrole b) Thiophene
   c) Furan d) None of the above.

16) Oppenaur oxidation is the reverse process of _____.
   a) WolffKishner reduction
   b) Clemmensen reduction
   c) Meerwein-ponndorff-verlyreduction
   d) Rosenmunds reduction.

17) Which of the ring in Isoquinoline gets easily reduced?
   a) Benzene ring b) Nitrogen containing ring
   c) both ring d) None of the above

18) Which of the following compounds will show geometrical isomerism?
   i) 2-Butene
   ii) Propene
   iii) 1-Phenylpropene
   iv) 2-Methylbut-2-ene
   a) i, ii b) iii, iv
   c) i, ii, iii d) i, iii

19) Thiophene on reduction with sodium in ammonia gives a mixture of ____.
   a) 1 and 2 thiolen b) 2 and 3 thiolen
   b) 2 and 4 thiolen d) 1 and 3 thiolen

20) Specific rotation is optical activity measured at specific _____.
   a) Temperature b) Concn
   c) Solvent d) All of these

Q.2 Answer any two. **20**

1) Describe the method of determination of configuration of geometrical isomerism.
2) Write the synthesis, reactions, and medicinal uses of Pyridine.
3) Explain the reaction and Mechanism of Dakin and Schmidt rearrangement.

Q.3 Answer any seven. **35**

1) Explain in detail Stereospecific and stereoselective reactions.
2) Discuss the Conformational isomerism in n-Butane..
3) Write the Synthesis and medicinal uses of Indole.
4) Explain Enantiomers and Diasteromers with example.
5) Explain configuration and conformation with suitable example.
6) Explain the reactivity and basicity of pyrrole.
7) Explain the reaction and Mechanism of Beckmann rearrangement.
8) Write the synthesis, reactions, and medicinal uses of Isoquinoline.
9) Write the mechanism involved in metal hydride reaction.

SLR-FK-15

Seat No.	

Set P

B. Pharmacy (Semester - IV) (CBCS) Examination Nov/Dec-2019
MEDICINAL CHEMISTRY - I

Day & Date: Saturday, 07-12-2019 Max. Marks: 75
Time: 02:00 PM To 05:00 PM

Instructions: 1) Figures to the right indicate full marks.
2) All questions are compulsory.

Q.1 Choose the correct alternatives from the options and rewrite the alternatives. 20

1) Identify the most preferred system for detection of partition coefficient _____.
   a) N-octanol/water b) Chloroform/Water
   c) Ethanol/Water d) Benzene/water

2) Choose general strength of hydrogen bonding from the following list _____.
   a) 1 -10 Kcal/mole b) 10- 50 Kcal/mole
   c) 50 - 60 Kcal/mole d) 80 - 150 Kcal/mole

3) _____ are also capable to generate polar functional group.
   a) Bio-reduction b) Acetylation
   c) Methylation d) Reduction

4) Select the drug from following, Which metabolize by azo-reduction process.
   a) SuIphonamide b) Benzene
   c) Prontosil d) Azepam

5) Choose the enzyme, which carries biosynthesis of Norepinephrine _____.
   a) Tyrosine hydrolase b) Alanine hydralase
   c) p-nitrophenol d) none of these

6) Beta receptor shows their MOA through activation of _____ protein.
   a) G b) S
   c) T d) O

7) Identify direct acting sympathomimetic agent from the following _____.
   a) Epinephrine b) Acetylcholine
   c) Propanolol d) Clopazine

8) In biosynthesis of Acetylcholine _____ enzyme is generally used.
   a) Methyl – CoA b) Acetyl - CoA
   c) Ligase d) Isomerase

9) Release of Acetylcholine is carried out due to high concentration of _____ ions.
   a) Ca^{2+} b) Cu^{2+}
   c) Na^{+} d) Cl^{-}

10) In Acetylcholine How many carbon unit required between Oxygen & Nitrogen atom _____.
   a) 4
   b) 6
   c) 2 Choose cholinergic inhibitors from the following
   d) 5

11) Choose cholinergic inhibitors from the following.
a) Acetylcholine b) Adrenaline
c) Neostigmine d) Betazolol

12) Atropine shows activity with binding _____ receptor.
a) Muscarinic b) Cholinergic
c) Nicotinic d) none of these

13) Benzodiazepines shows activity binding with _____ receptor.
a) GABA b) Alpha
c) Beta d) none of these

14) _____ Atom provides potency to halothane.
a) Cl b) Br
c) I d) F

15) Thiopental belongs to _____ class.
a) Ultra short acting barbiturate
b) Long acting barbiturate
c) intermediate acting barbiturate
d) None of these

16) Choose the correct starting material use in synthesis of phenytoin.
a) Benzil b) Benzene
c) Acetone d) Alcohol

17) In barbiturates substitution of one imide hydrogen by alkyl group increases _____.
a) Lipid Solubility b) Water Solubility
c) Alcohol d) None of these

18) Phenothiazine are used as _____ Purpose.
a) Antipsychotic b) Sedatives
c) Hypnotics d) None of these

19) Phenobarbotone shows action by blocking _____ channel
a) Calcium b) Copper
c) Bicarbonate d) chlorine

20) _____ is used as starting material for synthesis of Halothane.
a) Trichloroethylene b) Trichloromethylene
c) Chloroacetone d) Bromoacetone

Q.2 Solve any two of the following questions. 20

a) Describe the process of Biosynthesis and catabolism of catecholamine.
b) Explain SAR and MOA of Sympathomimetic agents along with structure.
c) Outline synthesis of Salbutamol and Carbachol.Give SAR and MOA of Anticonvulsant agents.

Q.3 Solve any seven of the following questions. 35

a) Write SAR of Morphine analogues.
b) What are MOA and Uses of Anti-inflammatory agents?
c) Explain MOA and uses of General anesthetics with any two examples.
d) Write SAR and uses of Phenothiazines.
e) Classify Sedatives and Hypnotics. Give SAR of Benzodiazepines.
f) Explain SAR and MOA of Cholinergic blocking agents.
g) What is biosynthesis and catabolism of acetylcholine?
h) Outline synthesis of halothane & phenytoin.
i) Classify Adrenergic Antagonist agents. Give MOA and uses of it.

SLR-FK-16

Seat No.	

Set P

B. Pharmacy (Semester-IV) (CBCS) Examination Nov/Dec-2019
PHYSICAL PHARMACEUTICS –II

Day & Date: Tuesday 10-12-2019 Max. Marks: 75
Time:02:00 PM To 05:00 PM

Instructions: 1) Figures to the right indicate full marks.
2) All Questions are compulsory.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 20

1) The distance between two tangents on opposite sides of the particle parallel to same fixed direction is called as _____.
   a) Martin diameter b) Feret's diameter
   c) Projected diameter d) Stoke's diameter

2) The Average particle count of coulter counter method is _____.
   a) 4000/sec b) 5000/sec
   c) 6000/sec d) 8000/sec

3) The Viscosity of a Pseudoplastic substances _____ with increasing rate of shear.
   a) Shear Decreases b) Increases
   c) Increases then decreases d) None of the above

4) As the temperature increases, the degradation of drug _____.
   a) Decreases b) Remains Constant
   c) Increases d) Stop

5) Electrodialysis is a method used for the purpose of _____.
   a) Stabilization b) Purification
   c) Identification d) Synthesis

6) Brownian movement of particles _____.
   a) Assists Sedimentation b) Increases Sedimentation
   c) Prevents Sedimentation d) Does not affect Sedimentation

7) The Sedimentation Volume, F of Suspension will be Maximum at _____ Zeta Potential.
   a) 0 b) 2
   c) 1 d) -1

8) Density of Structural vehicles can be increased by adding _____.
   a) Suspending agents b) Emulsifying agents
   c) Water d) Glycerin

9) For an Ideal Suspension, The Sedimentation volume should be _____.
   a) Zero b) Equal to One
   c) Less Than One d) More Than One

10) For any chemical reaction the Molecularity is always _____ then order.
   a) Lower b) Equal
   c) Higher d) May be higher or lower

11) The ratio of stress to strain is called _____.
   a) Poisson Ratio b) Young Modulus
   c) Shear strain d) Elastic Modulus

12) The unit of Strain is _____.
   a) N b) Nm^{-2}
   c) Nm^{2} d) Dimensionless

13) The effect of temperature on viscosity of liquid is expressed by _____.
   a) Arrhenius Equation b) Stoke's Equation
   c) Newton's Law d) Michaels Menten Equation

14) Pseudoplastic flow generally exhibited by _____.
   a) Suspension b) Jellies
   c) Lotion d) Colloids

15) Coulter counter is used to determine _____.
   a) Particle Volume b) Particle Number
   b) Particle Interaction d) Viscosity

16) If the Carr's Compressibility Index value is in between 26 to 31, the flow will be _____.
   a) Poor b) Excellent
   c) Passable d) Very poor

17) Porosity is expressed in _____.
   a) Newton b) Millimeter
   c) Gram/ Millimeter d) Percentage

18) Climatic zone II is _____.
   a) Moderate Climate
   b) Subtropical and Mediterranean climate
   c) Hot/Dry Climate
   d) Hot/Humid Climate

19) Which of the following factors affect the rate of reaction?
   a) Temperature b) Catalysis
   c) Dielectric Constant c) All of above

20) The Dielectric Constant is used to measure _____.
   a) Viscosity of Solvent b) Polarity of Solvent
   c) Temperature of Solvent c) Flowability of Solvent

Q.2 Solve any two of the following questions. **20**

a) What is Newtonian and Non- Newtonian flow? Give an expression for the Newtonian law of flow.
b) Discuss in detail Optical Properties of Colloids.
c) Explain particle size and size distribution by Sieve analysis method.

Q.3 Solve any seven of the following questions. **35**

a) Explain Dialysis Method for Purification of Colloids.
b) Discuss Principle and working of Cone and Plate Viscometer.
c) Write note on Heckel equation for deformation of Solid.
d) Explain Different Theories of Emulsification.
e) Discuss Average particle size and Size distribution.
f) Explain the chemical factors that affect on rate of reaction.
g) Explain different causes of instability in emulsion.
h) Discuss the mechanism of Shear Thickening System.
i) How would you determine the shelf life of a new pharmaceutical product?

SLR-FK-17

Seat No.	

Set P

B. Pharmacy (Semester – IV) (CBCS) Examination Nov/Dec-2019
PHARMACOLOGY -I

Day & Date: Thursday, 12-12-2019 Max. Marks: 75
Time: 02:00 PM To 05:00 PM

Instructions: 1) All Questions are compulsory.
2) Figures to right indicate maximum marks.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 20

1) The birth of experimental pharmacology is associated with the work of the French Physiologist _____.
   a) Francois Magendie b) Seerturner
   c) Samuel Dale d) Galen

2) _____ is an application of the knowledge of pharmacodynamics to the treatment of disease.
   a) Pharmacokinetics b) Pharmacodynamics
   c) Pharmacotherapeutics d) Chemotherapy

3) _____ is the interference in the biological response of one agent by another.
   a) Additive response b) Synergistic responses
   c) Antagonism d) Allergy

4) In case of two or more similar medicines, the choice should be made considering _____.
   a) Comparison of relative efficacy and safety
   b) Cost to benefit ratio
   c) Availability
   d) All of above

5) _____ route of drug administration is useful in case of unconscious patients and children.
   a) Oral b) Rectal
   c) Inhalation d) Parenteral

6) _____ is any molecule which selectively binds with a particular receptor.
   a) Ligand b) Agonist
   c) Antagonist d) Partial agonist

7) _____ coined the term ‘receptor’ for the interacting substance on the membrane of cells for the Drugs.
   a) Langley b) Ehrlich
   c) Clark d) Dale

8) The concept of ‘chemical neuro-transmission’ was first proposed by instead of electrical transmission hypothesis.
   a) Dale b) Gaddum
   c) Serturner d) Mgendie

9) _____ is a natural alkaloid used as anticholinergic drug.
   a) Homatropine b) Ipratropium bromide
   c) Hyoscine butyl bromide d) Atropine

10) _____ can be used as definitive therapy for inoperable and malignant tumours.
a) Phenoxy benzamine b) Ergotamine
c) Chlorpromazine d) Yohimbine

11) _____ is the most effective drug for chronic prophylaxis of migraine.
a) Metoprolol b) Atenolol
c) Acebutolol d) Propranolol

12) Tissues rich in histamine is _____.
a) Skin b) Gastric mucosa
c) Intestinal mucosa d) All of above

13) _____ is a highly sedative antihistaminic drug.
a) Pheniramine b) Meclizine
c) Diphenhydramine c) Cinnarizine

14) _____ route is employed for specific purpose only.
a) Subcutaneous b) Intramuscular
c) Intravenous d) Intraderma

15) _____ was a Greek Pharmacist-Physician who first introduced the concept of polypharmacy.
a) Galen b) Parcelus
c) Francois Magendie d) Surturner

16) _____ refers to the use of natural metabolites, hormones or their congeners in deficiency states.
a) Stimulation b) Depression
c) Irritation d) Replacement

17) A cell body area for the preganglionic neurons of the sympathetic nervous system _____.
a) Thoracic part of the spinal cord
b) Sacral part of the spinal cord
c) Brain stem
d) a & b

18) If a drug is given by intravenous administration you can predict that its bioavailability will be _____ %.
a) 0 b) 50
c) 75 d) 100

19) Drugs that cause bronchodilator include all of the following except _____.
a) Theophylline b) Ephedrine
c) Ipratropium d) Cromolyn

20) Curare is often given before surgical operation to _____.
a) Prevent bronchial secretion
b) Maintain the arterial Blood pressure
c) Induce bronchodilation
d) Relax the skeletal muscles

Q.2 Answer any two of the following questions. **20**

a) Discuss in detail pharmacology of atropine.
b) Discuss in detail dose response relationship and therapeutic index.
c) Classify adrenergic drugs and compare the pharmacological effects of noradrenaline, adrenaline and isoprenaline.

Q.3 Answer any seven of the following questions. **35**

a) Give the advantage and disadvantages of parenteral route.
b) Define agonist, antagonist, inverse agonist and competitive antagonist.
c) Classify skeletal muscle relaxants. Give its uses.
d) What is drug discovery? Explain clinical evaluation of new drug.
e) Discuss in detail the factors modifying drug absorption
f) Discuss pharmacology of beta blockers.
g) Give various pharmacological actions of Sympathomimetics.
h) Classify Sedative and hypnotics with examples.
i) Classify drugs used in the treatment of parkinsons disease.

SLR-FK-18

Seat No.	

Set P

B. Pharmacy (Semester – IV) (CBCS) Examination Nov/Dec-2019
PHARMACOGNOSY AND PHYTOCHEMISTRY- I

Day & Date: Saturday, 14-12-2019 Max. Marks: 75
Time: 02:00 PM To 05:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Assume suitable data if necessary.

Q.1 Choose the correct alternatives from the options. **20**

1) All of the following crude drugs are Carminative except _____.
   a) Fennel b) Dill
   c) Cannabis d) Clove

2) Identify qualitative chemical test used for detection of Tannins _____.
   a) Shinoda Test b) Match Stick Test
   c) Salkowoski Test d) Mayers Test

3) Unorganized crude drugs are _____ in nature.
   a) Solid b) Liquid
   c) Semisolid d) All of these

4) Removal of sand, dirt, foreign organic part from the crude drug is called _____.
   a) Sprinkiling b) Garbling
   c) Gardening d) Transplanting

5) _____ system classifies crude drugs on the basis of the therapeutic action.
   a) Biological b) Morphological
   c) Pharmacological d) Binomial

6) Determination of Anthelmintic activity is _____ method of evaluation.
   a) Microscopical b) Biological
   c) Chemical d) Physical

7) Two equal Kidney shaped cells found in stomata are known as _____.
   a) Epidermal Cells b) Guard Cells
   c) Aerenchyma Cells d) Glandular Cells

8) Aqueous solution of _____ is treated with ruthenium red shows pink colour.
   a) Agar b) Acacia
   c) Honey d) All of these

9) Identify the primary nutrients useful for the normal growth of medicinal plants _____.
   a) N, P & K b) Ca, Mg & S
   c) Fe, Zn & Co d) Mo, Zn & Fe

10) _____ Hybridization involves crosses between the plants of same variety of different species.
   a) Intervarietal b) Intrageneric
   c) Intravarietal d) Intergeneric

11) Who is regarded as First Pharmacist of the world?
   a) Shen Nung b) Galen
   c) Hippocrates d) Theophrastus

12) Secondary metabolites are also known as _____.
   a) Trophophase b) Photophase
   c) Idiophase d) Autophase

13) Vatta is combination of _____.
   a) Air and Space b) Air and Fire
   c) Air and Water d) Air and Earth

14) Dilute Iodine solution is used to stain _____.
   a) Fixed oil b) Volatile oil
   c) Starch d) Calcium oxalate

15) Identify the drug packed in goat skin.
   a) Aloe b) Asafoetida
   c) Colophony d) Ergot

16) Which of the following is not the class of Primary Metabolite?
   a) Terpenes b) Vitamins
   c) Organic acids d) Amino Acids

17) Who isolated narcotine from opium in 1803?
   a) Dersone b) Galen
   c) Shen Nung d) Stas & Otto

18) Oxidase & Peroxidase are present in _____.
   a) Agar b) Woolfat
   c) Acacia d) Beeswax Cotton & Jute

19) _____ is a crude drug obtained from microbial source.
   a) Papain b) Bromelain
   c) Streptokinase d) Pepsin

20) _____ gms of powdered crude drug is weighed in the determination of extractive value as per I.P.
   a) 1 b) 1.5
   c) 5 d) 6

Q.2 Answer any two of the following questions. **20**

a) Discuss Collection and Processing of drugs of Natural Origin.
b) Enlist various systems of classification of Drugs of Natural Origin. Describe Chemical method of classification with their merits and demerits.
c) Enlist traditions System of Medicines. Describe Homeopathic System of Medicine.

Q.3 Answer any seven of the following questions. **35**

a) Write the scope of Pharmacognosy.
b) Difference between organized crude drug and unorganized crude drug.
c) Write a note organoleptic method of Evaluation.
d) Enlist leaf constants. Add a note on Camera Lucida.
e) Write Brief note on Asexual method of Propagation.
f) Write applications of PTC in the development of medicinal plants.
g) Write source, chemical constituents and uses of Agar.
h) Elaborate method of preparation of Castor oil.
i) What are Primary & Secondary Metabolites? Write any four Differences.

SLR-FK-19

Seat No.	

Set P

B. Pharmacy (Semester – IV) (CBCS) Examination Nov/Dec-2019
PHYSICAL PHARMACY – II

Day & Date: Saturday, 30-11-2019 Max. Marks: 70
Time: 02:00 PM To 05:00 PM

Instructions: 1) All questions are compulsory.
2) Figure indicates full marks.

Q.1 Fill in the blank by choosing correct alternative give below. **15**

1) Andreasen apparatus consist of _____.
   a) Balance b) Pipette
   c) electrodes d) hydrometer

2) Surface tension is _____.
   a) Tolerance factor b) Capacity factor
   c) Extensive property d) Intensive property

3) Killing of microorganism by heat follow which order of reaction?
   a) zero order b) first order
   c) second order d) third order

4) The colloid that helps to stabilize other colloid is called as _____.
   a) protective colloid b) positive colloid
   c) negative colloid d) none of the above

5) In emulsion the sedimentation is found to be negative. It means the creaming is _____.
   a) absent b) in both direction
   c) in downward direction d) in upward direction

6) On the addition of sufficient electrolytes to lyophilic sol leads to agglomeration. It is known as _____.
   a) Salting out b) Creaming
   c) Braking d) None of these

7) The phase in which surfactant is soluble and that will be continuous phase, this rule is given by _____.
   a) Newton b) Griffin
   c) Bancroft d) Sorenson

8) Rubber forms _____ colloids with non-aqueous solvent.
   a) lipophilic b) hydrophilic
   c) lyophobic d) association

9) As the particle size is increases more than 5µm, Brownian motion will be _____.
   a) increases b) decreases
   c) double d) first increases then decreases

10) A powder that sinks in liquid has_____ contact angle.
   a) lesser b) no
   c) greater d) lesser and greater

11) Porous materials have _____ surface area.
   a) high b) low
   c) moderate d) zero

12) If emulsion conducts electricity, then _____.
   a) water is continuous phase
   b) oil is continuous phase
   c) both water and oil are continuous phases
   d) no continuous phase is available.

13) In microscopy method _____ diameter is determined.
   a) projected b) Sieve
   c) Stoke's d) volume

14) The strong force between same molecules of liquid indicates_____.
   a) low surface tension b) high surface tension
   c) zero surface tension d) no effect on surface tension

15) Solution of protein and starch in water are the examples of the colloidal type _____.
   a) hydrophilic b) hydrophobic
   c) lyophilic d) lyophobic

Q.2 Answer any five question of the following question. **25**

a) What are protective colloids? Mention one example for the same.
b) Comment on flow properties of powder and factors affecting it.
c) Explain capillary rise method for determination of surface tension.
d) Discuss pseudo order of reaction with example.
e) Explain dispersion methods for preparation of lyophobic sol.
f) Classify complexes and write a note on inclusion complex.

Q.3 Answer any three question of the following question. **30**

a) Explain the DLVO theory and its pharmaceutical application. Highlight the stability of lyophobic sol.
b) Explain the different methods for determination of order of reaction.
c) Write notes on
   1) Densities of powder
   2) Flow property of powder
d) What are surfactants? classify them in details. Add a note on HLB scale.

SLR-FK-2

Seat No.	

Set P

B. Pharmacy (Semester-I) (CBCS) Examination Nov/Dec-2019
PHARMACEUTICAL ANALYSIS - I

Day & Date: Friday, 06-12-2019 Max. Marks: 75
Time:10:00 AM To 01:00 PM

Instructions: 1) Figures to the right indicate full marks.
2) All Questions are compulsory.

Q.1 Fill in the blank by choosing correct alternative given below. 20

1) % w/v express_____.
   a) No. of ml of solute in 100 gm of product
   b) No. of ml of solute in 100 ml of product
   c) No. of gram of solute in 100 ml of product
   d) None of these

2) Following are the type of systematic error except _____.
   a) Method error b) Personal error
   c) Instrumental error d) Random error

3) Amphiprotic solvents are both _____ &_____ character.
   a) Aprotic, protophilic b) Protophilic, protogenic
   c) Protogenic, aprotic d) None of these

4) _____ is defined as the -log of hydroxyl ion concentration.
   a) P^{H} b) P^{Ka}
   c) P^{OH} d) P^{Kb}

5) According to _____ acid base indicator is a weak organic acid/base which ionizes in aq. solution to give different colour.
   a) Ostwald theory b) Quinonoid theory
   c) Litmus theory d) Resonance theory

6) Which method is used in water analysis?
   a) Fajan's method b) Mohr's method
   c) Volhard's method d) None of these

7) Estimation of Calcium gluconate is done by using ____ Titration.
   a) Complexometric b) Precipitation
   c) Acid base d) Non aquous

8) Ceric ammonium sulphate is an _____Agent.
   a) Oxidising b) Reducing
   c) Precipitating d) Complexometric

9) _____is process involving the transfer of electrons from one element / ion to another.
   a) Precipitation reaction b) Redox reaction
   c) Complexing reaction d) Gravimetric reaction

10) SI unit of conductance is _____.
   a) Mho b) Siemens
   c) Volt d) None of these

11) Equivalent conductance is _____ related with concentration.
   a) Inversly b) Directly
   c) Not d) Logarithmically

12) Potentiometry is an _____ method of analysis.
   a) Electroanalytical b) Thermal
   c) Electrogravimetry d) Spectroscopic

13) Ammonium chloride is a salt of _____.
   a) Strong acid & strong base b) Strong acid & weak base
   c) Weak acid & weak base d) Weak acid & strong base

14) Hydrogen electrode can be used as _____.
   a) Reference b) Indicator
   c) Both of a and b d) None of these

15) Polarograph is _____.
   a) Current Vs volt b) DME
   c) Instrument d) None of these

16) Quinonoid theory indicates that color change of indicator is due to _____.
   a) Change of cone b) Change of ionic bond
   c) Structural change d) All of above

17) Which is not a complexometric Indicator_____?
   a) Mordant black II b) Murexide
   c) Xylenol orange d) Methyl orange

18) Dichrometry refers to _____.
   a) Titration involving Pot. Bromate
   b) Titration involving Pot. Dichromate
   c) Titration involving Pot. Chlorate
   d) Titration involving Pot. Permanganate

19) According to _____ rate of chemical reaction is proportional to the active masses of reactive substance.
   a) Common ion effect b) Law of mass action
   c) Arrhenius d) Lewis

20) _____ is one that contains one mole of solute per liter of solution.
   a) Molal solution b) Formal solution
   c) Molar solution d) Normal solution

Q.2 Long answers (any two). **20**

a) Explain principle and steps involved in gravimetric analysis.
b) Discuss theories of acid and base. Justify P^H of water is 7.
c) Discuss different types of complexometric titration.

Q.3 Short answers. (Any seven). **35**

a) Explain the principle of Mohr's method.
b) Write note on sodium nitrite titration.
c) Explain in brief about significant figure.
d) Write different types of solvents used in non-aqueous titration.
e) Write a note on masking & demasking phenomenon.
f) Discuss various types of redox titration.
g) What do you mean by co-precipitation? Give the types of co-precipitation.
h) Write factor affecting conductance & give details of conductivity cell.
i) Write note on reference electrode SHE used in potentiometric titration.

SLR-FK-20

Seat No.	

Set P

B. Pharmacy (Semester-IV) (CBCS) Examination Nov/Dec-2019
MICROBIOLOGY

Day & Date: Monday, 02-12-2019 Max. Marks: 70
Time: 02:00 PM To 05:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 15

1) Pasteur Developed the following vaccine except _____.
   a) Rabies b) Anthrax
   c) Chicken cholera d) BCG

2) Staphylococci shows _____ Structure.
   a) banana b) pomegranate
   c) grape d) apple

3) Which of the following type of media would not be used to culture aerobe?
   a) selective media b) reducing media
   c) differential media d) enrichment media

4) Which is the indirect method used for measurement of cell mass _____.
   a) plate count technique b) breed method
   c) dry weight method d) turbidometric method

5) Liquid nitrogen is used for preservation of microbial cultures of tissues are called as _____.
   a) freeze drying b) cryopreservation
   c) cold storage d) thawning

6) What type of microscopy is usually necessary to observe viruses?
   a) dark b) compound
   c) phase contrast d) electorn

7) Gram negative bacteria commonly classified and identified by _____.
   a) Urease test b) Catalase test
   c) Oxidase test d) IMVIC test

8) Best method of sterilizing disposable syringes are _____.
   a) Hot air oven b) UV rays
   c) Gamma Rays d) Boiling in water

9) Medical fungi mainly belongs to _____.
   a) Zygomycetes b) Ascomycetes
   c) Deuteromycetes d) Basidiomycetes

10) Chorio allantoic membrane is used for harvesting _____.
   a) Yellow fever b) Rickettsiae
   c) Rabis d) Herpes simplex

11) In Rideal Walker test the strain used is _____.
   a) Escherichia Coli b) Salmonella Typhi
   c) Clostridium tetani d) Streptococcus pyogenes

12) Pseudohyphae is formed by _____.
   a) moulds b) yeasts
   c) mushrooms d) slime molds

13) Paraffin oil can be sterilized by _____.
   a) hot air oven b) autoclaving
   c) filtration d) disinfection

14) This technique is only used for isolation or purification of cultures _____.
   a) pour plate b) spread plate
   c) streak plate d) all of the above

15) Most important surface active disinfectant are _____.
   a) anionic b) cationic
   c) Non-ionic d) Amphoteric

Q.2 Answer any Five. **25**

a) Give the contributions of Louise Pasteur to Microbiology.
b) Discuss Humoral Immunity.
c) Write a note on bacterial transduction.
d) Discuss clinical significance of *rickettssia*.
e) Discuss applied branches of microbiology.
f) Define the terms- antiseptic, D Value, Z value, Attenuation, sanitization.

Q.3 Answer any Three. **30**

a) Enlist and describe various biochemical tests, explain in detail (IMVIC reactions) for identification of bacteria.
b) Define sterilization, Classify and explain methods of sterilization. Write Kesley-Sykes test for evaluation of disinfectants.
c) Write a note on viral multiplication with lytic growth cycle.
d) Write applications of fungi. Explain characteristics and uses of Penicillium with diagram.

SLR-FK-21

Seat No.	

Set P

B. Pharmacy (Semester - IV) (CBCS) Examination Nov/Dec-2019
ORGANIC CHEMISTRY – III

Day & Date: Tuesday, 03-12-2019 Max. Marks: 70
Time: 02:00 PM To 05:00 PM

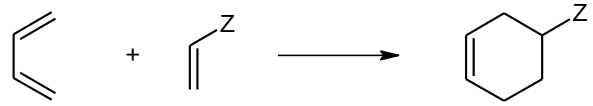
Instructions: 1) All Questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 15

1) Fries rearrangement leads to products with substitution at _____ position.
   a) Ortho b) Para
   c) Both ortho and para d) Meta

2) In Z-butene, dipole moment is _____ compared to its isomer.
   a) Higher b) Lower
   c) Equal d) Not related

3) Identify the reaction type:



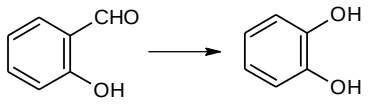
   a) Pyrolysis b) Electrocyclic
   c) Cycloaddition d) Sigmatropic

4) *Elimination Unimolecular* reaction is _____.
   a) Stereospecific b) Stereoselective
   c) Regioselective d) None

5) *Anti-clinal* orientation of groups in a molecule means _____.
   a) $+120° - +180°$opposite side
   b) $-30 - +30°$same side
   c) $+30° - +90°$same side
   d) $\pm 150°$ opposite side

6) Anti-Markovnikov's addition is seen with _____addition reaction.
   a) Hydration b) Halogenation
   c) Hydrogenation d) Hydroboration-Oxidation

7) The conformer of cyclohexane with potential energy 43 kj/mole is _____.
   a) Chair A b) Chair B
   c) Half chair d) True boat

8) 

choose the correct reagent from the following:

   a) H_2O b) H_2O_2, NaOH
   c) KOH d) NaOH

9) If the steric strain in eclipsed conformation of butane molecule is 4 kj/bond, total energy of the molecule is _____ kj/molecule.
   a) 4 b) 8
   c) 12 d) 16

10) Identify the dienophile from the following _____.
   a) $-CH_3$ b) $CH_2=CH_2$
   c) $-NH_2$ d) -OH

11) Temperature favorable for preparing ortho derivatives in Fries rearrangement _____ ^oC.
   a) 100 b) 50
   c) 75 d) 25

12) A reaction yields a mixture of two enantiomers. Optical activity of one isomer is $+20^o$. If the measured optical activity of the mixture is $+10^o$, the ratio of isomers is _____.
   a) 30 % b) 25%
   c) 50% d) 75%

13) Most unstable conformer has_____ orientation.
   a) Gauche b) Staggered
   c) Eclipsed d) Anti

14) In Cyclohexane with t-Butyl group in axial position the ratio of Cyclohexane $_{Equatorial}$ /Cyclohexane $_{Axial}$ is _____.
   a) >99 b) <95
   c) 1 d) 0

15) _____differentiates enantiomers from conformers.
   a) Orientation b) Rotation around σ bond
   c) Connectivity d) Rigidity

Q.2 Answer any five of the following questions. 25

a) Explain S_N1 reaction with an example and mechanism.
b) How do you assign configuration by CIP method for enantiomers? Explain.
c) What are rearrangement reactions? Explain any nucleophilic rearrangement reactions with examples.
d) What is pyrolysis? Explain any one chemical reaction of this type with an example.
e) What are pericyclic reactions? Give one example and use for each of sigmatropic and electrocyclic reactions.
f) Write an example for: Enantiomer, Geometrical isomer, conformer, racemic mixture.

Q.3 Answer any three of the following questions. 30

a) 1) Describe the conformational analysis of Butane. What are the applications of conformational analysis?
   2) Define, classify isomerism with examples for each type.
b) Explain *Bayer-Villiger* and *Schmidt* rearrangement reactions. Include conditions, criteria and applications.
c) Write a brief note on stereochemistry of
   1) S_N2 reaction
   2) E2 reaction
d) Describe:
   1) Cycloaddition reaction
   2) Determination of configuration of geometrical isomers

SLR-FK-22

Seat No.	

Set P

B. Pharmacy (Semester – IV) (CBCS) Examination Nov/Dec-2019
PHARMACEUTICAL ANALYSIS – II

Day & Date: Thursday, 19-12-2019 Max. Marks: 70
Time: 02:00 PM To 05:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options. **15**

1) To increase the selectivity of EDTA titrations _____ can be done.
   a) Adjustment of pH b) Use of masking agent
   c) Use of precipitating agent d) All of these

2) Digestion is not done for _____ ppt.
   a) curdy b) gelatinous
   c) Both A & B d) None

3) No _____ sieve is used for in oxygen flask combustion.
   a) 8 b) 16
   c) 36 d) 40

4) _____ is aprotic solvent.
   a) Formic acid b) Picric acid
   c) Toluene d) Pyridine

5) Ion cluster becomes nucleus when they reach _____.
   a) To precipitation b) Critical size
   c) Increased temperature d) Decreased temperature

6) End point determination can be done in nitrite titrations by _____.
   a) Use of no indicator b) External indicator
   c) Use of internal indicator d) None of these

7) Hydrogen peroxide is used in absorbing solution for estimation of _____.
   a) Sulphur b) Bromine
   c) Both a & b d) Chlorine

8) Sulphaphenazole is assayed by _____ type of titration.
   a) Non aqueous b) Complexometric
   c) Nitrite d) Acid base

9) Potassium cyanide is used for masking of _____.
   a) Zn^{++} b) Cu^{++}
   c) Cd^{++} d) All of these

10) The standardization of KFR can be done with _____.
   a) Sodium tartarate b) Tartaric acid
   c) Succinic acid d) Sodium succinate

11) The diffusive samplers work on principle of _____ of diffusion.
   a) Fick's first law b) Newton's first law
   c) Karl Fischer's law d) None of these

12) _____ used as a primary standard in standardization of perchloric acid.
   a) Ascorbic acid b) NaOH
   c) PHT d) Oxalic acid

13) Assay of Nor-Floxacin is _____ titration.
   a) Aqueous b) Non-aqueous
   c) Complexometric d) Nitrite

14) For murexide _____ pH is maintained.
   a) 2 b) 3-4
   c) 6-7 d) 10-11

15 ELISA is used for testing of blood for _____ contamination.
   a) HIV b) HIV 2
   c) Both a & b d) None

Q.2 Answer any five of the following questions. **25**

a) Define Sampling, Gross Sample, Increment, Masking & Masking Agent.
b) Why precipitation is important in gravimetry?
c) Give the difference between RIA & ELISA.
d) Give the preparation & standardization of 0.05 M EDTA with its principle behind it.
e) Explain in detail assay of Mebendazole.
f) Explain in detail Kjeldahl's method.

Q.3 Answer any three of the following questions. **30**

a) Explain in detail sampling of liquid.
b) How the moisture content in a sample can be determined?
c) Explain Oxygen Flask Combustion Method.
d) How the end point is detected in Complexometric titrations.

SLR-FK-23

Seat No.		Set	P

B. Pharmacy (Semester – IV) (CBCS) Examination Nov/Dec-2019
PATHOPHYSIOLOGY & CLINICAL BIOCHEMISTRY – II

Day & Date: Friday, 20-12-2019 Max. Marks: 70
Time: 02:00 PM To 05:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options. **15**

1) Which of the following is/are the cause(s) of Myocardial infarction?
   a) Emphysema b) Fatty liver
   c) Pancreatitis d) None of the above

2) The third stage of lobar pneumonia is _____.
   a) Grey hepatisation b) Red Hepatisation
   c) Resolution d) Congestion

3) Progressive cerebral ataxia is the clinical feature of _____.
   a) Parkinson's disease b) Epilepsy
   c) Alzheimer's disease d) Depression

4) The group protein on HIV responsible for selective tropism to CD4+ molecule is _____.
   a) gp 120 b) gp4 1
   c) RT d) CCR

5) Which of the following is the principal action of Insulin?
   a) Increased lipolysis b) Increased glycogenesis
   c) Increased gluconeogenesis d) Decreased protein synthesis

6) Which of the following hypersensitivity reaction is also known as Anaphylaxis?
   a) Type I b) Type II
   c) Type III d) Type IV

7) Thyroid function test includes _____.
   a) Determination of calcitonin b) Determination of thyrolobulin
   c) Determination of T_3 d) All of the above

8) Which of the following is not a liver function test?
   a) Inulin clearance test b) Glucose tolerance test
   c) Serum bilirubin d) SGOT estimation

9) The Laboratory tests useful in diagnosis of Myasthenia Gravis are _____ & _____.
   a) Forward Arm Abduction Time & Tension Test
   b) X-Ray & Endoscopy
   c) Biopsy and EEG
   d) CBC and Urine Culture

10) The parameter which can describe the blood sugar level over a period of 3 months is _____.
   a) Post-prandial sugar b) Fasting sugar
   c) HbA1C d) Random sugar

11) Tonic Clonic seizures are also known as in _____.
   a) Grand mal epilepsy b) Petit mal epilepsy
   c) Psychomotor epilepsy d) Jacksonian epilepsy

12) Which of the following type Angina pectoris is also known as 'pre-infarction angina'?
   a) Crescendo b) Typical
   c) Stable d) Prinzmetal's

13) Pathogenesis of bronchial asthma involves development of _____.
   a) Airway damage b) Deficiency of α-1 antitrypsin
   c) Ciliary paralysis d IgE- sensitized mast cells

14) Which of the following factor(s) can aggravate the condition of Coronary Atherosclerosis?
   a) Smoking b) Poor diet
   c) Sedentary lifestyle d) All of the above

15 Which of the following is involved in pathogenesis of Rheumatoid Arthritis?
   a) Rheumatoid factor b) Adhesion molecule
   c) Cytokines d) All of the above

Q.2 Answer any four of the following questions. **25**

a) Enlist various Renal function tests.
b) Explain the pathophysiology of Rheumatoid arthritis.
c) Write a note on pathological changes in Alzheimer's disease.
d) Explain with the help of examples- Significance of enzymes in clinical biochemistry.
e) Write a note on process and consequences of coronary atherosclerosis.
f) Describe the pathophysiology of AIDS.

Q.3 Answer the following questions. **30**

a) Describe the types and pathogenesis of congestive heart failure.
b) Give a detailed account of types, etiology and pathogenesis of Epilepsy.
c) Write a note on etiology and clinical manifestations of hyperthyroidism and hypothyroidism.
d) Describe the etiopathogenesis and clinical manifestations of COPD.

SLR-FK-24

Seat No.	

Set P

B. Pharmacy (Semester-V) (New) (CBCS) Examination Nov/Dec-2019
MEDICINAL CHEMISTRY - II

Day & Date: Wednesday, 04-12-2019 Max. Marks: 75
Time: 10:00 AM To 01:00 PM

Instructions: 1) Figures to the right indicate full marks.
2) All Questions are compulsory.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 20

1) The residue in DNA that exists predominantly as keto tautomer _____.
   a) Guanine b) Adenine
   c) Cytosine d) Thymidine

2) After release, Histamine produce _____.
   a) Hypotension b) Odema
   c) Bronchi constriction d) All of above

3) Rabiprazole is _____.
   a) Gastric acid inhibitor b) Proton pump inhibitor
   c) Mast cell stabilizer d) H 1 receptor antagonist

4) Antineoplastic antibiotic acts by _____.
   a) Intercalation b) Alkylation
   c) Strand breakage d) All of above

5) Mostly calcium channel blocker act by inhibiting influx of calcium ion through _____.
   a) P-type calcium channel b) T-type calcium channel
   c) L-type calcium channel d) N-type calcium channel

6) The selective B-adrenergic blockers are _____.
   a) Atenolol b) Metoprolol
   c) Betaxolol d) All of above

7) The antihypertensive drugs inhibit the ACE are _____.
   a) Analepril b) Captopril
   c) Ramipril d) All of above

8) Histamine is _____.
   a) 1,2,4 -imidazoyl ethylamine b) 2,4- imidazoyl ethylamine
   c) 2,2,4- imidazoyl ethylamine d) 3,4- imidazoyl ethylamine

9) Is the SAR of nitrogen mustard halogen other than Cl _____.
   a) Decrease the activity b) Increase the activity
   c) Both A and B d) None of above

10) Which of the following is dihydropyridine derivative _____.
   a) Nicorandil b) Nimodipine
   c) Felodipine d) Both b and c

11) Verapamil blocks the _____.
   a) Ca+ channel b) K+ channel
   c) Na+ channel d) None of above

12) The second generation dihydropyridine drug are _____.
   a) Amilodipine b) Isradipine
   c) Nicardipine d) All of above

13) Choose the correct drugs having lactone ring _____.
   a) Lovastatin b) Simvastatin
   c) Fluvastatin d) All of above

14) Identify the drug which comes under the category of coumarins oral anticoagulants _____.
   a) Warfarin b) Nicoumalone
   c) Phenprocouman d) All of above

15) Which of the following drugs in inhibitor of Na+ K+ ATPase?
   a) Digoxin b) Nesiritide
   c) Bosentan d) Terosentan

16) Ring D in steroidal skeleton is known as _____.
   a) Cyclopentane b) Cyclobutane
   c) Cyclopropane d) Cyclohexane

17) Nitric oxide play significant role in _____.
   a) Vasodilatation
   b) Erectile function
   c) Enhancement flow of blood in corpus cavernosum
   d) All of above

18) Most potent mineralocorticoids is _____.
   a) Aldosterone b) DOCA
   c) Fludrocortisone d) Triamcelone

19) TSH consist _____ amino acid.
   a) 310 b) 210
   c) 410 d) 510

20) Type I diabetics is also known as _____,
   a) Insulin dependent diabetes mellitus
   b) Non-insuline dependent diabetes mellitus
   c) Juvenile onset diabetes mellitus
   d) a & c both

Q.2 Answer any seven of the following questions. **35**

a) Write SAR of H_2 receptor antagonist.
b) Give mechanism of action of alkylating agent.
c) Write SAR of testosterone.
d) Highlights ideal properties of local anaesthetics.
e) Write the synthesis of Diisopyramid and furosemide.
f) Write a note on:
   1) Statin
   2) Fibrates
g) What are anticoagulants? Classify with e.g. write a note on injectable anticoagulants.
h) Write a note on cardiac glycoside used in CHF.
i) What are oral contraceptives?

Q.3 Answer of the following questions. **20**

a) Write synthesis and uses of:
1) Tripolidine
2) Methotrexate
3) Warafarin

b) What are anti-neoplastic agents with eg. explain MOA of antimetabolites.

c) Write a note on
1) carbonic anhydrase inhibitors
2) Potassium sparing diurectics

SLR-FK-25

Seat No.	

Set P

B. Pharmacy (Semester - V) (New) (CBCS) Examination Nov/Dec-2019
INDUSTRIAL PHARMACY - I

Day & Date: Friday, 06-12-2019 Max. Marks: 75
Time: 10:00 AM To 01:00 PM

Instructions: 1) Figures to the right indicate full marks.
2) All questions are compulsory.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 20

1) Which of the following is not added to chewable tablet?
   a) Glidant b) Lubricant
   c) Disintegrating agent d) Antiadherant

2) A hypertonic injection can cause _____.
   a) Shrinking of blood cells b) Haemolysis
   c) Fever d) All of the above

3) Durability of tablets to combined effect of shock and abrasion is evaluated by _____.
   a) Hardness tester b) Friabilator
   c) Disintegration test d) Screw gauge

4) Addition of which the following to a large volume parenteral product is not advised?
   a) Active ingredient b) Preservatives
   c) Buffering agents d) Tonicity adjusters

5) Angle of repose is directly proportional to _____.
   a) Horizontal plane b) Bulk density
   c) Coefficient of friction d) Weight of powder

6) Which one of the following is used as isotonicity adjuster?
   a) Dextrose b) Boric acid
   c) Sodium chloride d) All of the above

7) If the car's index of powder is 10% then the type of powder flow is _____.
   a) Poor b) Excellent
   c) Very poor d) Good

8) Vanishing cream is _____ type of emulsion.
   a) Water in oil b) Oil in water
   c) Oil in water in oil d) None of the above

9) Iron content in gelatin solution should not be more than _____.
   a) 1 ppm b) 5 ppm
   c) 10 ppm d) 15 ppm

10) _____ is not component of the aerosol system.
   a) Propellant b) Dip tube
   c) Actuator d) Paddle

11) Which type of packaging system has direct contact of product with packaging material?
   a) Primary Package b) Secondary Package
   c) Tertiary Package d) All of the above

12) _____ container fitted with a device that reveals irreversibly whether the container has been opened.
a) Tightly-closed b) Tamper-evident
c) Well-closed d) None of these

13) Solvent present in crystal lattice of drug molecule is water then it is known as _____.
a) Solvates b) Hydrates
c) Clathrates d) Molecular adduct

14) Determination of particle size is done by _____.
a) Microscopic method b) Seiving method
c) Coulter- Counter method d) All of the above

15) Slugs are prepared in which kind of granulation techniques?
a) Wet granulation b) Dry granulation
c) Stem granulation d) Melt granulation

16) Sub-coating is given to tablets _____.
a) To increase the bulk b) To avoid deterioration
c) To decrease solubility d) To avoid stickiness

17) Enteric coated tablet is disintegrated in _____.
a) Stomach b) Mouth
c) Intestine d) Esophagus

18) Bloom strength is used to check the quality of _____.
a) Lactose b) Ampoules
c) Hardness of tablets d) Gelatin

19) Non gelatin capsules made from _____.
a) Starch b) HPMC
c) Pullulan d) All of the above

20) Method used for finishing the capsules _____.
a) Pan polishing b) Cloth dusting
c) Brushing d) All of the above

Q.2 Answer the long answers. (Any Two) **20**

a) What is pre-formulation? Briefly discuss any eight pre-formulation parameters.
b) Explain excipients used in the manufacture of parenterals giving their functions and examples.
c) Explain method of preparation of cold cream and vanishing cream.

Q.3 Short Answers. (Any Seven) **35**

a) What is polymorphism? Add a note on polymorphism of drugs.
b) Highlight the weight variation test for uncoated tablets as per I.P.
c) Give the difference between flocculated and deflocculated suspensions.
d) Discuss steps involved in the production of hard gelatin capsules.
e) Define pellets and discuss pelletization techniques.
f) Add a note on pyrogen test.
g) Explain the formulation of eye drops.
h) Write any two methods of filling of pharmaceutical aerosols.
i) Explain powdered glass test.

SLR-FK-26

Seat No.	

Set P

B. Pharmacy (Semester - V) (New) (CBCS) Examination Nov/Dec-2019
PHARMACOLOGY -II

Day & Date: Monday,09-12-2019 Max. Marks: 75
Time: 10:00 AM To 01:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Assume suitable data if necessary.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 20

1) Which of the following is an Angiotensin Receptor Blocker?
   a) Losartan b) Telemisartan
   c) Valsartan d) All of these

2) Half Life of glyceryl trinitrate is _____.
   a) 40 min b) 2 min
   c) 6 4 - 6 hours d) 60 hours

3) The specific antibodies used for improvement in survival of digitalis intoxicated patient in digitals poisoning is _____.
   a) Digibind b) Digicap
   c) Digiplas d) None of the above

4) Example of potassium channel opener is _____.
   a) Benidipine b) Oxyphedrine
   c) Nicorandil d) Ranolazine

5) Which of the following is not adverse effect of statins?
   a) Rise in serum transaminases b) Muscle tenderness
   c) Teratogenicity d) Sleep disturbances

6) Identify rich source of iron from the following _____.
   a) Milk b) Liver
   c) Banana d) Root vegetables

7) A thrombolytic prepared by recombinant DNA technology is _____.
   a) Urokinase b) Streptokinase
   c) Alteplase d) Metaplase

8) High ceiling diuretics acts by one of the following mechanism _____.
   a) Inhibition of Na+, C1- symport
   b) Inhibition of Na+, K+, 2 C1- Cotransport
   c) Inhibition of epithelial Na channel
   d) Inhibition of carbonic anhydrase enzyme

9) Which of the following is a non-selective COX inhibitor?
   a) Aspirin b) Nimesulide
   c) Meloxicam d) Celecoxib

10) Paracetamol is not recommended in premature infants because it may produces _____.
   a) Hepatotoxicity b) Nephrotoxicity
   c) Retinotoxicity d) Cardiotoxicity

11) Which form of Vitamin K is obtained from plant source and which is fat soluble?
a) Phytonadione b) Menadione
c) Acetomenaphthone d) Disprodione

12) Allopurinol inhibits which of the following enyme?
a) Carbonic anhydrase b) Xanthene Synthatase
c) Xanthene oxidase d) Methyl transferase

13) The Lente insulin is a _____ combination of Ultralente and Semilente Insulin.
a) 1 : 1 b) 10 : 6
c) 5 : 2 d) 7 : 3

14) Plasma $t_{1/2}$ of calcitonin hormone is _____.
a) 5 min b) 60 min
c) 30 min d) 10 min

15) Which of the following drug will inhibit peripheral conversion of T4 to T3
a) Thiocynates b) Propylthiouracil
c) Carbimazole d) Methimazole

16) Parathormone receptor is which type of receptor?
a) G protein coupled b) Enzyme linked
c) Tyrosin kinase d) Ion channel

17) Which cells of testes secretes gonadal hormone testosterone?
a) Sertoli cells b) Spermatogenic cells
c) Leydig cells d) F cells

18) Which of the following drug used as emergency contraceptive?
a) Mifepristone b) Levormeloxifene
c) Ethinylestradiol d) All of above

19) Another name/s for graded response bioassays is/are _____.
a) Indirect Bioassay b) Comparitive Bioassay
c) Both a & b d) None of all

20) All or None Bioassays are also called _____
a) Graded Bioassays b) Quantal Bioassays
c) Both a) and b) d) None of these

Q.2 Attempt any two of the following question. **20**

a) Write an entire pharmacological account of digital is including mechanism of action, adverse effects, interactions, contraindications and uses.

b) Explain in detail pharmacology of drug Insulin.

c) Give detail pharmacology of Aspirin includes mode of action and adverse effects contra-indications, uses and limitations.

Q.3 Attempt any seven. **35**

a) Classify antihypertensive drugs with appropriate examples and add a note on ACE inhibitors as antihypertensive.

b) Give the mechanism of action, adverse effects and therapeutic uses of heparin.

c) Classify diuretics with suitable examples and write about the uses of high ceiling diuretics.

d) Define and classify NSAID’s derivatives.

e) Enlist the classes of drugs which are used as Antigout drugs and explain mechanism of action of colchicine derivative.
f) Explain steps involved in Synthesis, storage & secretion of thyroid hormone along with uses of thyroid hormone.
g) Write a note on uterine stimulants.
h) What are Bioassays? Describe types and enlist methods of bioassay.
i) Give an account of oral contraceptives.

SLR-FK-27

Seat No.	

Set P

B. Pharmacy (Semester-V) (New) (CBCS) Examination Nov/Dec-2019
PHARMACOGNOSY AND PHYTOCHEMISTRY -II

Day & Date: Wednesday, 11-12-2019 Max. Marks: 75
Time: 10:00 AM To 01:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 20

1) Murexide test is used for the confirmation of _____ alkaloids.
   a) Pyrimidine b) Tropane
   c) Purine d) Indole

2) _____ belongs to Burseraceae family.
   a) Benzoin & Myrrh b) Colophony & Guggul
   c) Asafoetida & Guggul d) Myrrh & Guggul

3) _____ shows positive reaction with combined Umbelliferone test.
   a) Myrrh b) Colophony
   c) Asafoetida d) Benzoin

4) Sinigrin from mustard is type of _____ glycosides.
   a) –C- b) –O-
   c) –S- d) -N-

5) D-Iinalool is an active constituent of _____.
   a) Dill b) Clove
   c) Mentha d) Coriander

6) Harvesting of Cinnamon is done in _____ season.
   a) Summer b) Early Summer
   c) Winter d) Rainy

7) Anthracene glycosides shows positive reaction with _____ test.
   a) Raymond's b) Vitalis
   c) Borntrager's d) Baljet

8) _____ is a Sesquiterpenoid class.
   a) Taxus b) Artemisin
   c) Dioscorea d) Digitalis

9) Chemically, glycyrrhitinic acid is _____ saponins.
   a) Monoterpenoid b) Diterpenoid
   c) Triterpenoid d) Sesquiterpenoid

10) _____ reagent is used for the detection of Podophyllotoxin by TLC method.
   a) 50% H_2SO_4 b) Dragendroff's
   c) Kidde's d) Million's

11) Citral is obtained from _____ oil.
   a) Peppermint b) Lemongrass
   c) Clove d) Tulsi

12) Highest percentage of Artemisinin is found in _____ of *Artemisia annua.*
   a) Seeds b) Fruits
   c) Leaves d) Rhizomes

13) All of the following are anti-cancers agents except _____.
   a) Vincristine b) Podophyllotoxin
   c) Taxol d) Diosgenin

14) Shinoda test is used for the confirmation of _____.
   a) Citral b) Menthol
   c) Artemisin d) Rutin

15) Which of the following is precursor for biosynthesis of Atropine?
   a) L-Ornithine b) Tryptophan
   c) Tyrosine d) Cholesterol

16) An alkaloid which contains Isoquinoline ring system is _____.
   a) Papaverin b) Quinine
   c) Cinchonine d) Strychnine

17) In Column chromatography, the stationary phase is _____ and the mobile phase is _____.
   a) Solid, Liquid b) Liquid, Liquid
   c) Liquid, Gas d) Solid, Gas

18) Electrophoresis was developed by _____.
   a) Tswette b) Tsvedberg
   c) Tiselius d) Sanger

19) The agents that increases or stimulates menstrual flow are called _____.
   a) Emmenagogue b) Elletogogue
   c) Aphrodisiac d) Mentenagogue

20) _____ is a liquid alkaloid with volatile in nature.
   a) Hyoscine b) Nicotine
   c) Pilocarpine d) Emetin

Q.2 Answer any two of the following questions. **20**

a) What are Resins? Classify with suitable examples. Write a note on *Commiphora species.*

b) Discuss Isolation. Identification, Analysis and Uses of Reserpine.

c) Write source, active constituent and uses of any one crude drug of the following classes: -
   1) Cynogenetic Glycosides
   2) Diterpenoids.
   3) Isoquinoline Alkaloid
   4) Pathological Resin
   5) Aldehyde Volatile oil

Q.3 Answer any seven of the following questions. **35**

a) Explain Stas Otto Process used for the Isolation and Extraction of Alkaloids.

b) Write Industrial applications of Tannins and Volatile oils with examples.

c) Write Source, chemical constituents and uses of:
   1) Lady's Glove
   2) Sonamukhi

d) Write general chemical tests used for the detection of Alkaloids.

e) Write a note on Mevalonic acid pathway producing Steroids and Terpenes.

f) How do you isolate Paclitaxel from Taxus? Write their Identification tests.

g) How do you isolate Glycyrrhetinic acid from *Glycyrrhiza glabra* by extraction process? Write their Uses.

h) Write Industrial production and utilization of Sennosides.

i) Write the applications of Chromatography and spectroscopy in the isolation, identification and Purification of Phytoconstituents.

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Seat No.	

Set P

B. Pharmacy (Semester - V) (New) (CBCS) Examination Nov/Dec-2019
PHARMACEUTICAL JURISPRUDENCE

Day & Date: Friday, 13-12-2019 Max. Marks: 75
Time: 10:00 AM To 01:00 PM

Instructions: 1) All Questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the option and rewrite the sentence. 20

1) The committee that advices the DTAB and various govt. are _____.
   a) DCC b) DEC
   c) CCUM d) PCI

2) Biological and biological products belongs to schedule _____.
   a) E b) D
   c) H d) C

3) Spurious drugs meaning which are _____.
   a) Imitations b) Substitutes
   c) Resemble other drugs d) All of the above

4) An undertaking is given in form no. _____ for import of Schedule C, C1 and X drugs.
   a) 9 b) 8
   c) 7 d) 5

5) Life period of drugs is dealt in _____.
   a) Schedule Q b) Schedule R
   c) Schedule P d) Schedule T

6) The chairman of DTAB is _____.
   a) Drug Controller of India b) President PCI
   c) Union Health Minister d) Director General Health Services

7) The central Drug Laboratory is established at _____.
   a) Kolkata b) Lucknow
   c) Mumbai d) Kasauli

8) _____ class of drugs is prohibited to be sold in India as per the D and C Act, 1940.
   a) Misbranded b) Spurious
   c) Adulterated d) All of the above

9) License for the retail sale of schedule X drugs is given in form _____.
   a) 20 b) 20F
   c) 21 d) 22

10) List of drug which can be marketed under generic names only is given in schedule.
   a) X b) W
   c) O d) T

11) Right to Information Act, 2005 come into force as a whole on?
   a) 21 June 2005 b) 31 Dec 2005
   c) 12 Oct 2005 d) 15 June 2005

12) List of ailments and diseases that a drug should not claim to cure is given in _____.
a) Schedule L b) Schedule J
c) Schedule C d) Schedule H

13) Example of schedule X drug is _____.
a) Ciprofloxacin b) Emetine
c) Quinidine d) Diazepam

14) Drug Inspector is appointed by central or state government under Section ___.
a) 19 b) 20
c) 21 d) 22

15) The term of copyright for an author lasts how long?
a) The life of the author
b) The life of the author plus 50 years
c) 95 years
d) 75 years

16) Which of the following is an intellectual property as per IPR Laws in India?
a) Original literary work b) Industrial Design of Maruti800 car
c) Trademark of Tata Company d) All the above

17) Standards for mechanical contraceptive are given in a schedule _____.
a) S b) R
c) Q d) T

18) The requirements with which the premises licensed for the manufacture of drugs should conform, are mentioned in _____.
a) Schedule H b) Schedule M
c) Schedule O d) Schedule P

19) Information is defined under which section of Right to Information Act, 2005?
a) Section 2 (c) b) Section 2 (e)
c) Section 2 (a) d) Section 2 (f)

20) The term “WIPO” stands for _____.
a) World Investment policy organization
b) World intellectual property organization
c) Wildlife Investigation and Policing organization
d) World institute for Prevention of organized crime

Q.2 Answer any two of the following questions. 20

a) Define Manufacture. Explain the conditions that are to be fulfilled for obtaining a license to manufacture of drugs other than schedule C, C1 and X.

b) Write the qualification, duties and powers of drug inspector. Explain in brief inspection procedure.

c) Give objectives of Pharmacy Act. Write constitution and functions of Pharmacy Council of India.

Q.3 Answer any seven of the following questions. 35

a) Discuss the classes of drugs that are prohibited to be imported as per the D and C Act.

b) Give the circumstances under which pregnancy can be terminated.

c) Give constitution and functions of CPCSEA.

d) Define Intellectual property. Give in brief provisions of copyright act.

e) Write the constitution and functions of Drugs Technical Advisory Board.

f) Highlight the objectives of drugs and magic remedies (Objectionable advertisements) Act. Define the terms advertisement and magic remedies as per the Act.

g) Define Registered pharmacist. Give qualification for entry on first register of pharmacist.

h) Give an account of Pharmaceutical legislation in India.

i) Enlist offences and related penalties under Narcotic drugs and Psychotropic substance Act.

SLR-FK-29

Seat No.	

Set P

B. Pharmacy (Semester – V) (CBCS) Examination Nov/Dec-2019
PHARMACEUTICS - III

Day & Date: Wednesday, 04-12-2019 Max. Marks: 70
Time: 10:00 AM To 01:00 PM

Instructions: 1) All Questions are compulsory.
2) Assume suitable data if required.
3) Figures to right indicate maximum marks.

MCQ/Objective Type Questions

Duration: 30 Minutes Marks: 15

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 15

1) Hardness of tablet depends on _____.
   a) Weight of filled granules b) distance between two punches
   c) Compression force d) All of these

2) Bloom defect of tablet coating is also called as _____.
   a) Hazing b) Dull
   c) Bumpy d) Both a & b

3) If internal stress in film exceeds tensile strength of film, it result into _____ defect.
   a) Cracking b) Bridging
   c) Orange peel d) None

4) In case of spray drying, Which of the following condition is true?
   a) Aqueous solution/ Hot air b) Hot melt/ cold air
   c) Hot melt only d) Cold air only

5) Which of the following is enteric material?
   a) CAP b) PVAP
   c) All d) HPMCP

6) Rotor pellet coating is also called as _____ spray coating.
   a) Bottom b) Tangential
   c) Top d) All

7) Amount of hygroscopicity of drug compounds are cheked by _____ analytical method.
   a) TGA b) Karl-fisher titration
   c) GC d) All

8) _____ % difference allowed for weight variation tolerance for more than 324 mg weight of tablet.
   a) 5 b) 10
   c) None d) 7.5

9) Which of the following analytical method used to characterize solid drug compound?
   a) XRD b) DSC
   c) IR d) All

10) Example of superdisintegrant _____.
   a) Starch b) Cross-Povidone
   c) Clays d) Alginate

11) After drying _____ is next step in production of empty hard gelatin capsules.
   a) Stripping b) Trimming
   c) Joining d) Spining

12) Wurster pellet coating is also called as _____ spray coating.
   a) Bottom b) Tangential
   c) Top d) All of these

13) Spheronization is which type of microencapsulation method?
   a) Physical b) Chemical
   c) Both a & b c) Micro

14) Which of following method is used for formulation of soft gelatin capsules?
   a) Plate b) Rotary Die
   c) Both a & b d) Wurster

15) In disintegration test, basket move with frequency of _____ cycles/minute.
   a) 25-30 b) 28-32
   c) 27-30 d) 30-32

Q.2 Solve any five. **25**

a) Write the applications of granulation. Explain in brief mechanism of granulation.
b) Define Layout Design. Enlist its types. Draw any one of it.
c) Comment on “Phase Separation Coacervation Technique”.
d) Explain production method of empty “Hard gelatin capsules”.
e) Write the defects of tablet compression and remedies on it.
f) Describe in detail about Spray drying and Spray Congealing method.

Q.3 Solve any three. **30**

a) What is mean by Preformulation? Explain in detail principal areas of Preformulation.
b) Enlist types of Capsules and write in detail about IPQC test of Capsule.
c) Define Tablet coating & classify types of coating. Add a note on Sugar coating in detail
d) How to evaluate prepared microencapsulated products? Write in detail.

SLR-FK-3

Seat No.	

Set P

B. Pharmacy (Semester-I) (CBCS) Examination Nov/Dec-2019
PHARMACEUTICS-I

Day & Date: Monday, 09-12-2019 Max. Marks: 75
Time:10:00 AM To 01:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 20

1) Which tablets are used Orally?
   a) Buccal b) Sublingual
   c) Lozenges d) All of the above

2) Which one is hydro alcoholic preparation?
   a) Syrup b) Suspension
   c) Emulsion d) Elixir

3) What is the category of Piperazine citrate elixir?
   a) Astringent b) Antihistemic
   c) Anthalmentic d) Antipyretic

4) First Edition of I.P was Published in _____.
   a) 1955 b) 1966
   c) 1965 d) 1950

5) Antipruritic agnent means _____.
   a) Avoid itching b) Avoid Sweating
   c) Kill worms d) None of the above

6) Which is unit dosage form?
   a) Tablet b) Dusting powder
   c) Dentifrice d) All of the above

7) The dosage form is introduced in body cavity _____.
   a) Caplet b) Insufflations
   c) Syrup d) All of the above

8) The agent which Precipitate protein molecule _____.
   a) Laxative b) Insufflations
   c) Astringents d) Humectants

9) What is the alternative name of Cresol with soap solution?
   a) Lysol b) Lugols
   c) Milk of Magnesia d) Humectants

10) Liquid dosage form _____.
   a) Syrup b) Emulsion
   c) Suspension d) All of the above

11) What is the % of sucrose in Simple syrup USP?
   a) 85 % W/V b) 66.67 % W/V
   c) 85 % W/W d) 66.67 W/W

12) The symbol written before the prescription _____.
a) X b) Rx
c) R d) x

13) Usually - considered as normal weight of adult patient _____.
a) 60 Kg b) 70 kg
c) 80 kg d) 85 kg

14) One drop is equivalent to _____ ml.
a) 0.06 b) 0.6
c) 1 d) 1.6

15) In O/W emulsion oil is _____ phase and water is _____ phase.
a) Dispersed, Continuous b) Continuous, Dispersed
c) Dispersed, Dispersed d) Continuous, Continuous

16) _____ topical drug used to soften the skin.
a) Expectorant b) Counter-irritant
c) Emollient d) None of the above

17) All the following are internal used liquid except.
a) Syrup b) Elixir
c) Linctus d) Liniment

18) Is this phenomenon in which dispersed phase separates out from a layer on top of the continuous phase _____.
a) Cracking b) Creaming
c) Sedimentation d) All of the above

19) Sodium Sulphate Effervescent granule category _____.
a) Anthalmentic b) Antacid
c) Anti-itching d) None of the above

20) Subscription include _____.
a) Direction to pharmacist b) Direction to patient
c) Name of medicament d) None of the above

Q.2 Solve any Two. **20**

a) Define displacement value and explain different methods of preparation of suppositories.
b) Define term pharmaceutical incompatibility and discus physical, chemical and therapeutic incompatibility.
c) Define dosage form, classify dosage form and write needs of dosage form.

Q.3 Solve any Seven. **35**

a) Give in brief information on Extra Pharmacopoeia.
b) Explain different parts of prescription.
c) Disuses Aligation method with suitable example.
d) Give preparation of dusting powder and effervescent powder.
e) Define suspension, give brief not on flocculated suspension.
f) Define Lotion and liniment give short note on liniment and lotion.
g) Explain different identification test of Emulsion.
h) Define posology and explain factors affecting on posology.
i) Write note on British Pharmacopoeia.

SLR-FK-30

Seat No.	

Set P

B. Pharmacy (Semester-V) (CBCS) Examination Nov/Dec-2019
BIOPHARMACEUTICS

Day & Date: Friday, 06-12-2019 Max. Marks: 70
Time:10:00 AM To 01:00 PM

Instructions: 1) Figures to the right indicate full marks.
2) All Questions are compulsory.

Q.1 Fill in the blank by choosing correct alternative give below. **15**

1) Pharmacokinetic process involves _____.
   a) Absorption b) Disposition
   c) Excretion d) All of the above

2) Absorption is not found in _____ routes of administration.
   a) Intravenous b) Intramuscular
   c) Oral d) Subcutaneous

3) Endocytosis is also called as _____.
   a) Corpuscular b) Vesicular
   c) Ion transport d) Both a) & b)

4) The term bioavailability refers to amount of drug that reaches to _____.
   a) Small intestine b) Stomach
   c) Liver d) Systemic circulation

5) The core of cell membrane is _____.
   a) Hydrophilic b) Amphiphilic
   c) Lipophilic d) None of the above

6) Excretion of drug by _____ is called as renal excretion.
   a) Lungs b) Kidney
   c) Liver d) Intestine

7) Causes of non linear Pharmacokinetics are_____.
   a) Absorption b) Distribution
   c) Both a) & b) d) None of the above

8) _____ is highly perfused organ.
   a) Brain b) muscle
   c) bone d) teeth

9) Diazepam binding site of Albumin is known as _____.
   a) Site I b) Site II
   c) Site III c) Site IV

10) Each kidney comprises of _____ of nephron.
   a) 1 Hundred b) 1 Thousand
   c) 1 Million d) 1 Billion

11) _____ Parameter considered to be important for determination of bioavailability.
   a) C_{max} b) T_{max}
   c) AUC d) All of the above

12) The unit of AUC is _____.
   a) cm^2 b) mg/cm^2
   c) mcg/ml/hr d) cm^2/hr

13) Which of the following is not a pharmacokinetic parameter?
   a) C_{max} b) T_{max}
   c) AUC d) Therapeutic range

14) T_{max} is considered as indication of _____.
   a) Rate of absorption b) Rate of distribution
   c) Rate of metabolism d) Rate of excretion

15) Method of residual is also known as _____.
   a) Feathering b) Peeling
   c) Stripping d) All of the above

Q.2 Answer any five of the following questions: **25**

a) Define the terms Biopharmaceutics, Absorption, Distribution, Elimination & Clinical Pharmacokinetic.
b) What is mean by Dissolution? Explain any one theory of drug dissolution.
c) Write a note on Volume of Distribution.
d) Define Elimination. Enlist factors affecting Elimination & explain Biological factors.
e) Draw a typical time vs plasma drug concentration profile of drug after oral administration.
f) Explain methods of measurement of Bioavailability.

Q.3 Answer any three of the following questions: **30**

a) What is drug distribution? Explain physiological barriers in drug distribution.
b) Enlist various compartment models. Explain one compartment open model I.V bolus dosing.
c) Enlist various factors affecting on absorption. Explain physicochemical factors.
d) Discuss causes of Non-linearity in ADME. Explain Michaelis Menten equation.

SLR-FK-31

Seat No.	

Set P

B. Pharmacy (Semester-V) (CBCS) Examination Nov/Dec-2019
Medicinal Chemistry - I

Day & Date: Monday, 09-12-2019 Max. Marks: 70
Time: 10:00 AM To 01:00 PM

Instructions: 1) Figures to the right indicate full marks.
2) All questions are compulsory.

Q.1 Fill in the blanks by choosing correct alternatives given below. **15**

1) _____ is not concerned with phase I reaction.
   a) Oxidation b) Conjugation
   c) Reduction d) Hydrolysis

2) One of the following belongs to Biguanides class _____.
   a) Phenformin b) Tolbutamide
   c) Glibenclamide d) Acarbose

3) The parameter changes in bioisosteric replacements _____.
   a) Molecular size b) Bond angle
   c) Steric shape d) All of the above

4) Amoebic infection is caused by an organism _____.
   a) M. Uberculi b) M. Laprae
   c) Entamoeba hystolytica d) None of above

5) Niclosamide is used in the treatment of _____.
   a) Cestode disease b) Nematode disease
   c) Trematode disease d) All of the above

6) One of the following drug is B-lactam antibiotic _____.
   a) Lincomycin b) Doxycycline
   c) Demeclocycline d) Cloxaciline

7) For nonvolatile drug according to ferguson principle relative super saturation is**_____.**
   a) St/so b) Pt/po
   c) So/st d) None of these

8) _____ is the third generation cephalosporin
   a) Cefotoxim b) Cefaclor
   c) Cefoxitin d) None of these

9) Praziquantel shows MOA by ____ to worm.
   a) Stop ATP production b) Paralysis
   c) Stop egg formation d) None of these

10) Synonym of mebendazole is _____.
   a) Antimenth b) Vermox
   c) Pyrentel d) Mentazole

11) _____ used in luminal amoebicides.
   a) Diloxanide faroate b) Emetine
   c) Digitalis d) Aspirin

12) The heterocyclic ring is present in thiabendazole is _____.
   a) Benthiazale b) Thiazole
   c) Benzimidazole d) Furan

13) _____ is starting material for the synthesis of Toibutamide.
   a) Anilline b) Sulphanilamide
   c) Toluene d) Methyl aniline

14) In acidic medium Penicillin degrades to _____.
   a) Penillic acid b) Penicilloic acid
   c) Penicillinase d) None of these

15) One of the following drug is belongs to Carbonic Anhydrase Inhibitors class _____.
   a) Spironlactone b) Mannitol
   c) Methazolamide d) Xipamide

Q.2 Answer any five of the following questions: **25**

a) What happen when Penicillin undergo degradation.
b) Write a note on Biguanides as a oral hypoglycemic agent.
c) Discuss in brief of Loop diuretics.
d) Draw the structure & chemical name of Tinidazole , Lucanthone, Parental pamoate.
e) Discuss in details of hydrogen binding & solubility.
f) Write a note on Azole derivatives as a antiamoebic agent.

Q.3 Answer any three of the following questions: **30**

a) Discuss conversion of Tetracycline to.
   1) 4-epitetracyclin by epimerization
   2) Anhydrotetracyclin
   3) Isotetracyclin
   4) Chelate comp.Give MOA of Tetracycline
b) What is Metabolism? Write in detail Phase II reaction.
c) Write the synthesis and uses of Chlorpropamide, Furosemide & Niclosamide.
d) Discuss forces involved in drug receptor interaction.

SLR-FK-32

Seat No.	

Set P

B. Pharmacy (Semester-V) (CBCS) Examination Nov/Dec-2019
PHARMACEUTICAL ANALYSIS – III

Day & Date: Wednesday, 11-12-2019 Max. Marks: 70
Time: 10:00 AM To 01:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 15

1) Which of the following is fluorescent substance?
   a) Indole b) Quinine
   c) Riboflavin d) All of the above

2) Absorption of radiation by ground state atoms forms the basis of _____.
   a) AAS b) FES
   c) Fluorescence spectroscopy d) None of the above

3) "R" band in UV-VIS Spectroscopy is observed due to _____.
   a) Aromatic system b) Conjugated system
   c) Hetero aromatic system d) Extended conjugation

4) Unit of Specific absorbance is _____.
   a) $dl.gm^{-1}.cm^{-1}$ b) gm.dl.cm
   c) $gm.ml^{-1}.cm$ d) none of the above

5) Electromagnetic radiation in the wavelength range 0.4 um to 0.8 um is _____.
   a) Ultra violet b) I.R.
   c) X – ray d) Visible

6) What will be the concentration of paracetamol solution if absorbance at a pathlength of 2 cm is 0.543, when specific absorbance is 715 at 257 nm?
   a) 0.00075 gm/100ml b) 0.0003797 gm/ml
   c) 0.00075 gm/ml d) 0.0003797 gm/100ml

7) Radiation source used in Visible region is _____.
   a) Tungsten filament lamp b) Deuterium discharge lamp
   c) Hollow cathode lamp d) All of the above

8) Luminescence is the term applied to _____.
   a) Absorbed radiation
   b) Emission of previously absorbed radiation
   c) Excitation radiation
   d) Transmitted radiation

9) The process of converting metallic salt solution into small droplets is called as _____.
   a) Evaporation b) Nebulisation
   c) Condensation d) Dissociation

10) Quartz can be used as material for construction of sample holder in _____ region.
   a) Ultra violet b) Visible
   c) Both a and b d) None of above

11) Increase in intensity of absorption is called as _____.
   a) Hypsochromic shift b) Hypochromic shift
   c) Bathochromic shift d) Hyperchromic shift

12) Example of fluorescent behavior can be found in _____ state.
   a) Gaseous b) Solid
   c) Liquid d) All

13) _____ is a non radiative deactivation process.
   a) Fluorescence b) Phosphorescence
   c) Vibrational relaxation d) All of the above

14) _____ is not a component of flame photometer.
   a) Source b) Detector
   c) Atomizer d) Filter

15) Which of the following is not a property of EMR?
   a) has wave property
   b) has particle property
   c) has electric and magnetic component
   d) require medium for propagation

Q.2 Answer any five. **25**

a) Write a note on non flame atomizers used in AAS.
b) Give wave properties of EMR.
c) Explain in detail Fluorimetric reagents and Fluorimetric indicators.
d) Give ideal properties of radiation sources and construction and working of Deuterium discharge lamp.
e) Discuss in detail Principle and applications of FES.
f) Write a note on Use of standard absorptivity value.

Q.3 Answer any three. **30**

a) Explain in detail optimum conditions for spectrophotometric measurement.
b) Write in detail factors influencing flame emission intensity. Give construction and working of Laminar flow burner.
c) Describe in detail emissive and non emissive deactivation processes in fluorescence spectroscopy with spectrum.
d) Give construction, working, advantages and disadvantages of
   1) Tungsten filament lamp
   2) Hollow cathode lamp
   3) Photomultiplier tube
   4) Barrier layer cell

SLR-FK-33

Seat No.	

Set P

B. Pharmacy (Semester - V) (CBCS) Examination Nov/Dec-2019
PHARMACOLOGY – I

Day & Date: Friday, 13-12-2019 Max. Marks: 70
Time: 10:00 AM To 01:00 PM

Instructions: 1) All Questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 15

1) Which route of drug administration shows rapid onset of action and 100% bioavailability?
   a) Oral b) Sublingual
   c) Intravenous d) Topical

2) Therapeutic index (TI) is: _____.
   a) A ratio used to evaluate the safety and usefulness of a drug for indication
   b) A ratio used to evaluate the effectiveness of a drug
   c) A ratio used to evaluate the bioavailability of a drug
   d) A ratio used to evaluate the elimination of a drug

3) The mechanism of d-tubocurarine action is: _____.
   a) Competitive ganglion blockade
   b) Competitive muscarinic blockade
   c) Competitive neuromuscular blockade
   d) Noncompetitive neuromuscular blockade

4) The fall in blood pressure caused by d-tubocurarine due to _____.
   a) Reduced venous return b) Ganglionic blockade
   c) Histamine release d) All of the above

5) Adrenaline is co-administered with the injections of local anaesthetics because _____.
   a) It prolongs the action of local anaesthetics
   b) It reduces the risk of convulsions
   c) It does not allow the lowering of BP
   d) Local anaesthetics are dangerous to be administered alone

6) Which β -blocker has additional α -blocker activity?
   a) Propronalol b) Labetalol
   c) Sotalol d) Atenalol

7) Patients complain of dry or “sandy” eyes when receiving large doses of _____.
   a) Atropine b) Hexamethonium
   c) Pilocarpine d) Carbachol

8) Beta1 receptor stimulation includes all of the following effects EXCEPT:
   a) Increase in contractility
   b) Bronchodilation
   c) Tachycardia
   d) Increase in conduction velocity in the atrioventricular node

9) Terbutaline has a preference for stimulation of which of the following receptors?
   a) Alpha b) Gamma
   c) Beta 1 d) Beta 2

10) Identify the receptor which demonstrate the fastest onset of response, when stimulated?
   a) Nuclear receptor b) Ionotropic receptor
   c) GPC receptor d) Insulin receptor

11) Select the drug that will aggravate bronchial asthma _____.
   a) Propronalol b) Morphine
   c) Amphetamine d) Terbutaline

12) The major neurotransmitter released at end of the sympathetic nerve ending is _____.
   a) Epinephrine b) Norepeneprine
   c) Acetylcholine d) Dopamine

13) The highest constriction of 5-HT _____.
   a) Intestine b) Kindney
   c) Brain d) Platelets

14) Which type of cell histamine mostly present?
   a) Eosinophil b) Basophile
   c) Mast cell d) Cytokines

15) The following diseases are treated by antihistaminic _____.
   a) Acute anaphylaxis b) Minier's disease
   c) Morning sickness d) All of the above

Q.2 Answer any five of the following. **25**

a) Give clinical classification of adrenergic drugs with examples.
b) Write in brief about dose response relationship.
c) Enlist various routes of drug administration in a classified manner. Give the advantages and disadvantages intravenous routes.
d) Write classification of Ganglionic blockers and Ganglionic stimulants.
e) Discuss in brief the pharmacology of d-tubocurarine.
f) Brief neurohumoral transmission at sympathetic postganglionic nerve endings.

Q.3 Answer any three of the following. **30**

a) Discuss in detail the drug toxicity in man. Give suitable examples.
b) Classify cholinesterase inhibitors with examples. Discuss symptomatology and treatment of irreversible anticholinesterase poisoning.
c) Write in brief the chemistry, biosynthesis and degradation of prostaglandins. Add a note on their pharmacological actions and pathophysiological role of Prostaglandins.
d) Classify the Hl anti-histaminics with suitable examples. Write the Pharmacological actions and adverse effects and uses of H1 anti-histaminic.

SLR-FK-34

Seat No.	

Set P

B. Pharmacy (Semester – V) (CBCS) Examination Nov/Dec-2019
BIOTECHNOLOGY

Day & Date: Tuesday, 17-12-2019 Max. Marks: 70
Time: 10:00 AM To 01:00 PM

Instructions: 1) All questions are compulsory.
2) Figure indicates full marks.

Q.1 Choose the correct alternatives from the options. **15**

1) _____ is first cloned animal.
   a) Sheep b) Dog
   c) Cat d) Cow

2) _____ proposes microbes that causes fermentation.
   a) Franklin b) Fleming
   c) Pasteur d) Raus

3) Streptomycin is discovered by _____.
   a) Pasteur b) Selman Waksman
   c) Mendel d) Milstein

4) Dextran is polysaccharide which constitute large quality of _____.
   a) Glucose & Fructose b) Fructose & Mannose
   c) Glucose & Mannose d) Glucose & Sucrose

5) Today, penicillin is produced from _____.
   a) *Penicillium notatum* b) *Penicillium chrysogenum*
   c) *Penicillium griseofulvum* d) All of above

6) The most suitable pH for production of Streptomycin is _____.
   a) 5 to 6 b) 6 to 7
   c) 7 to 8 d) 8 to 9

7) Plants in natural conditions are _____.
   a) Autotropic b) Phototropic
   c) Exotropic d) None of above

8) Which of the following growth harmone is responsible for shoot formation?
   a) Abscisic acid b) Gibberlin
   c) Indole acetic acid d) Kinetin

9) _____ is commonly used as a solidifying agent for preparation of culture media.
   a) Glucose b) Lactose
   c) Starch d) Agar

10) cDNA stands for _____.
   a) Complementary DNA b) Chromosomal DNA
   c) Copy DNA d) Cohesive DNA

11) Insulin is made up of _____ Amino acid.
   a) 119 b) 51
   c) 86 d) 35

12) PCR stands for _____.
   a) Polymer change reaction b) Polyclonal chain reagent
   c) Polymerase chain reaction d) All of above

13) In genetic engineering, Plasmid is used as _____.
   a) Linker b) Vectors
   c) Adaptor d) None of the above

14) In Monoclonal antibodies production, hybriboma cells are screened using _____ medium.
   a) HAT b) DMEM
   c) MEM d) All of the above

15) Rituximab is a monoclonal antibody used in the treatment of _____.
   a) Autoimmune diseases b) Cancer
   c) AIDS d) Diabetis

Q.2 Answer any five of the following questions. **25**

a) Define Biotechnology. Describe scope of biotechnology related to pharmaceutical industry.
b) Explain in brief fermentation monitoring.
c) Define trypsinization. Discuss different techniques of trypsinization.
d) Enlist various plant tissue culture techniques. Write a note on Callus culture.
e) Write applications of Monoclonal antibodies.
f) Describe restriction endonucleases in genetic engineering.

Q.3 Answer any three of the following questions. **30**

a) Explain the production of penicillin by considering following points-
   1) Strains Used
   2) Inoculum Development
   3) Fermentation Process
   4) Recovery and Purification of Penicillin
   5) Pharmaceutical Applications
b) Discuss production of insulin by R- DNA technology.
c) What do you mean by germplasm conservation? Explain various methods of germplasm conservation with their merits and demerits. Write applications of germplasm conservation.
d) Enlist different gene transfer techniques. Explain any two gene transfer techniques with their merits and demerits.

SLR-FK-35

Seat No.	

Set P

B. Pharmacy (Semester - VI) (CBCS) Examination Nov/Dec-2019
PHARMACEUTICS - IV

Day & Date: Wednesday, 04-12-2019 Max. Marks: 70
Time: 02:00 PM To 05:00 PM

Instructions: 1) Figures to the right indicate full marks.
2) All Questions are compulsory.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 15

1) Transappendegeal penetration meaning _____.
   a) Penetration via hair follicles and sweat glands
   b) Penetration across the cells
   c) Penetration between the cells
   d) Penetration through corneocytes

2) Which of the following ointment base permit the incorporation of very little quantity of aqueous solutions?
   a) Absorption bases b) Oleaginous bases
   c) Water removable bases d) Water soluble bases

3) Selection of appropriate ointment base depends upon _____.
   a) Drug release rate b) Stability of drug
   c) Area of application d) All of the above

4) Cold cream is ____.
   a) O/W type emulsion b) W/O type emulsion
   c) Lotion type preparation d) Ointment

5) Tube extrudability evaluation test is preformed for _____.
   a) Jellies b) Cold cream
   c) Vanishing cream d) Paste

6) Oleaginous bases are also known as ____.
   a) Hydrocarbon bases b) Emulsion bases
   c) Water washable bases d) Water soluble bases

7) Vanishing cream is _____ type of emulsion.
   a) o/w b) w/o
   c) Both (a) and (b) d) o/w/o

8) _____ is used as humectants in the paste.
   a) Glycerin b) Propylene glycol
   c) Sorbitol d) All of the above

9) Vanishing cream upon application to the skin leaving behind _____.
   a) Thin film b) Thick film
   c) Impermeable layer d) Occlusive layer

10) Primary emulsion ratio for emulsion containing fixed oil is _____.
   a) 4:2:1 b) 4:4:1
   c) 4:3:1 d) 2:2:1

11) _____ filling method used for most pharmaceutical aerosol.
   a) Pressure b) Cold
   c) Both a & b d) Hand

12) Mascara is applied to which part of the body?
   a) Eyelids b) Eye brow
   c) Eye lashes d) All of the above

13) Cascade impactor is useful for the determination _____ of aerosols.
   a) Particle size b) Spray pattern
   c) Pressure c) Flash point

14) The rate creaming in emulsion is explained by _____.
   a) Dalton's law b) Rault's law
   b) Stoke's law d) Grahm's law

15) Pectin is obtained from ____.
   a) Citrus fruits b) Banana
   c) Plant exudates d) Sea weeds

Q.2 Answer any five **25**

1) Write formulation and evaluation of paste.
2) Add a note on propellants used in aerosols.
3) Write principle and method of preparation of cold cream.
4) Define gels. Classify gelling agents with examples.
5) Write formulation and evaluation tests for lipstick.
6) Give any five evaluation tests for creams.

Q.3 Answer any three. **30**

1) Discuss in detail stability of emulsion.
2) Give detailed account on quality control tests for aerosols.
3) Highlight the factors affecting absorption drugs across the skin.
4) Discuss the various ointment bases used for preparation of ointments.

SLR-FK-36

Seat No.	

Set P

B. Pharmacy (Semester - VI) (CBCS) Examination Nov/Dec-2019
PHARMACOGNOSY – II

Day & Date: Friday, 06-12-2019 Max. Marks: 70
Time: 02:00 PM To 05:00 PM

Instructions: 1) Figures to the right indicate full marks.
2) All questions are compulsory.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 15

1) Stomatal index of the following crude drugs can be determined except _____.
   a) Senna b) Podophyllum
   c) Tobacco d) Digitalis

2) Identify the fiber obtained from mineral source.
   a) Asbestos b) Terylene
   c) Glass d) Asbestos & Glass

3) All of the following are fixed oils except _____.
   a) Ground Nut oil b) Sunflower oil
   c) Cinnamon oil d) Castor oil

4) Basic ring present in the nicotine is _____.
   a) Purine b) Pyrimindine
   c) Furan d) Pyridine

5) The biochemical pathway from phosphoenol pyruvic acid to tyrosine is commonly called _____.
   a) Calvin Pathway b) Acetate Pathway
   c) Shikimic Acid Pathway d) Glycolate Pathway

6) Choose the molecular formula of Menthol _____.
   a) $C_{10}H_{20}O$ b) $C_{10}H_{18}O$
   c) $C_{10}H_{16}O$ d) $C_{10}H_{15}O$

7) _____ is an example of Pentasaccharide.
   a) Raffinose b) Gentionose
   c) Threose d) Verbascose

8) Kasturi belongs to _____ family.
   a) Apocynaceae b) Solanaceae
   c) Cervidae d) Euphorbiaceae

9) When aqueous solution of _____ is treated with hydrogen peroxide and benzidine in alcohol produces blue colour.
   a) Pale Catechue b) Agar
   c) Acacia d) Black Catechu

10) _____ can be saponified due to presence of fatty acids.
   a) Clove oil b) Cassia oil
   c) Castor oil d) Mentha oil

11) Pungent taste of ginger is due to _____.
   a) Gingiral b) Gingerol
   c) Citral d) Borneol

12) Calvin cycle occurs in _____.
   a) Cytoplasm b) Peroxisome
   c) Chloroplast d) Mitochondria

13) _____ belongs to family Berberidaceae.
   a) Turmeric b) Benzoin
   c) Podophyllum d) Cotton

14) Tannic acid and Gallic acid are used in the preparation of _____.
   a) Blue Black Ink b) Printing Ink
   c) Marketing Ink d) Red Ink

15) Fennel contains _____ type of stomata.
   a) Paracytic b) Dicytic
   c) Anisocytic d) Anomocytic

Q.2 Answer any five of the following questions. **25**

a) What are resins? Write source, chemical constituents and uses of any one crude drug having Narcotic action.
b) Enlist leaf constants. Write a note on Stomatal Index.
c) How does Indian Gum differentiated from Vegetable Gelatin?
d) Write source, active constituents and uses of Flea Seed and Ricinus oil.
e) Write general chemical tests used for the detection of Tannins.
f) Add a note on any one crude drug belonging to Malvaceae family.

Q.3 Answer any Three of the following questions. **30**

a) Define Tannins. Write their industrial uses. Write Pharmacognostic scheme of Black catechu.
b) How does volatile oils differentiated from fixed oils? Add a note on Mentha.
c) Discuss Shikimic acid Pathway.
d) Write biological source and uses of crude drugs of the following classes.
   1) Containing Arabin as chief constituent
   2) Containing Azadirachtin as chief constituent
   3) Containing Myristic Acid as chief constituent
   4) Containing Cinnamic Aldehyde as chief constituent
   5) Containing Fenchone as chief constituent

SLR-FK-37

Seat No.	

Set P

B. Pharmacy (Semester - VI) (CBCS) Examination Nov/Dec-2019
MEDICINAL CHEMISTRY – II

Day & Date: Monday, 09-12-2019 Max. Marks: 70
Time:02:00 PM To 05:00 PM

Instructions: 1) All questions are compulsory
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 15

1) _____ is used as quinoline antibacterial agent.
   a) Amantidine b) Sulphacetamide
   c) Ciprofloxacine d) Primaquine

2) Which drug is contain imidazole as a antifungal _____.
   a) Ketoconazole b) Flucanazole
   c) Itracanazole d) All of above

3) Zudovudine triphosphate competitively inhibit _____.
   a) Reverse transcriptase inhibitors
   b) Ligase
   c) Transferase
   d) Protein synthesis

4) The short acting sulphonamides is _____.
   a) Sulphadimethoxine b) Sulphamethoxypyridazone
   c) Sulphamethizole d) Sulphasalazine

5) Mechanism of action of Tenofovir _____.
   a) Uncoating inhibitors
   b) Adsorption inhibitor
   c) Reverse transcriptase inhibitor
   d) Protease inhibitors

6) Which drug is 8-aminoquinoline derivative _____.
   a) Chloroquine b) Primaquine
   c) Quinqcrine d) Mefloquine

7) Isoniazide inhibits _____.
   a) Xanthine oxidase b) Mycolase synthase
   c) GABA d) Choline esterase

8) _____ aminoglycoside used in treatment of tuberculosis.
   a) Ethambutol b) Steptomycin
   c) Isoniazide d) Pyrazinamide

9) _____ anti-metabolite used as anti-neoplastic agent.
   a) Mitomycine C b) Vincristine
   c) Methotrexate d) Bleomycine

10) Identify the most preferred drug which is used in leprosy _____.
   a) Aspirin b) Paracetamol
   c) Mebendazole d) Dapsone

11) _____ ring is present in Sulphamoxol.
   a) Pipieridine b) Oxazole
   c) Pyrimidine d) Pyrolle

12) _____ drug inihibits DNA gyrase enzyme.
   a) Sulphomoxal b) Ethionamide
   c) Sparfloxacine d) Quinacrine

13) One of the following drug is an alkylating agent _____.
   a) Allopurinol b) Cyclophosphamide
   c) Methotrexate d) Busulphan

14) Identify the starting material used for synthesis of PASA _____.
   a) o-nitriphenol b) p- nitriphenol
   c) m- nitriphenol d) None of these

15) Nalidixic acid acts as bactericidal by inhibition of _____.
   a) Xanthine oxidase b) Folate Synthatase
   c) ACE d) DNA gyrase

Q.2 Answer any five of the following questions. **25**

a) Outline the synthesis of Amantididne & Clotrimazole.
b) Discuss in detail of life cycle of malaria.
c) What is DOT therapy?
d) Draw the structure & MOA of Ketoconazole & Griseofulvin.
e) Write MOA & SAR of Sparfloxaine.
f) Write SAR of sulphonamides, Draw structure of any two eg.

Q.3 Answer any three of the following questions. **30**

a) Outline the synthesis and uses of chloroquine & PASA.
b) Write note on viral replication and Define and classify antiviral agent with e.g.
c) Classify anti-neoplastic agent giving suitable e. g. – explain MOA of anti-metabolites.
d) Give account of malarial life cycle. Explain how various drugs are action of it.

SLR-FK-38

Seat No.	

Set P

B. Pharmacy (Semester-VI) (CBCS) Examination Nov/Dec-2019
PHARMACEUTICAL ANALYSIS-IV

Day & Date: Wednesday, 11-12-2019 Max. Marks: 70
Time: 02:00 PM To 05:00 PM

Instructions: 1) All Questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 15

1) Bending vibration includes all of the following except _____.
   a) Stretching b) Twisting
   c) Rocking d) Torsional vibration

2) C-H stretching absorption for alkenes ranges from _____.
   a) 2962-2853 cm^{-1} b) 3040-3010 cm^{-1}
   c) 3095-3075 cm^{-1} d) 3020-3115 cm^{-1}

3) The reference electrode in potentiometric titration is _____.
   a) Noble metal electrode b) Dropping mercury electrode
   c) Satrated calomel electrode d) Platinum electrode

4) The unit of specific conductance is _____.
   a) $ohms^{-1}$ b) ohms cm^{-1}
   c) mhos d) mhos.cm

5) The length of capillary in DME is _____.
   a) 2-5cm b) 5-10cm
   c) 5-12cm d) 5-15cm

6) Platinum electrode is used for _____.
   a) Acid-Base titration b) Conductometric titration
   c) Redox titration d) Non-Aqueous titration

7) IR spectra may be obtained for _____.
   a) Solids b) Liquid
   c) Gases d) All of above

8) Standard Potential for Hydrogen electrode is _____.
   a) 0 b) 1
   c) -1 d) 2

9) As degree of dilution increases equivalent conductance _____.
   a) Decreases b) Increases
   c) Remains unaffected d) None of these

10) In DSC which parameter is measured?
   a) Mass b) dm/dt
   c) ΔT d) dH.dt

11) The difference between T_f and T_i is termed as _____.
   a) Reaction interval
   b) Final temperature
   c) Initial temperature
   d) Procedural decomposition temperature

12) According to Duaval which compound is most suitable for preparing standard solution in Thermogravimetry _____.
   a) Ammonium bicarbonate
   b) Ammonium fluoride
   c) Magnesium ammonium chloride
   d) Ascorbic acid

13) The application of IR spectroscopy involves _____.
   a) Qualitative b) Quantitative
   c) Structural d) All

14) The method based on scattering of X-rays by crystals is called as _____.
   a) X-Ray diffraction b) X-Ray absorption
   c) X-Ray fluorescence d) All of above

15) The product of molar mass of liquid and specific refraction is called as _____.
   a) Specific refraction b) Molar refraction
   c) Refractive index d) Specific refractive index

Q.2 Answer any five. **25**

a) What are the requirements for molecule to absorb IR?
b) Define
   1) Ohms Law
   2) Conductance
   3) Specific resistance
   4) Specific conductance
   5) Molecular conductance
c) Give the principle involved in working of Abbeys refractometer.
d) Explain optical Activity. Add a note on optical isomerism.
e) Write a note Normal hydrogen electrode and calomel electrode.
f) Write a note on interaction of X-ray with matter.

Q.3 Answer any three. **30**

a) Explain factors influencing vibrational frequency. Add a note on Finger print region.
b) Explain the different types of conductometric titrations.
c) Explain TG curve. Add a note on factors affecting TG curve.
d) Explain DSC. Give the application involved in Thermal analysis.

SLR-FK-39

Seat No.	

Set P

B. Pharmacy (Semester - VI) (CBCS) Examination Nov/Dec-2019
PHARMACOLOGY-II

Day & Date: Friday,13-12-2019 Max. Marks: 70
Time: 02:00 PM To 05:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 15

1) Prehypertension systolic Blood Pressure (mm of Hg) is _____.
   a) 120 to 139 b) 140 to 159
   c) Less than 120 d) ≥160

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 is _____.
   a) 0.4 to 0.8 mg sublingual b) 5 to 10 mg sublingual
   c) 5 to 15 mg oral d) 20 to 40 mg oral

8) Presence of food in stomach _____ absorption of digoxin as well as digitoxin.
   a) increase b) not affect
   c) not delay 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

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

12) Streptokinase is obtained from _____ Beta hemolytic streptococci.
   a) Group A b) Group B
   c) Group C d) Group D

13) Canrenone is an active metabolite of aldosterone antagonist called _____.
   a) Spironolactone b) Triamterene
   c) Amiloride d) None of these

14) The most important adverse effect of thiazides is _____.
   a) Hypokalaemia b) Hyperuricaemia
   c) Hyperlipidemia d) All of these

15) Treatment and general measures of atropine poisoning includes _____.
   a) gastric lavage b) physostigmine 1-3 mg
   c) artificial respiration d) all of above

Q.2 Solve any FIVE. **25**

a) Define shock. How shock can be corrected.
b) What are the goals of antiulcer therapy? Add mechanism of action of sucralfate.
c) Write a note on warfarin sodium as an oral anticoagulant.
d) Classify diuretics with suitable examples.
e) Write in brief adverse effects and contra indications of digitalis.
f) What are laxatives? Classify them with examples.

Q.3 Solve any THREE **30**

a) Classify antiarrhythmic drugs. Discuss the mechanism of action, uses and adverse effects of quinidine.
b) Describe general principles of treatment of poisoning. Write about symptoms and treatment of arsenic poisoning.
c) Enumerate drugs used in the treatment of asthma with examples. Add a note on corticosteroids as anti-asthmaticus.
d) Write in brief about parenteral iron preparations. Give mechanism of action of clopidogrel and aspirin as antiplatelet drug.

SLR-FK-4

Seat No.	

Set P

B. Pharmacy (Semester-I) (CBCS) Examination Nov/Dec-2019
PHARMACEUTICAL INORGANIC CHEMISTRY

Day & Date: Wednesday, 11-12-2019 Max. Marks: 75
Time: 10:00 AM To 01:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 20

1) PPM is _____.
   a) Parts per million
   b) Pages per minute
   c) Planned preventative maintenance
   d) None of these

2) The first edition of Indian Pharmacopeia was published in _____.
   a) 1875 b) 1844
   c) 1948 d) 1955

3) Which of the following is not a property of base?
   a) Taste bitter b) Turn red litmus to blue
   c) React with salts to form acid d) Fell slippery on the skin

4) Strong ammonium hydroxide is prepared by _____.
   a) Salvay process b) Haber's process
   c) Merck process d) Ammonia soda process

5) Molecular weight of Potassium Chloride _____.
   a) 68.22 b) 71.12
   c) 76.85 d) 74.55

6) Aluminum chloride is used as _____.
   a) Expectorant b) Adsorbent
   c) Antacid d) Astringent

7) Molecular formula of Calcium carbonate _____.
   a) $CaCO_3$ b) $CaCl_2$
   c) $Ca_3(PO_4)_2$ d) None of these

8) Milk of Magnesia is known as _____.
   a) Magnesium carbonate b) Magnesium Hydroxide
   c) Magnesium Oxide d) Both a & b

9) Epsom salt is known as _____.
   a) Magnesium sulphate b) Sodium potassium tartrate
   c) Bentonite d) None of these

10) The substances which kill the microorganism _____.
   a) Bacteriotatics b) Germicides
   c) Disinfectants d) None of these

11) Which organic compound is used as Emetics?
   a) Ammonium chloride b) Potassium antimony tartarte
   c) Potassium iodide d) Potassium citrate

12) Haematinics is used as _____.
   a) UTI b) COPD
   c) Anemia d) None of these

13) Which one of the following is an example of Physiological Antidotes?
   a) Sodium Nitrate b) Sodium thocynate
   c) Activated charcoal d) Copper sulphate

14) Antidotes is used _____.
   a) To counteract the poison b) To enhance the poison
   c) To cause illness d) To produce consciousness

15) Zinc sulphate is prepared by the action of _____ on zinc oxide.
   a) Conc.HCl b) Conc.HNO3
   c) H_2SO_4 d) None of these

16) $\alpha -$ rays are _____.
   a) Positive charged b) Negative charged
   c) Neutral d) None of these

17) Radioactive decay is a reaction of _____.
   a) First order b) Second order
   c) Third order d) Zero order

18) Molecular weight of Barium sulphate _____.
   a) 250.33 b) 233.4
   c) 149.5 d) 190.7

19) Isotopes are having _____.
   a) Same atomic number but different mass number
   b) Same atomic number but same mass number
   c) Atomic number increase
   d) None of these

20) The fluid present between the cell _____.
   a) Intercellular fluid b) Interstitial fluid
   c) Vascular fluid d) None of these

Q.2 Attempt any two. **20**

a) Enlist the sources of impurities. Draw neat labeled diagram of Gutzeit apparatus. Explain the principle of Arsenic limit test.

b) Give the method of preparation, properties and use of,
   1) Iodine
   2) Silver Nitrate
   3) Silver protein
   4) Mercury

c) Describes methods of measurement of radioactivity.

Q.3 Attempt any seven. **35**

a) Explain in detail chemical formula, method of preparation, properties and uses of calcium carbonate & Magnesium oxide.

b) Enlist the theories of acid & bases, explain any two.

c) Define & Classify the cathartic.

d) Define and classify expectorants. Write in detail Ammonium chloride.

e) Write a note on Barium Sulphate.

f) Write Chemical name, preparation and uses of copper sulphate, potassium iodide.

g) Describe in detail Antidotes? Classify the Antidotes.

h) Write a note on sources of impurities?

i) Explain the principle and reaction involved in limit test of iron.

SLR-FK-40

Seat No.		Set	P

B. Pharmacy (Semester – VI) (CBCS) Examination Nov/Dec-2019
CLINICAL PHARMACOLOGY

Day & Date: Tuesday, 17-12-2019 Max. Marks: 70
Time: 02:00 PM To 05:00 PM

Instructions: 1) All questions are compulsory.
2) Figure to the right indicates full marks.

Q.1 Choose the correct alternatives from the options. **15**

1) The study of the action of the drug on body is called as _____.
   a) Pharmacokinetics b) Clinical pharmacology
   c) Pharmacodynamics d) Toxicology

2) Which of the following phenomenon does cause a decreased sensitivity of receptors?
   a) Down-regulation b) Up-regulation
   c) Antagonism d) Synergism

3) The first incidence responsible for the recognition of need of ethics in clinical research was _____.
   a) Thalidomide tragedy b) Bhopal tragedy
   c) German prisoner research trials d) Penicillin discovery

4) Physician induced diseases are also called as _____.
   a) Iatrogenic b) Idiopathic
   c) Inotropic d) Anaphylactic

5) Practice of multiple drug therapy in the management of the disease is referred as _____.
   a) Drug explosion b) Polymorphism
   c) Overdose d) Polypharmacy

6) Which of the following is a long acting β_2 agonist used for bronchial asthma?
   a) Terbutaline b) Adrenaline
   c) Salbutamol d) Salmeterol

7) Capacity of drug to cause foetal abnormalities when administered in pregnancy is termed as _____.
   a) Carcinogenicity b) Mutagenecity
   c) Teratogenecity d) Iatrogenicity

8) Which of the following pharmacokinetic parameters are changed in obese population?
   a) Vd b) Accumulation index
   c) $t_{1/2}$ d) All of the above

9) The drug which shows affinity towards receptor but lacks intrinsic activity is known as _____.
   a) Agonist b) Antagonist
   c) Inverse agonist d) Partial agonist

10) Therapeutic index describes _____ of the drug.
   a) Efficacy b) Safety
   c) Benefit d) Therapeutic use

11) Tetracycline administered along with milk product leads to _____.
   a) Poor absorption b) Poor distribution
   c) Poor metabolism d) Poor excretion

12) The ethical guideline which gave the importance to the informed consent for the first time is _____.
   a) Nuremberg code b) Declaration of Helsinki
   c) Schedule Y d) ICH guidelines

13) The objective of Phase I trials in clinical trials is/are_____.
   a) Initial efficacy b) Initial safety
   c) Pharmacokinetic profile d) All of the above

14) The challenges in geriatric therapy is/are _____.
   a) Poor compliance b) Physiological change
   c) Polypharmacy d) All of the above

15) Calculation of the dosage regimen based on intra-individual variation is called as_____.
   a) Customization b) Therapeutic drug monitoring
   c) Individualization d) Clinical manifestation

Q.2 Answer any five of the following questions. **25**

a) Write a note on scope and importance of Clinical Pharmacology.
b) Describe the consequences of prolonged drug administration.
c) Write a note on different ethical guidelines for clinical research.
d) Define-Adverse Event, Adverse Drug reaction, Side Effect, Intolerance, Idiosyncrasy.
e) Define and classify- Drug Interactions.
f) Write a note on Drug therapy in pregnancy.

Q.3 Answer any three of the following questions. **30**

a) Explain the dosage adjustment in patients with hepatic failure and renal failure with suitable examples.
b) Describe the phases of Clinical Trials in detail.
c) Explain the factors affecting occurrence of drug interactions with suitable examples.
d) Discuss the case study of Bronchial asthma.

Seat No.	

Set **P**

B. Pharmacy (Semester-VII) (CBCS) Examination Nov/Dec-2019
STERILE DOSAGE FORMS

Day & Date: Thursday, 05-12-2019 Max. Marks: 70
Time:10:00 AM To 01:00 PM

Instructions: 1) Figures to the right indicate full marks.
2) All Questions are compulsory.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 15

1) Reduction of micro-organism population by 90% is known as?
   a) D-value b) F- value
   c) Z-value d) None of these

2) NDA is an application for _____.
   a) New drug b) Approved drug
   c) Post market approved drug d) All of these

3) Smoke test is useful for the evaluation of?
   a) HEPA b) Temperature sensitivity
   c) Laminar air flow hoods d) Both a and c

4) Mechanism of moist heat sterilization _____.
   a) Oxidation of proteins
   b) Alkylation of sulfhydryl group
   c) Denaturation of DNA
   d) Denaturation and coagulation of proteins

5) To evaluate the chemical resistance of glass, which of the following test/s is/are conducted?
   a) Powder glass b) Water attack test
   c) Both a and b d) None of these

6) Hypertonic solution leads to the _____.
   a) Shrinkage of RBC's b) Lysis of RBC's
   c) Breaking of RBC's d) All of these

7) In sterility test for an-aerobic bacteria which medium should be used?
   a) Soyabean casein b) Fluid thioglycolate
   c) Both a and b d) None of these

8) Which route preferred for depot injection?
   a) I. M. b) Subcutaneous
   c) I.V. d) None of these

9) Which method is useful for the estimation of isotonicity?
   a) NACL Equivalent method
   b) Freezing point depression method
   c) Both a and b
   d) None of these

10) Bacteriostatic water for injection should be packaged in multiple containers of not more than _____ capacity.
   a) 50 ml b) 70 ml
   c) 30 ml d) 40 ml

11) Single dose parenteral should not contain _____.
   a) Isotonicity modifiers b) Preservative
   c) Anti-Oxidant d) Co-solvent

12) Zeta potential of parenteral suspension is related to _____.
   a) Aggregation of particles b) Viscosity
   c) Syringeability d) Injectability

13) Why some solution are iso-osmotic but not iso-tonic?
   a) Osmotic pressure b) Permeability of cell membrane
   c) Specific gravity d) All of these

14) For dilution of disinfectant which water should be used?
   a) Purified water b) Distilled water
   c) Potable water d) SWFI

15) As per SUPAC guidelines, a change in batch size more than 10 times, which level change?
   a) Level - I b) Level - II
   c) Level - Ill d) None of these

Q.2 Answer any five: **25**

a) What do you mean by clean room?
b) Write a note on HEPA.
c) Discuss various routes of parenteral administration.
d) Discuss adjustment of iso-tonicity with examples.
e) Discuss the challenges in ophthalmic drug delivery system.
f) Discuss glass as a parenteral packaging material.

Q.3 Answer any three: **30**

a) Enlist quality control tests for parenteral and give detail account of sterility testing.
b) Give the objectives of pilot-plant scale-up and discuss scale up considerations for solid dosage forms.
c) Discuss different types of parenteral formulations.
d) Discuss form-fill-seal technique

SLR-FK-42

Seat No.		Set	P

B. Pharmacy (Semester-VII) (CBCS) Examination Nov/Dec-2019
PHARMACEUTICAL JURISPRUDENCE

Day & Date: Saturday, 07-12-2019 Max. Marks: 70
Time: 10:00 AM To 01:00 PM

Instructions: 1) Figures to the right indicate full marks.
2) All Questions are compulsory.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 15

1) Which schedule is related to standard for disinfectant fluids?
   a) O b) U
   c) S d) T

2) If a food article is not labeled in prescribed manner then it is known as _____.
   a) Misbranded food b) Adulterated food
   c) Spurious food d) None of the above

3) _____ is the chairman of central committee for food standard as per the prevention of food adulteration act.
   a) Director general of health services
   b) Chief administrative medical officer of the state
   c) Registered Pharmacist
   d) Assistant drug controller

4) Drug inspector is appointed by central or state government under section _____.
   a) 21 b) 19
   c) 20 d) 22

5) Premises licensed for sale of drugs are inspected at least _____.
   a) Once in a year b) Twice in a year
   c) Thrice in a year d) Every months

6) The D & C ACT was enacted on _____.
   a) 10 March 1948 b) 10 April 1940
   c) June 1948 d) None of above

7) The MAPE in the formula for calculating retail price as per DPCO shall not exceed _____ % in case of category-II formulation.
   a) 90 b) 100
   c) 80 d) 60

8) No license is required for sale of _____ drugs, as per D& C act 1940.
   a) Allopathic b) Ayurvedic
   c) Both a & b d) None of these

9) Government analyst is appointed by central or state government under section _____ of the D&C act 1940.
   a) 19 b) 21
   c) 20 d) 22

10) The first Pharmacy Council of India was constituted by the central government in _____.
a) 1950 b) 1948
c) 1949 d) 1960

11) The district opium officer appoints one of the licensed cultivators as a _____.
a) Officers b) Talathi
c) Lambardar d) None of these

12) Condoms are tested at Indian Pharmacopoeial Laboratory _____.
a) Kolkata b) Lucknow
c) Ghaziabad d) Pune

13) The person incharge of state drug laboratory is _____.
a) Drug controller b) Assistant Drug controller
c) Drug inspector d) Govt.analyst

14) VDRL antigen is to be tested by _____.
a) Govt. analyst b) Drug Controller of India
c) Drug Inspector d) Serologists

15) License for the retail sale of schedule C and C1 drugs is given in form no _____.
a) 18 b) 19
c) 22 d) 21

Q.2 Answer any five. **25**

a) Describe Drug and cosmetics as per Drugs & Cosmetics act 1940.
b) Write the constitution and functions of pharmacy council of India as per D & C Act.
c) Describe the labeling conditions of schedule H specified in the Drugs and Cosmetics Rules.
d) Explain the salient features of Drugs Prices Control Order.
e) Write the constitution of central committee for food standards.
f) Write the brief history of pharmaceutical legislation in India.

Q.3 Answer any three. **30**

a) Highlight the conditions that are to be fulfilled for obtaining a license to manufacture schedule C and C1 drugs as per D& C act 1940.
b) What are the objectives of Drugs Price Control Order? How are the maximum prices of bulk drugs and formulations calculated.
c) Define opium. Discuss various penalties and illicit traffic under NDPS Act.
d) Write the qualification. duties and power of drug inspector appointed under D &C Act 1940.

SLR-FK-43

Seat No.	

Set P

B. Pharmacy (Semester– VII) (CBCS) Examination Nov/Dec-2019
MEDICINAL CHEMISTRY - III

Day & Date: Tuesday,10-12-2019 Max. Marks: 70
Time: 10:00 AM To 01:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 15

1) Testosterone contain _____ carbon in steroidal nucleus.
   a) 18 b) 19
   c) 21 d) 27

2) Imipramin is used as _____ agent.
   a) Narcotic analgesic b) Anti-Convulsant
   c) Tricyclic antidepressant d) NSAID

3) _____ indole acetic acid derivative.
   a) Piroxicam b) Indomethacin
   c) Paracetamol d) None of these

4) Pantoprazole is used as _____.
   a) Anti manic b) Anti depressant
   c) Anti viral d) Proton pump inhibitor

5) _____ antiemetic drug.
   a) Ondensetron b) Mestranol
   c) Lynestrenol d) Dienesterol

6) Barbiturates are derivatives of
   a) Ethanol b) Methanol
   c) Urea d) Propanol

7) Cholestane ring contains _____ carbon.
   a) 26 b) 24
   c) 27 d) 28

8) $\mathrm{Ar-X(CH_2)_n-NRR}$ this formula represents _____.
   a) Antihistamines b) Analgesic
   c) Antispasmodic d) Anti pyretics

9) _____ is opoid antagonist.
   a) Naltrexone b) Naloxone
   c) Nalorphine d) All of these

10) Amphetamine is _____.
   a) Anti inflammatory b) Depressant
   c) Stimulant d) Anti malarial

11) Tricyclic antidepressant system _____ membered rings.
   a) 6, 6, 6 b) 6,6,7
   c) 6, 7, 6 d) Both a & c

12) _____ is β-aminoketone.
   a) Molindone b) Paroxetine
   c) Diazepam d) None of these

13) Some adrenocorticoids referred as Δ-corticoids because of _____.
   a) Saturation of double bond in ring system
   b) Additional of double bond in ring
   c) Absence of double bond in ring A
   d) Absence of double bond in ring system

14) $9\alpha - fluro - 11,16,17\alpha,21$ -tetrahydroxypregna -1, 4-diene-3, 20-dione is ___.
   a) Dexamethasone b) Triamcinolone
   c) Flucinolone d) Betamethasone

15) _____ pyrazolidine derivative.
   a) Paracetamol b) Naproxen
   c) Phenylbutazone d) Probenacid

Q.2 Attempt any five of the following questions. **25**

a) Discuss tricyclic antidepressants.

b) Write a note on morphine antagonists.

c) Give nomenclature and stereochemistry of steroids.

d) Define and classify antihistamine. Draw the structure of diphenhydramine.

e) Give SAR of benzodiazepine as class of hypnotics and sedative.

f) Explain in detail biosynthesis pathway of female sex hormone.

Q.3 Attempt any three of the following questions. **30**

a) Explain in detail development of adrenocorticoids.

b) Give synthesis of
   1) acetaminophen
   2) aspirin
   3) ibuprofen
   4) tripelenamine
   5) chlorpromazine

c) Classify antihistaminic drug and explain development of H_2 antagonistic drugs.

d) Classify anticonvulsant drugs. Discuss SAR and MOA of hydantoin.

SLR-FK-44

Seat No.	

Set P

B. Pharmacy (Semester - VII) (CBCS) Examination Nov/Dec-2019
PHARMACEUTICAL ANALYSIS – V

Day & Date: Thursday, 12-12-2019 Max. Marks: 70
Time: 10:00 AM To 01:00 PM

Instructions: 1) All Questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 15

1) Retention time of sample helps in _____ analysis.
   a) Quantitative b) Qualitative
   c) Semi quantitative d) All of the above

2) Chromatography is used for separation of _____ analyte sample.
   a) Proteins b) Organic compounds
   c) Inorganic compounds d) All of the above

3) In Reverse phase chromatography, stationary phase is _____ & mobile phase is _____.
   a) Polar & Polar b) Non-polar & Non-polar
   c) Non-polar & polar d) Polar & Non-polar

4) Which of the chromatography has negligible role of mobile phase?
   a) Adsorption column chromatography
   b) Gel chromatography
   c) HPLC
   d) Gas Chromatography

5) Which of the following has important applications of ion exchange chromatography?
   a) Preparation of deionised water
   b) Separation of similar ions
   c) Separation of aminoacids
   d) Separation of cations

6) Stationary phase used in gas chromatography is _____.
   a) Poly siloxane b) Poly dimethyl siloxane
   c) Poly ethylene glycol d) Both b & c

7) Separation of cations is done by using _____ exchange resin as stationary phase.
   a) Anion b) Cation
   c) Carbanion d) All of the above

8) _____ is not a stationary phase used in adsorption column chromatography.
   a) Amberlite b) Poly dimethyl siloxane
   c) Silica gel d) Both a & b

9) Mechanism of separation in Paper chromatography, where stationary phase is water and mobile phase is liquid _____.
   a) Partition b) Adsorption
   c) Ion exchange d) All of the above

10) HPLC is used for separation of which of the following non-volatile substances.
   a) Alkaloids
   b) Carbohydrates
   c) Pharmaceutical drugs
   d) All of the above

11) Distribution constant is given by _____ formula.
   a) K=Cs/Cm
   b) K=Cm/Cs
   c) K=Ct/Cm
   d) K=Cm/Ct

12) Which of the following detector used in gas chromatography is non-destructive of sample?
   a) Thermionic
   b) Flame ionization
   c) Thermal conductivity
   d) Photoionization

13) Which of the following is not a detector of HPLC?
   a) Electro chemical
   b) Atomic emission
   c) Refractive index
   d) Evaporative light scattering

14) In chromatography, derivatization of sample is carried out _____.
   a) To allow chromatography of sample
   b) To improve sensitivity of method
   c) To improve resolution of sample
   d) All of the above

15) Visualization of analyte in TLC is done by using _____.
   a) Chemical reagent
   b) Iodine vapors
   c) Methane gas
   d) Both a & b

Q.2 Answer any five of the following questions. **25**

a) Differentiate between TLC & HPTLC.
b) Describe Height Equivalent to Theoretical Plate.
c) Write on ion exchange resins.
d) Write is adsorption column chromatography? Describe stationary phase used in it.
e) Explain with suitable diagram Refractive Index detector used in HPLC.
f) Describe with suitable diagram Electron capture detector of gas chromatography.

Q.3 Answer any three of the following questions. **30**

a) Draw a neat labeled diagram of HPLC. Explain with suitable diagram reciprocating pump and Column of HPLC. Give applications of it.
b) Describe in detail on instrumentation of gas chromatography.
c) What is Size Exclusion Chromatography? Describe operational technique and applications of it.
d) What is paper chromatography? Discuss various papers and different development techniques of Paper chromatography.

SLR-FK-45

Seat No.	

Set P

B. Pharmacy (Semester – VII) (CBCS) Examination Nov/Dec-2019
PHARMACOLOGY- III

Day & Date: Saturday,14-12-2019 Max. Marks: 70
Time: 10:00 AM To 01:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 15

1) _____ folate antagonist is a potent immunosuppressant.
   a) Glucocorticoid b) Methotrexate
   c) Cyclophosphamide d) Tacrolimus

2) Which of the following drug blocks the reuptake of dopamine?
   a) Haloperidol b) Clozapine
   c) Amphetamine d) Diazepam

3) Ethosuximide acts by _____.
   a) By direct blockade of activated sodium channel
   b) By Indirect action of prolongation of inactivated state of Na^{2+} channel
   c) By reducing low threshold T-type Ca^{2+} channel
   d) By direct blockade of activated Na^{+} & Ca^{2+} channel

4) Antithyroid thioamide affects _____.
   a) Active transport of iodine b) Iodination of thyroglobulin
   c) Hormone release d) Hormone action

5) Chlorpromazine like antipsychotics act by _____.
   a) D_2 blockade b) $5\text{-}HT_3$
   c) H_2 blockade d) All of these

6) Delirium is observed at _____ in anaesthesia.
   a) Stage 1 b) Stage 2
   c) Stage 3 d) Stage 4

7) Generally the oral contraceptive pill contains the combination of _____.
   a) Estrogen & Progestin b) Danazol & Testosterone
   c) FSH & LH d) Mifepristone & Progestin

8) Heroin is a _____.
   a) Synthetic narcotic b) Di- acetyl Morphine
   c) Used in therapeutics d) All of the above

9) _____ of the following is a non- steroidal Estrogen.
   a) Diethylstilbestrol b) Ethinylestradiol
   c) Mestranol d) Estradiol

10) _____ of the following corticosteroid is used in the management of tissue graft rejection.
   a) Finasteride b) Triamcenolone
   c) Hydrocortisone d) Beclomethasone

11) Which of the following is a longer acting barbiturate used as anticonvulsant:
   a) Thiopentone b) Methohexitone
   c) Butobarbitone d) Phenobarbitone

12) The drug used in paracetamol poisoning is _____.
   a) Naltrexone b) N-acetyl cystine
   c) Theophylline d) Flumazenil

13) Loss of corneal & laryngeal reflexes observed at _____.
   a) Stage of analgesia b) Stage of delerium
   c) Surgical anaesthesia d) Medullary paralysis

14) The class of drug not acting as Anti- Parkinson's is _____.
   a) Dopamine precursors b) MAO- B Inhibitors
   c) COMT Inhibitors d) SSRI's

15) Strychnine is a potent _____.
   a) Sympathomimetic b) Anticonvulsant
   c) Convulsant d) None of the above

Q.2 Answer any five from the following. **25**

a) What are opioid analegesies? Elaborate mechanism of action, adverse effects and clinical uses of morphine.

b) Why Levodopa is used in a combination with Carbidopa in the management of Parkinson's disease?

c) Classify antifertility drugs. Briefly explain progesterone as an anti – fertility drug.

d) Classify antidepressant drugs with appropriate examples.

e) What is the use of lithium? What are its advantages and disadvantage?

f) Explain briefly the importance of pre-anaesthetic medications.

Q.3 Answer any three form the following. **30**

a) Define immunosuppresants. Classify them with suitable examples. Explain the pharmacology of Tacrolimus.

b) Classify NSAID's in detail with suitable examples. Discuss the pharmacology of Diclofenac.

c) Define anaesthesia. Explain in detail the different stages of general anaesthetics. Elaborate the criteria for desired anaesthetic agent by different point of view and discuss about the complications of use of general anaesthetics.

d) Classify antiepileptic drug with suitable example. Discuss the MOA, ADR, interaction, contraindication & uses of Phenobarbitone.

SLR-FK-46

Seat No.	

Set P

B. Pharmacy (Semester - VII) (CBCS) Examination Nov/Dec-2019
PHARMACOGNOSY-III

Day & Date: Monday,16-12-2019 Max. Marks: 70
Time: 10:00 AM To 01:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options. **15**

1) Ephedrine is _____ alkaloid.
   a) True b) Pseudo
   c) Amino d) None of these

2) Senna ki Patti belong's to _____ family.
   a) Leguminosae b) Solanaceae
   c) Apocyanaceae d) Liliaceae

3) Strychnine alkaloids is obtained from _____ Amino acids.
   a) Tryptophan b) Ornithine
   c) Lysine d) Phenyl alanine

4) Atropine is Identified by _____ test.
   a) Thalaquine b) Brontragers
   c) Murexide d) Vitalis

5) Sarpagandha is used as _____.
   a) Psychiatry b) Sedative
   c) Narcotic d) Astringent

6) Fox glove leaves is synonyms of _____.
   a) Senna b) Vasaka
   c) Datura d) None of these

7) Papain is used in the treatment of _____.
   a) Anti-inflammatory b) Thrombotic disorder
   c) Topical anesthetic d) Febrifuge

8) Identify the drug derived from mandelonitrile in glycoside.
   a) Senna b) Mustard
   c) Aloe d) Almond

9) Bufadienolide contains lactone ring attached at C-17 made of _____ number of carbons.
   a) 4 b) 5
   c) 3 d) 6

10) Papaveraceae family contains _____ as organic acid.
   a) Acetic acid b) Gallic acid
   c) Muconic acid d) Tartaric acid

11) Identify the liquid alkaloid having volatile in nature.
   a) Atropine b) Nicotine
   c) Cocain d) Berberine

12) Cinchona requires an important environmental condition to yield better quality.
   a) Temperature b) Altitude
   c) Soil d) Rainfall

13) Ergot alkaloid under UV light shows _____ fluorescence.
   a) Red b) Green
   c) Blue d) Yellow

14) Identify Ind\ian tobacco is used as respiratory stimulant.
   a) Myrobalen b) Lobelia
   c) Bibhitaki d) Liquorice

15) Orange and lemon peels are good source of _____.
   a) Caffeine b) Tannin
   c) Bioflavone d) Essential oil

Q.2 Answer any five of the following questions. **25**

a) Write the Biosynthetic Pathway of formation of Solanaceae Alkaloids.
b) Discuss cultivation and collection of Opium.
c) What are Anthraquinones? Write about Senna.
d) What are Sweeteners? Explain Liquorice.
e) Write importance of Cardio active drugs from marine source.
f) Write importance of Natural Enzymes with reference to Pharmaceutical industry.

Q.3 Answer any three of the following questions. **30**

a) Discuss Pharmacognostical scheme of Digitalis.
b) What are Bio Flavonoid? Write their importance. Explain Gingko and Green Tea.
c) Explain pharmacognosy of Ergot.
d) Write Constituents and uses of Vasaka, Kalmegh, Mustard and Aloe.

SLR-FK-47

Seat No.	

Set P

B. Pharmacy (Semester - VIII) (CGPA) Examination Nov/Dec-2019
NOVEL DRUG DELIVERY SYSTEM

Day & Date: Thursday, 05-12-2019 Max. Marks: 75
Time: 02:30 PM To 05:30 PM

Instructions: 1) Figures to the right indicate full marks.
2) All Questions are compulsory.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 15

1) Drug release from Ion exchange resin drug complex depends on _____.
   a) PH of environment
   b) electrolyte concentration in GIT
   c) properties of resin
   d) all of the above

2) Subcutaneous tissue is an ideal location for implantation because _____.
   a) poor perfusion
   b) slow drug absorption
   c) low reactivity towards foreign material
   d) all of the above

3) Mucoadhesive polymers bind to _____.
   a) Pectin b) Mucin
   c) Pepsin d) Renin

4) _____ are non-ionic surfactant vesicles.
   a) Liposome b) Niosome
   c) Nanocapsules d) None of above

5) Which model fitting is more suitable to describe the drug release by diffusion _____ mechanism.
   a) First order b) Zero order
   c) Higuchi d) Both a and b

6) Hydrophilic matrices are known as _____ systems.
   a) Swellable b) Non swellable
   c) Insoluble plastic d) All of these

7) _____ are the dosage forms which releases drug specifically in stomach.
   a) Continuous release system b) Pulsatile release system
   c) GRDDS d) None of these

8) Multiple emulsion is also known as _____.
   a) Double emulsion
   b) Complex emulsion
   c) Emulsion with in an emulsion
   d) All of the above

9) In _____ relatively high voltage, but transient pulses produce transient increase in permeability of stratum corneum to effect drug transport through the skin.
   a) Electroporation b) Intophoresis
   c) Sonophoresis d) Phonophresis

10) Soft flexible and hydrophilic contact lenses contain _____.
   a) Polymethyl methacrylate b) Hydroxyethyl methacrylate
   c) Silicone derivative d) None of the above

11) In _____ controlled drug delivery system duration of action can be extended up to a year.
   a) Oral b) Intrauterine
   c) Parenteral d) Both b and c

12) High density drug delivery system are designed to release the drug in _____.
   a) Oral cavity b) Colon
   c) Small intestine d) Stomach

13) _____ delivery of drug which relates to targeting a drug to a specific organ or tissue.
   a) Temporal b) Spatial
   c) Sustained c) All of the above

14) The maintenance dose in an oral CRDDS depends upon _____.
   a) Clearance b) Bioavailability
   b) Plasma concentration d) All of the above

15) _____ is a Non erodible inserts.
   a) Ocuserts b) Lacriserts
   c) SODI d) Collagen shields

Q.2 Answer any five. **25**

1) Define and classify polymers.
2) Explain how porosity and tortuosity affect drug release.
3) Discuss in short advantages, disadvantages of colon targeted DDS.
4) Explain the drug selection criteria in oral CR formulation.
5) Write in detail classification of oral controlled DDS. and add a note on Ion exchange resin drug complex.
6) Write a note on Intravaginal drug delivery system.

Q.3 Answer any three. **30**

1) Discuss activation modulated DDS and explain two examples from each class of activation modulated system
2) Explain in detail different classes of TDDS
3) Discuss in detail factors affecting bioadhesion and different theories of bioadhesion.
4) Discuss in detail liposomal and nanoparticle as a drug delivery system.

SLR-FK-48

Seat No.	

Set P

B.Pharmacy (Semester – VIII) (CGPA) Examination Nov/Dec-2019
PHARMACEUTICAL BUSINESS MANAGEMENT

Day & Date: Saturday, 07-12-2019 Max. Marks: 70
Time: 02:30 PM To 05:30 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Fill in the blanks by choosing correct alternatives given below. 15

1) A legally protected Brand name is called _____.
   a) Trademark b) Copyright
   c) both a & b d) None of above

2) _____ is the second stage of product life cycle.
   a) Growth b) Decline
   c) Maturity d) None of above

3) _____ come in direct contact with patients/consumers.
   a) Retailers b) Superstockists
   c) C & F agents d) None of above

4) _____ is the oldest form of business organization.
   a) Sole proprietorship b) Partnership
   c) Co-operative d) None of above

5) An ultimate consumer is one who _____.
   a) Sells products from retail stores
   b) Buys products for personal use
   c) Both a & b
   d) None of above

6) _____ stage of the product life cycle is the period of rapid market acceptance & substantial improvement I profit.
   a) Introduction b) Growth
   c) Decline d) None of above

7) A _____ partner does not take any active part in the management of the firm's business.
   a) active b) sleeping
   c) both a & b d) none of above

8) _____ is the obligation to do something.
   a) Delegation b) Responsibility
   c) Both a & b d) None of above

9) _____ comes into existence only after registration under the companies act.
   a) Sole proprietorship b) Partnership
   c) Joint stock company d) None of above

10) Manufacturer to consumer is _____ channel of distribution.
   a) Multilevel b) Indirect
   c) Direct d) None of above

11) The aim of advertising a product is to _____.
   a) Attract customers b) Retain customers
   c) Both a & b d) None of above

12) A good Brand name is _____.
   a) Catchy b) Easy to remember
   c) Both a & b d) None of above

13) Primary data of marketing research is collected from _____.
   a) Dealers b) Consumers
   c) Salesmen d All of above

14) Communication can be _____.
   a) written b) oral
   c) verbal d) all of above

15 The outdoor advertising includes _____ display.
   a) poster b) billboard
   c) electrical d) all of above

Q.2 Answer any five of the following questions. **25**

a) Explain the term communication. Add a note on the barriers to communication.
b) Highlight the process of selection & training of professional sales representative.
c) Discuss “survey method” in marketing research.
d) Discuss sole proprietorship as a form of business organization.
e) Explain the duties & responsibilities of professional sales representative.
f) Discuss delegation of authority.

Q.3 Answer any three of the following questions. **30**

a) Explain in detail the functions of management.
b) Describe the marketing research procedure in detail.
c) Discuss the product lifecycle in detail.
d) Discuss “wholesaler” & “retailer” as channels of distribution.

SLR-FK-49

Seat No.	

Set P

B. Pharmacy (Semester - VIII) (CGPA) Examination Nov/Dec-2019
MEDICINAL CHEMISTRY - IV

Day & Date: Tuesday,10-12-2019 Max. Marks: 70
Time: 02:30 PM To 05:30 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 15

1) Chose the correct class IA antiarrhythmic that is having quinoline nucleus _____.
   a) Procainamide b) Di-isopyramide
   c) Quinidine d) Moracizine

2) The drug which inhibits ACE is _____.
   a) Captopril b) Verapamil
   c) Atenolol d) Reserpine

3) Enalaprilate a dicarboxylic acid is a parent compound of prodrug _____.
   a) Lisinopril b) Enalapril
   c) Captopril d) Enaloxin

4) Prazocin belongs to class of _____.
   a) Pyridyl quinazolines b) Piperazinyl quinoxaline
   c) Pyridyl quinoxaline d) Piperazinyl quinazoline

5) Isosorbide dinitrate is used as _____.
   a) Antianginal and vasodilator b) Antiarrhythmic
   c) Antihyperlipidemic d) None of these

6) Compound that are design to contain structural characteristics are known as _____.
   a) Hard drug b) Soft drug
   c) Placebo d) All of these

7) Digoxigenin is present in lanetoside _____.
   a) C b) B
   c) A d) D

8) Calcium antagonist acts only on _____ type channel.
   a) C b) L
   c) P d) R

9) In metabolism of norepinephrine the end product is _____.
   a) Vanillinemandelic acid b) Nor metaephrine
   c) Vanilline glycol aldehyde d) Vanilline glycol

10) Stimulation of sympathetic system causes _____.
   a) Rise in blood pressure b) Dilation of pupils
   c) Increase the blood glucose d) All of these

11) _____ is not QSAR parameter.
   a) Steric b) Electronic
   c) Aliphatic d) Lipophilic

12) _____ drug affecting in biosynthesis of catecholamine.
   a) Guanethidine b) Metyrosine
   c) Dopamine d) Dobutamine

13) Hydrolysis of acetylcholine gives _____.
   a) Propinoic acid b) Acetic acid
   c) Choline d) Both B & C

14) _____ cholinesterase irreversible inhibitors.
   a) Parathione b) Malathione
   c) Isoflurophate d) All of these

15) _____ is disteromer of quinine.
   a) Quinoline b) Quinoline
   c) Quinidine d) Quinoxoline

Q.2 Attempt any five of the following questions. **25**

a) Enlist QSAR parameters. Explain lipophilic, electronic and steric parameters of QSAR.
b) Describe ACE inhibitors.
c) Explain SAR and chemistry of cardiac glycoside.
d) Explain types prodrugs with examples.
e) Classify antianginal agents and write the MOA of organic nitrates.
f) Add a note on neuromuscular blocking agents.

Q.3 Attempt any three of the following. **30**

a) Give biosynthesis and metabolism of catecholamines.
b) Give synthesis of
   1) dicycloamine
   2) cyclopentolate
   3) salbutamol
   4) nifedipine
   5) methyldopa
c) Explain biosynthesis of acetylcholine and explain SAR of acetylcholine.
d) Explain in detail antihyperlipidemic drugs.

SLR-FK-5

Seat No.	

Set P

B. Pharmacy (Semester - II) (CBCS) Examination Nov/Dec-2019
HUMAN ANATOMY AND PHYSIOLOGY - II

Day & Date: Wednesday, 04-12-2019 Max. Marks: 75
Time: 02:00 PM To 05:00 PM

Instructions: 1) Figures to the right indicate full marks.
2) All Questions are compulsory.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 20

1) After ovulation Graafian follicle regresses into _____.
   a) Corpus callosum b) Corpus luteum
   c) Corpus albicans d) None of these

2) _____ is reabsorbed through loop of Henle.
   a) Glucose b) Potassium
   c) Water d) CO_2

3) The first major branch of the renal artery is _____.
   a) Acute b) Interlobular
   c) Segmental d) Cortical radiate

4) Peyer's patches found in the small intestine are _____.
   a) Epithelial tissue b) Glandular tissue
   c) Haemopoietic tissue d) Lymphatic tissue

5) Secretin stimulates production of _____.
   a) Bile b) Gastric juice
   c) Saliva d) Pancreatic juice

6) The greatest stimulus of salivation is _____.
   a) Olfaction b) Sour taste
   c) Bitter taste d) Sweet taste

7) Granulosa cells are the primary source of _____.
   a) FSH b) LH
   c) Estrogen d) Progesterone

8) _____ transmit nerve impulses.
   a) Cell body b) Dendrites
   c) Nucleus d) Axon

9) DNA and histones are collectively called as _____.
   a) Chromosome b) Chromatin
   c) Locus d) Centrimore

10) The lytic enzyme released by sperm is _____.
   a) Hyaluronidase b) Acrosome
   c) Ligase d) None of these

11) _____ produces mineralocorticoids (aldosterone).
   a) Zona Fasciculata b) Zona glomerulosa
   c) Zona reticularis d) Both a & c

12) _____ cells in liver act as phagocytes.
a) Dieter b) Acinar
c) Hensen's d) Kupffer

13) Ventral root of spinal cord contains axons of _____.
a) Sensory neuron b) Spinal neuron
c) Mixed neuron c) Motor neuron

14) Peyer's patches are present in _____.
a) Colon b) Ileum
b) Duodenum d) Jejunum

15) A Pap smear is used to detect the presence of abnormal cells in the _____.
a) Ovary b) Vagina
c) Cervix d) Urethra

16) _____ hormone has the greatest effect on metabolism.
a) Human growth hormone b) Thyroxine
c) ACTH d) TSH

17) _____ is associated with the renal corpuscle.
a) Podocyte b) Vasa recta
c) Fenestrated capillary d) Efferent arteriole

18) Primary oocyte is _____.
a) Haploid b) Polypoid
c) Diploid c) None of these

19) _____ hormone that stimulates the secretion of gastric juice.
a) Renin b) Enterogastrone
b) Enterokinase d) Gastrin

20) Functions of pancreas does not include _____.
a) Utilization of carbohydrates b) Secretion of insulin
c) Production of enzyme d) Deamination of amino acids

Q.2 Long Answers. (Solve any two). **20**

1) Illustrate the mechanism of internal and external respiration, draw a neat labelled diagram of respiratory system.
2) Describe digestion and absorption of nutrients.
3) Discuss structure and functions of pituitary gland.

Q.3 Short Answers. (Solve any Seven) **35**

1) Explain the role of kidneys in acid base balance.
2) Design spermatogenesis process.
3) Give genetic pattern of inheritance.
4) Write about meninges and cerebrospinal fluid.
5) Discuss functions of kidney.
6) Explain Anatomy of GI tract.
7) Describe the process of protein synthesis.
8) Discuss structure and function of thyroid gland.
9) Write about neurotransmitter.

SLR-FK-50

Seat No.	

Set P

B. Pharmacy (Semester-VIII) (CGPA) Examination Nov/Dec-2019
PHARMACEUTICAL ANALYSIS-VI

Day & Date: Thursday, 12-12-2019 Max. Marks: 70
Time: 02:30 PM To 05:30 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 15

1) Ion peak having m/z ratio less than molecular ion peak is called _____ peak.
   a) M+1 b) Daughter
   c) M+2 d) All of these

2) Number of signals for propanal molecule is _____.
   a) 3 b) 4
   c) 2 d) 5

3) Folding endurance test is applicable for which of the following packaging material _____.
   a) Glass b) Cork
   c) Paper d) Rubber closure

4) Which of the following is not a component of mass spectrometer instrument?
   a) Sample inlet
   b) Ion source
   c) Radiofrequency wave generator
   d) Mass analyzer

5) Which of the following validation is done during product development stage?
   a) Prospective b) Concurrent
   c) Revalidation d) Operational

6) Chemical shift value for aldehydric proton is _____.
   a) 4-8 b) 6-9
   c) 1.5-3.5 d) 9.5-10.5

7) Which of the following test is not carried out for plastic packaging material?
   a) Reducing substance b) Acidity & Alkanity
   c) Water attack d) Light absorption

8) _____ qualification is a document verification that the system or subsystem performs as intended throughout all specified operating range.
   a) Installation b) Operational
   c) Performance d) Design

9) Calculate the mean of body weights of different rats for the data 15, 25, 35, 45 and 65 _____.
   a) 35 b) 36
   c) 37 d) 38

10) _____ is the ability to assess unequivocally the analyte in presence of components that may be expected to be present such as impurities, degradants & matrix components.
a) Accuracy b) Specificity
c) LOD d) Ruggedness

11) _____ is the central value of all observations arranged from lowest to highest?
a) Median b) Mode
c) Mean d) Standard deviation

12) _____ is a type of process validation.
a) Revalidation b) Concurrent validation
c) Prospective validation d) All of the above

13) At 1.4T magnetic field, precessional frequency of $^{1}_{1}H$ nuclei is _____ MHz.
a) 600 b) 300
c) 60 d) 30

14) Quality Management System constitute _____.
a) QA b) QC
c) System Manual d) Both a & b

15) _____ ionization method may result in disappearance of molecular ion peak.
a) Electron Impact b) Chemical
c) Field d) Electrospray

Q.2 Answer any five of the following questions. **25**

a) What is f-test? Write in brief.
b) Draw a neat labeled diagram of Mass spectrometer. Give its principle.
c) Elaborate on equipment validation.
d) Describe various quality control test carried out for glass container packaging material.
e) Why TMS is used as internal standards in NMR spectroscopy? Write on solvents used in NMR.
f) Write on types of ions produced in Mass spectrometry.

Q.3 Answer any three of the following questions. **30**

a) What is validation? Explain in detail on validation parameters of analytical method.
b) Explain with suitable examples Spin coupling. Write in short on coupling constant.
c) Explain with suitable diagram any two ion sources & Time of Flight mass analyzer of mass spectrometer.
d) Write in detail on quality assurance & quality control. Describe Folding endurance test.

SLR-FK-51

Seat No.	

Set P

B. Pharmacy (Semester – VIII) (CGPA) Examination Nov/Dec-2019
PHARMACOLOGY – IV

Day & Date: Saturday, 14-12-2019 Max. Marks: 70
Time: 02:30 PM To 05:30 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options. **15**

1) Which of the following antiviral drug is not an anti-influenza agent?
   a) Amantadine b) Rimantadine
   c) Acyclovir d) Interferons

2) Conjugation and excretion of chloramphenicol is inefficient in the newborn hence, its larger doses produce _____.
   a) Kernicterus b) Cranial nerve-VIII toxicity
   c) Gray baby syndrome d) Discolouration of teeth

3) Which of the following groups of antibiotics demonstrates a bactericidal effect?
   a) Tetracyclines b) Penicillins
   c) Macrolides d) All of the above

4) Tetracyclines show antimicrobial action by _____.
   a) Inhibiting protein synthesis
   b) Inhibiting cell-wall synthesis
   c) Causing leakage from cell membrane
   d) Interfering with DNA function

5) Which of the following antibiotic not belong to the group of aminoglycoside antibiotics?
   a) Gentamycin b) Streptomycin
   c) Clindamycin d) Neomycin

6) Penicillin-G is also known as _____.
   a) Phenoxymethyl penicillin b) Benzyl penicillin
   c) Aminopenicillin d) Carboxypenicillins

7) Which of the following antibiotic shows its action by inhibiting bacterial RNA synthesis?
   a) Erythromycin b) Rifampin
   c) Chloramphenicol d) Imipinem

8) Which one of the following is folate antagonist?
   a) Etoposide b) Azathioprine
   c) Cytarabine d) Methotrexate

9) Which of the following drug is used for candidiasis treatment?
   a) Griseofulvin b) Myconazol
   c) Nitrofungin d) Streptomycin

10) Which of the following cytotoxic drug enhances polymerization of tubulin and arrest cell division in metaphase?
   a) Paclitaxel b) Vincristine
   c) Vinblastine d) Fluorouracil

11) Zidovudine shows its action by _____.
   a) Inhibiting viral proteases
   b) Inhibiting viral DNA synthesis
   c) Inhibiting uncoating of the viral RNA
   d) Inhibiting viral reverse transcriptase

12) Name of the aminoglycoside antibiotics obtained from Streptomyces ends with suffix _____.
   a) -micin
   b) -mocin
   c) -mecin
   d) -mycin

13) Which of the group of hormonal drugs are used for cancer treatment?
   a) Mineralocorticoids and glucocorticoids
   b) Glucocorticoids and gonadal hormones
   c) Gonadal hormones and somatotropin
   d) Gonadal hormones and mineralocorticoids

14) An individuals with β-lactam antibiotics allergy can be treated with _____ as an alternative to penicillin.
   a) Gentamicin
   b) Cephalosporins
   c) Erythromycin
   d) Tetracyclines

15) Which of the following drugs are used in the treatment of an intestinal form of amebiasis?
   a) Diloxanide and streptomycin
   b) Diloxanide and Iodoquinol
   c) Metronidazole and diloxanide
   d) Emetine and metronidazole

Q.2 Answer any five. **25**

a) What are general toxicities of cytotoxic drugs?
b) What are the problems arises with the use of antimicrobial agents?
c) Name the drugs used in the treatment of glaucoma, otitis media and candidiasis.
d) What are macrolide antibiotics? And write its mechanism of action.
e) Write the advantages and disadvantages of the combined use of antimicrobial agents.
f) Classify Quinolones and write their mechanism of action.

Q.3 Answer any three. **30**

a) What are aminoglycoside antibiotics? Write common properties, mechanism of action and toxicities of aminoglycosides.
b) What are the different types of antimetabolites used in cancer chemotherapy? Write its mechanism of actions.
c) Classify anticancer drugs with examples and write mechanism of action and uses of alkylating agents.
d) What are beta-lactam antibiotics? Classify penicillin with suitable examples and explain how penicillin-G acts as a bactericidal agent.

SLR-FK-52

Seat No.	

Set P

B. Pharmacy (Semester-VIII) (CGPA) Examination Nov/Dec-2019
HERBAL TECHNOLOGY

Day & Date: Monday, 16-12-2019 Max. Marks: 70
Time:02:30 PM To 05:30 PM

Instructions:1) Figures to the right indicate full marks.
2) All Questions are compulsory.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 15

1) The process of Sodhana is one of the step in preparation of Ayurvedic formulation.
   a) Churna b) Taila
   c) Bhasma d) Vati

2) In Vati & Gutika sugandha dravyas like karpura, kasturi are added _____ stage.
   a) Final b) Initial
   c) In between d) After rolling

3) Ayurvedic Tailas are generally recommended for _____use.
   a) Abhayanga b) Anupanas
   c) Internal & External d) All of these

4) Avaleha contain mainly _____ingredient in formulation.
   a) Ghee b) Jaggery
   c) Pulp of drugs d) Oil

5) Medicinal plant materials are considered to be a _____.
   a) Safe b) Effective
   c) Quality d) All of these

6) Ideal season for collection of root drug is_____.
   a) Summer b) Rainy
   c) Flowering d) Winter

7) _____ is the cosmetic preparation used for removal of facial make up and oil.
   a) Vanishing Cream b) Night Cream
   c) Foundation Cream d) Cleansing Cream

8) Spurious drugs are grouped as per Drugs and Cosmetic Act in _____ section.
   a) 33EEA b) 33EEB
   c) 33E d) 33A

9) Dissolution time and weight variation are the tests applied in quality control of _____.
   a) Churna b) Vati
   c) Lepa d) Taila

10) Identify the step not to be carried out during processing of herbs.
   a) Garbling b) Drying
   c) Digestion d) Packing

11) Most common herb used in cosmetics as conditioner and hair growth promoter.
   a) Aloe vera b) Galanga
   c) Turmeric d) Henna

12) Quality assurance of herbal medicinal products as per WHO is complies with _____.
   a) GMP b) GACP
   c) GLP d) All of these

13) If shatavari root extract is used in the preparation of herbal product with additives then it is known as_____ product.
   a) Monoherbal b) Polyherbal
   c) Multiherbal d) Herbal

14) Herbal medicinal products prepared as per ancient books are referred as _____.
   a) Natural Medicine b) Herbal Medicine
   c) Quality Medicine d) Medicine in System

15) Instrumental analysis of inorganic elements in Ayurvedic Bhasma is carried out by _____.
   a) TLC b) GCMS
   c) IR d) All of these

Q.2 Answer any five of the following questions: **25**

a) Write a short note on Import and Export of Herbal Drug.
b) Write needs of safety and efficacy of herbs.
c) Write the importance and scope of Herbal Medicine.
d) What are Pesticidal Residues? Write its effects on Herbs.
e) Write merits and demerits of Polyherbal formulations.
f) Add a note on Herbal Drug Regulation in India.

Q.3 Answer any Three of the following questions. **30**

a) Discuss various stages in processing of Herbs as per WHO guidelines.
b) Classify various Ayurvedic Formulations. Explain in detail Ayurvedic Bhasma.
c) What are Herbal cosmetics? Explain in brief skin and Hair cosmetics with evaluation.
d) Write the importance of Health Foods and Neutraceuticals in Herbal Technology.

SLR-FK-53

Seat No.	

Set P

B. Pharmacy (Semester-I) (CBCS) Examination Nov/Dec-2019
BIOCHEMISTRY – I

Day & Date: Monday, 16-12-2019 Max. Marks: 70
Time:02:00 PM To 05:00 PM

Instructions:1) Figures to the right indicate full marks.
2) All Questions are compulsory.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 15

1) Barfoed solution is not reduced by _____.
   a) Glucose b) Mannose
   c) Sucrose d) Ribose

2) These are called as digestive tract of the cell _____.
   a) Lysosomes b) Mitochondria
   c) Peroxisomes d) cytosol

3) The carbon atoms involved in osazone formation _____.
   a) 1 & 2 b) 2 & 3
   c) 3 & 4 d) 5 & 6

4) One of the following is not an aldose _____.
   a) glucose b) mannose
   c) galactose d) fructose

5) Which of following enzyme in glycolysis catalyses an irreversible reaction _____.
   a) hexokinase b) phosphofructokinase
   c) pyruvatekinase d) all of them

6) The glycosaminoglycan that serves as an anticoagulant _____.
   a) heparin b) hyluronic acid
   c) chondroitin sulphate d) dermatansulphate

7) The simultaneous transport of two different molecules in the opposite direction is called as _____.
   a) uniport b) antiport
   c) symport d) cotransport

8) The no. of ATP produced when a molecule of acetyl -CoA is oxidized through TCA cycle _____.
   a) 12 b) 24
   c) 15 d) 38

9) Normal fasting blood level of glucose is _____.
   a) 70- 100mg/l b) 70- 100mg/dl
   c) 100- 120mg/dl c) 90- 120mg/dl

10) Essential fatty acid _____.
   a) Linoleic acid b) Linolenic acid
   c) Arachidonic acid d) All these

11) The fatty acid present in cerebrosides is _____.
   a) Lignoceric acid b) Valeric acid
   c) Caprylic acid d) Behenic acid

12) The enzymes of β-oxidation are found in _____.
   a) Mitochondria b) Cytosol
   c) Golgi apparatus d) Nucleus

13) The highest phospholipids content is found in _____.
   a) Chylomicrons b) VLDL
   c) LDL d) HDL

14) The nitrogenous base in lecithin is _____.
   a) Ethanolamine b) Choline
   c) Serine d) Betaine

15) ∆9 indicates a double bond between carbon atoms of the fatty acids _____.
   a) 8 and 9 b) 9 and 10
   c) 9 and 11 d) 9 and 12

Q.2 Answer any five of the following questions. **25**

a) What are epimers & anomers? Write note on matorotation.
b) Explain structure & properties of sucrose & lactose.
c) Explain structure & biosynthesis of cholesterol.
d) Write in detail about active, facilitated & passive transport of molecule across the membrane.
e) Write note on fatty acids. Give details of EFA.
f) Explain in detail about suicidal bag & endoplasmic reticulum.

Q.3 Answer any three following questions. **30**

a) Explain in detail TCA cycle with energetics. Add note on its amphibolic nature.
b) Explain in detail about lipoproteins & glycolipids.
c) Describe hexose monophosphate shunt & its significance.
d) Describe β-oxidation of palmitic acid. Calculate net ATP yield.

SLR-FK-54

Seat No.	

Set P

B. Pharmacy (Semester – I) (CBCS) Examination Nov/Dec-2019
PHARMACOGNOSY – I

Day & Date: Wednesday, 18-12-2019 Max. Marks: 70
Time: 02:00 PM To 05:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options and rewrite the sentences. 15

1) _____ written Compendium of Materia Medica.
   a) Seydler b) Gantle Fosse
   c) Galen d) Lishi Zhen

2) Identify the type of parenchyma.
   a) Aerenchyma b) Collenchyma
   c) Chlorenchyma d) Both a & c

3) Salkowoski Test is used for the detection of _____.
   a) Alkaloid b) Amino acids
   c) Steroids d) Tannins

4) Determination of Melting point is _____ method of evaluation.
   a) Physical b) Chemical
   c) Biological d) Organoleptic

5) Intercellular spaces are absent in collenchymas as there is extra deposition of _____.
   a) Tannins & Pectins b) Pectins & Lectins
   c) Cellulose & Pectin d) Cellulose & Sucrose

6) All of the following are Secondary nutrients useful in cultivation of medicinal plants except _____.
   a) Calcium b) Sulphur
   c) Potassium d) Magnesium

7) Margosa contains _____ type of stomata.
   a) Anomocytic b) Anisocytic
   c) Dicytic d) Paracytic

8) Principle of Unani system of medicine is based on _____.
   a) Hippocratic theory of Four Humours
   b) Pythagorian theory of Four Proximate Qualities
   c) Five Elements theory
   d) Both a & b

9) Identify the test used for the detection of Alkaloids.
   a) Foam test b) Soap test
   c) Mayers test d) Borntragers test

10) Removal of sand, dirt and foreign organic part from the crude drug is called _____.
   a) Clearing b) Cutting
   c) Layering d) Garbling

11) Identify the crude drug that constitutes Seed part.
   a) Nux vomica b) Rasna
   c) Jalap d) Liquorice

12) Cannabis is used as _____.
   a) Carminative b) Narcotic
   c) Cardio tonic d) Hepatoprotective

13) Which of the following reagent is used for the staining of mucilage?
   a) Phloroglucinol b) Ruthenium red
   c) Cone. HCl d Dilute iodine

14) The crude drugs which are sensitive to the higher temperature are dried by _____ dryer.
   a) Spray b) Drum
   c) Tray d) Vacuum

15 _____ hybridization involves crosses between the plants of same variety of different species.
   a) Intravarietal b) Intervarietal
   c) Introgressive d) Intrageneric

Q.2 Answer any five of the following questions. **25**

a) Write the scope of Pharmacognosy with reference to Pharmaceutical Industry and Cosmetic Industry.
b) Add a note on Parenchyma. Explain their types.
c) Add a note on FOM with their significance.
d) Explain gross morphology of Fruit.
e) Write a note on Mutation.
f) Define the terms
   1) Antiseptic
   2) Narcotic
   3) Febrifuge
   4) Expectorant
   5) Astringent

Q.3 Answer any three of the following questions. **30**

a) Discuss Chinese system of medicine.
b) Explain parameters involved in the microscopical method of evaluation.
c) Describe Asexual method of propagation with their merits and demerits.
d) Discuss method of preparation of herbarium sheet.

SLR-FK-55

Seat No.	

Set P

B. Pharmacy (Semester – II) (CBCS) Examination Nov/Dec-2019
PHARMACEUTICS – II

Day & Date: Thursday, 05-12-2019 Max. Marks: 70
Time: 02:00 PM To 05:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Fill in the blanks by choosing correct alternatives given below. 15

1) _____ Antifoaming Agents is used for preventing Aeration and Foam.
   a) Oil based defoamers b) Silicone based defoamers
   c) Alkyl poly acrylates d) All of these

2) Effervescent granules are prepared by _____.
   a) heat b) cool
   c) both a & b d) none of these

3) _____ is example of Negative mixtures.
   a) Pasts b) Calamine lotion
   c) Sugar in water d) Mixed powders

4) Very fine particles like micronized Griseofulvin may be obtained from _____ mill.
   a) Cutter b) Roller
   c) Fluid energy d) Hammer

5) _____ is a features of an ideal dressing.
   a) It must not be impervious to micro-organisms.
   b) It must be impervious to fluid from outside.
   c) Capable of following joint contours during movement.
   d) Both b & c

6) In formulation contain heat sensitive ingredients granules are prepared by _____.
   a) dry granulation b) slugging
   c) wet granulation d) both a & b

7) _____ is the role of Zinc oxide and zinc sulphate.
   a) Solubilizer b) Counterirritants
   c) Astringent d) All of these

8) Angle of repose measures _____ property of powder/granules.
   a) flow b) bulk density
   c) moisture d) none of these

9) Powder/granules evaluated by the _____.
   a) Bulk density b) Tapped density
   c) Angle of repose d) All of these

10) Impact mills _____Degree of size reduction.
   a) Large pieces b) Coarse powders
   c) Very fine powders d) Fine

11) Role of citric acid effervescent granules _____.
a) it gives water of crystallization b) lubricant
c) glident d) none of these

12) _____ equipment used for liquid mixing.
a) Propeller mixers b) Turbine
c) Airjet mixers d) All of these

13) To overcome from caking problem in dry syrup _____ is used.
a) Sodium benzoate b) Sucrose
c) Amorphous silica gel d Sod. CMC

14) _____ is a role of Zinc stearate in talcum powder.
a) Covering agent b) Antiseptic
c) Slip & Softness agent d) Adhesion agent

15 Facia lata is prepared from _____.
a) Tendons of cattle b) Ox facia
c) Human intestine d) Sheep facia

Q.2 Answer any five of the following questions. 25

1) Explain construction and working of disc filter.
2) Give different liquid mixing mechanism elaborate in brief?
3) Explain in detail formulation and evaluation of talcum powder.
4) Write in brief about mechanism of filtration.
5) Explain about equipment used for liquid manufacturing.
6) Enumerate advantages and dis advantages of powders.

Q.3 Answer any three of the following questions. 30

1) Elaborate in detail hammer mill and ball mill.
2) Explain in detail filter press and meta filter.
3) Give reasons for aeration and foam formation during liquid mixing explain prevention of it.
4) Classy dressings with example and define the terms suture and ligature.

SLR-FK-56

Seat No.		Set	P

B. Pharmacy (Semester – II) (CBCS) Examination Nov/Dec-2019
MODERN DISPENSING & HOSPITAL PHARMACY

Day & Date: Saturday, 07-12-2019 Max. Marks: 70
Time: 02:00 PM To 05:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 15

1) Inscription comprises _____.
   a) Active pharmaceutical ingredient/s
   b) Adjuvant
   c) Vehicle
   d) All of the above

2) Who is secretary of PTC?
   a) Doctor b) Nurse
   c) Pharmacist d) All of the above

3) _____ preparation should be sterile.
   a) Tablets b) Capsules
   c) Eye drops d) All of the above

4) CSS stands for _____.
   a) Community science services b) Central sterile supply
   c) Company staff secretary d) None of the above

5) Minimum eligibility to become hospital pharmacist is _____.
   a) D. Pharmacy b) B.Sc.
   c) MBBS d) All of these

6) _____ preparation applied without rubbing.
   a) Liniments b) Lotions
   c) Both a and b d) None of the above

7) _____ is an example of physical incompatibility.
   a) Immiscibility b) Insolubility
   c) Both a and b d) None of the above

8) _____ deals with study of dose.
   a) Psychology b) Physiology
   c) Posology d) Neurology

9) “Inter cibos” means _____.
   a) Before meal b) After meal
   c) During meal d) None of the above

10) The solutions which are not having same osmotic pressure is known as _____.
   a) Hypotonic b) Hypertonic
   c) Paratonic d) Isotonic

11) t.i.d. means _____.
   a) Three times a day b) Two times a day
   c) Thirty times a day d) Triturate in dish

12) "Dolore urgent" means _____.
   a) When pain is severe
   b) Frequently
   c) When necessary
   d) None of these

13) "Mane" Means _____.
   a) In the morning
   b) In the evening
   c) In the afternoon
   d None of the above

14) Green crystals of quinine sulphate shows _____ reaction.
   a) Hansberg
   b) Hoffman
   c) Herapathite
   d) None of these

15) Inventory is _____.
   a) Physical stock present in the sales premises
   b) Liquidated stock
   c) Annual purchase
   d) Quarterly sales report

Q.2 Solve any five. **25**

a) Add a note physical incompatibility.
b) Write a note on handling of prescription.
c) Define hospital pharmacy. Give its functions and objectives.
d) Convert the following Latin term into English:
   1) Gutta
   2) Mitte
   3) Solve
   4) Omni
   5) Hora
e) Define hospital. Give its organizational structure.
f) Highlight the significance of drug information center in the hospital.

Q.3 Solve any three. **30**

a) Define prescription. Explain different parts of prescription in detail.
b) Discuss the factors affecting the dose.
c) Write a detail note on drug distribution in hospital.
d) Define PTC. Give construction and functions of PTC. What is the role PTC in drug safety?

SLR-FK-57

Seat No.	

Set P

B. Pharmacy (Semester – II) (CBCS) Examination Nov/Dec-2019
ORGANIC CHEMISTRY – I

Day & Date: Tuesday, 10-12-2019 Max. Marks: 70
Time: 02:00 PM To 05:00 PM

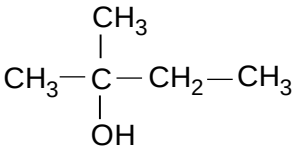
Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 15

1) Alkyl halides under goes _____.
   a) Electrophilic substitution reaction
   b) Electrophilic addition reaction
   c) Nuleophilic substitution reaction
   d) Nucleophilic addition reaction

2) The carbon atoms in an alkyne are?
   a) sp^4 hybridized b) sp^3 hybridized
   c) sp^2 hybridized d) sp hybridized

3) The Grignard reagent is an _____.
   a) alkyl halide b) alkyl magnesium halide
   c) an alkyl manganese halide d) a dialkyl copper compound

4)  is what type of alcohol is this?
   a) Primary b) Secondary
   c) Tertiary d) None of these

5) In SN_2 reaction products shows _____ type of stereochemistry.
   a) Retention of configuration b) Inversion of configuration
   c) Racemic mixture d) None of above

6) Oxidation of primary alcohol gives _____.
   a) Amines b) Aldehydes
   c) Ketones d) Cynide

7) In Diels-Alder reaction the 1, 3-butadine is reacted with _____ 100° C to form tetrahydrobenzaldehyde.
   a) Acroline b) Aniline
   c) Acytyline d) Salicylate

8) What is the IUPAC name for given structure $CH_2 = CH – CHO$?
   a) 1 – propanoic acid b) 2 – propanal
   c) 2 – propanol d) 1 – propanal

9) The following reaction involve the formation of alkene except _____.
   a) Dehydration of alcohol
   b) Dehydrohalogenation of alkyl halide
   c) Pyrolysis of alkenes
   d) Reduction of carbonyl compound

10) Which molecular formula indicates 2 – Methyl - 3 – hydroxyl butane?
   a) $C_5H_{11}O$ b) $C_5H_{12}O$
   c) $C_5H_{13}O$ d) $C_4H_{12}O$

11) Select the order of stability of carbonium ion is _____.
   a) Primary > Secondary > Tertiary
   b) Tertiary > Secondary > Primary
   c) Tertiary > Primary > Secondary
   d) Secondary > Primary > Tertiary

12) Which of the following reagent can not be used to prepare an alkyl halide from an alcohol?
   a) Hcl / $ZnCl_2$ b) NaCl
   c) PCl_5 d) $SoCl_2$

13) In stable organic compound carbon will always form _____.
   a) 4 Bonds b) 3 Bonds
   c) 5 Bonds d 2 Bonds

14) Hemolytic fission of covalent bond between carbon atoms will produce ____.
   a) Carbonion ions b) Two carbon atoms
   c) Carbonium ions d) Free radical

15) Reaction of propene with conc H_2SO_4 gives _____.
   a) Isopropyl hydrogen sulphate b) Isopropene
   c) Isopropyl alcohol d) None of these

Q.2 Answer any five of the following questions. **25**

a) Explain in detail inductive effect, resonance effect and steric effect.
b) Write methods of preparation and reactions of alkynes.
c) Discuss the mechanism of SN_1 reactions and factors affecting on it.
d) Explain structure, generation, stability and reactions of carbanion.
e) Explain saytzeff, Hofmann rules.
f) Write methods of preparation of 1, 3 - butadiene.

Q.3 Answer any three of the following questions. **30**

a) Define and classify alcohols. How will you separate mixture of primary, secondary and tertiary alcohols?
b) Write methods of preparation and reactions of alkenes.
c) Explain methods of preparation and reactions of ethers.
d) Explain theories of Acids and Bases and factors affecting on them.

SLR-FK-58

Seat No.	

Set P

B. Pharmacy (Semester – II) (CBCS) Examination Nov/Dec-2019
BIOCHEMISTRY – II

Day & Date: Thursday, 12-12-2019 Max. Marks: 70
Time: 02:00 PM To 05:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. **15**

1) The bond in protein structure that are not broken on denaturation _____.
   a) peptide bond b) ionic bond
   c) electrostatic bond d) disulfide bond

2) The vitamin containing isoalloxazine ring _____.
   a) thiamine b) riboflavin
   c) niacin d) biotin

3) The major site of urea synthesis is _____.
   a) liver b) kidney
   c) brain d) muscles

4) The nitrogenous base not present in DNA structure _____
   a) adenine b) guanine
   c) cytosine d) uracil

5) Alcohol dehydrogenase is an example for the class of enzyme namely _____.
   a) Oxidoreductases b) transferases
   c) hydrolases d) Ligases

6) The following enzyme of urea cycle is present in cytosol _____.
   a) Argininosuccinic acid synthetase
   b) Argininosuccinase
   c) Arginase
   d) All of theme

7) In case of ureotelic, ammonia is liberated in the form of _____.
   a) uric acid
   b) urea
   c) ammonia
   d) NH_4

8) An example of group transferring coenzyme is _____.
   a) ATP b) FMN
   c) FAD d) NADP+

9) Induced fit theory of enzyme action was given by _____
   a) Fischer b) Koshland
   c) Buchner d) Kuhne

10) Adenine is _____
   a) 6-Amino purine b) 2-Amino-6-oxypurine
   c) 2-Oxy-4-aminopyrimidine d) 2, 4-Dioxypyrimidine

11) Daily excretion of nitrogen by an adult man is about _____
   a) 15-20 mg b) 1.5-2 gm
   c) 7-15 gm d) 15-20 gm

12) The amino acid which contains a guanidine group is _____
   a) Histidine b) Arginine
   c) Citrulline d) Ornithine

13) Hopkins-Cole test is for identification of _____
   a) Tyrosine b) Tryptophan
   c) Arginine d) Cysteine

14) Purine nucleotide is _____
   a) AMP b) UMP
   c) CMP d) TMP

15) _____ is the sulphur containing amino acid.
   a) Cysteine b) Serine
   c) Threonine d) Tyrosine

Q.2 Attempt any five of the following question. **25**

a) Add note on enzyme specificity.

b) Explain in short Biuret test, Xantoprotic test and Sakaguchi test.

c) Describe Watson and Crick model of DNA structure.

d) What are high energy compounds? Give suitable examples. Add note on redox potential.

e) Give oxidative and non-oxidative deamination reactions of amino acids.

f) Define co-enzymes. Classify with suitable examples. Write allosteric enzymes.

Q.3 Attempt any three of the following question. **30**

a) What is genetic code? Give its characteristics. Explain the process of translation of mRNA.

b) Write in details about inhibitors of enzymatic action.

c) Explain urea cycle in detail.

d) Give the complete account of fat soluble vitamins.

SLR-FK-59

Seat No.		Set	P

B. Pharmacy (Semester - II) (CBCS) Examination Nov/Dec-2019
ANATOMY, PHYSIOLOGY & HEALTH EDUCATION – II

Day & Date: Saturday, 14-12-2019 Max. Marks: 70
Time: 02:00 PM To 05:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options. **15**

1) Each Kidney extends from 12th thoracic vertebra up to _____lumbar vertebra.
   a) First b) Second
   c) Third d) Fifth

2) Sarcoplasm fluid contains large quantities of K^+, Mg^{++}, PO_4^{--} with multiple _____ enzymes.
   a) carbohydrates b) protein
   c) lipid d) vitamins

3) Nerve signals are transmitted by _____.
   a) action b) potential
   c) both a and b d) other than a and b

4) Melanocyte is secreted by _____ lobe of pituitary gland.
   a) anterior b) middle
   c) posterior d) both a and b

5) The semen is slightly _____.
   a) acidic b) alkaline
   c) neutral d) strong acidic

6) _____ is the external organ of the male reproductive system.
   a) Scrotum b) Vas deferens
   c) Prostate gland d) Urethra

7) The greatest growth of the fetus during the _____ of pregnancy.
   a) First trimester b) Mid trimester
   c) Last trimester d) Other than A, B, and C

8) _____ is a causative agent of measles.
   a) Varcells zoster virus b) Herpes virus
   c) Rubeola virus d) Paramyxovirus

9) Important masses of grey matter includes _____.
   a) Basal ganglis b) Thalamus
   c) Hypothalamus d) All of above

10) In female _____ stimulates the corpus luteum of ovary to produce progesterone.
   a) Luteinizing hormone b) Lactogenic hormone
   c) Growth hormone d) Thyrotrophic hormone

11) _____ is essential to a normal pregnancy.
   a) Human Chorionic gonadotropin
   b) Oestrogen, Progesterone
   c) Human Chorionic Somatomammotropin
   d) All of above

12) _____ phase ends with ovulation.
   a) Proliferative b) Secretary
   c) Menstrual d) Other than a, b, and c

13) Each kidney is surrounded by a delicate covering called _____.
   a) pyramids b) medulla
   c) cortex d) capsule

14) Composition of cerebro spinal fluid includes _____.
   a) glucose b) urea
   c) few leukocytes d) all of above

15) _____ separates the external acoustic meatus from the middle ear.
   a) Tympanic membrane b) Ear lobule
   c) Stapes d) Temporal bone

Q.2 Solve any Five. **25**

a) Define and mention the role of juxtra glomerular apparatus. Explain acid base balance of urinary system in short.
b) Explain physiology of muscle contraction.
c) Give structure and functions of cerebellum.
d) Draw and brief the functions of thyroid gland hormones.
e) Draw a neat labeled diagram of skin.
f) Describe spermatogenesis.

Q.3 Solve any Three. **30**

a) Discuss the causative organism, symptoms, mode of transmission, preventive measures and treatment of measles and add a note on cancer.
b) Uterus in detail. Add note on ovulation.
c) Enumerate the hormones of adrenal gland with their functions.
d) What is nervous system? Classify it and explain distribution and functions of each division.

SLR-FK-6

Seat No.	

Set P

B. Pharmacy (Semester- II) (CBCS) Examination Nov/Dec-2019
PHARMACEUTICAL ORGANIC CHEMISTRY- I

Day & Date: Friday, 06-12-2019 Max. Marks: 75
Time: 02:00 PM To 05:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 20

1) Which molecular formula indicates 2-Methyl-2-hydroxybutane?
   a) $C_5H_{12}O$ b) $C_5H_{11}O$
   c) $C_4H_{12}O$ d) $C_5H_{13}O$

2) If double bonds are separated by more than one single bond then diene is called as _____.
   a) Non conjugated b) Cumulated
   c) Conjugated d) None of these

3) Common NAME OF CH_3Cl is _____.
   a) Butyl chloride b) Propyl chloride
   c) Methyl chloride d) None of these

4) When alcohols heated at 140^0 C with concentrated H_2SO_4, it gives _____.
   a) Ester b) Acid
   c) Ether d) Amine

5) In which of the following reactions new carbon-carbon bond is not formed?
   a) Cannizaro reaction b) Wurtz reaction
   c) Friedel-craft reaction d) Aldol condensation

6) In methanol carbon is _____ hybridised.
   a) SP^2 b) SP^3
   c) SP d) Both a and b

7) Primary amines can be distinguished from secondary amines by _____.
   a) Libermann nitrosoamine reaction
   b) Gabriel-phthalmide reaction
   c) Hofmann bromamide reaction
   d) All of the above

8) Diels-Alder reaction is _____.
   a) (2+4) cycloaddition reaction b) (4+2) ctcloaddition reaction
   c) (2+2) cycloaddition reaction d) (4+4) cycloaddition reaction

9) The reaction of two different carbonyl compounds in the prescence of base is known as _____ Condensation.
   a) Aldol b) Perkin
   c) Friedel craft reaction d) Benzoin

10) Carboxylic acid are generally _____.
   a) Weak base b) Strong acid
   c) Weak acid d) Strong base

11) Diels-alder reactions are _____.
   a) Stereospecific b) Polymerisation reaction
   c) Sterioselective d) Both a & c

12) Cross cannizaro reaction is given by _____.
   a) C_6H_5CHO,HCHO b) CH_3CHO,HCHO
   c) C_6H_5CHO,CH_3CHO d) All of the above

13) The complete reduction of carboxylic acid results in the formation of _____.
   a) Alkane b) Alkene
   c) Alkyne d) Alcohol

14) The major product formed when ammonia reacts with excess of ethyl iodide is _____.
   a) Tetraethyl ammonium iodide b) Ethylamine
   c) Triethylamine d) Diethylamine

15) SN^2 reaction can be best carried out with _____.
   a) 2° alkyl halide b) 1° alkyl halide
   c) 3° alkyl halide d) All of the above

16) When benzoic acid is treated with $LiAlH_4$ it forms _____.
   a) Benzyl alcohol b) Benzene
   c) Benzaldehyde d) Toulene

17) Hydrocarbon which is liquid at room temperature is _____.
   a) Ethane b) Butane
   c) Pentane d) Propane

18) When alcohol react with conc.H_2SO_4 intermediate compound form is _____.
   a) Alkoxy ion b) Alkyl hydrogen sulphate
   c) None of these d) Carboniun ion

19) Secondary alcohol is obtained by reduction of _____.
   a) Aldehyde b) Alkenes
   c) Ketone d) Amines

20) The reaction in which the treatment of an aromatic aldehyde with aq.alcoholic KCN or NaCN to give product alpha hydroxyl ketone is called _____.
   a) Benzoin Condensation b) Aldol Condensation
   c) Perkin reaction d) None of above

Q.2 Answer any seven of the following questions. 35

a) Give method of preparation of alkanes.
b) Explain Markownikoff's rule with example.
c) With IUPAC name, give the uses of acetone, vanillin, hexamine and tetrachioroethylene.
d) Explain about acidity of carboxylic acid and effect of substitution on acidity.
e) Write note on factors affecting S_N1 and S_N2 reaction.
f) Give uses of salicylic acid, benzoic acid, lactic acid, tartaric acid and citric acid.
g) Write chemical reactions of alcohol.
h) Write a note on E_1 reaction.
i) Give method of preparation of alcohol.

Q.3 Answer Any two of the following questions. 20

a) Explain S_N2 reaction.
b) Write a note on Cannizaros reaction and Benzoin condensation.
c) Write qualitative test for alcohol with reaction.

SLR-FK-60

Seat No.	

Set P

B.Pharmacy (Semester – III) (CBCS) Examination Nov/Dec-2019
PHYSICAL PHARMACY – I

Day & Date: Saturday, 30-11-2019 Max. Marks: 70
Time: 10:00 AM To 01:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Fill in the blanks by choosing correct alternatives given below. 15

1) If water is cooled to ice, its entropy _____.
   a) Increases b) Decreases
   c) Remains the same d) Becomes zero

2) Reversible process where gas molecules become liquid is known as _____.
   a) Vaporization b) Condensation
   c) Sublimation d) None of these

3) Boiling point of solution is _____ than pure solvent.
   a) Higher b) Lower
   c) Either higher or lower d) None of these

4) At absolute temperature, entropy of pure crystal is _____.
   a) 1 b) 2
   c) 0 d) 3

5) A property which does not depend on The quantity of the matter present in a system is _____.
   a) Intensive property b) Extensive property
   c) Both a) and b) d) None of these

6) Greater the thixotropy _____ is the physical stability of suspension.
   a) Higher b) Lower
   c) Poor d) All of the above

7) When a non- volatile solute is added to a solvent, the freezing point of solvent _____.
   a) Increases b) Remains the same
   c) Decreases d) None of these

8) The semipermeable membrane allows the passage of _____ through it.
   a) Solvent only b) Solute only
   c) Solvent and solute d) Either solvent or solute

9) The cycle of process which occurs under reversible conditions is referred as _____.
   a) Cyclic process b) Closed process
   c) Carnot cycle d) None of the above

10) The fluidity of liquids _____ with increase in temperature.
   a) Decreases b) Remains the same
   c) Increases d) None of these

11) Solubility generally rises with _____.
   a) Increase in temperature b) Decrease in temperature
   c) Increase in volume of solvent d) None of these

12) Liquids with high intermolecular forces have _____ viscosity.
   a) Higher b) Intermediate
   c) Lower d) None of these

13) A crystalline solid has _____.
   a) Definite geometric shape b) Flat faces
   c) Sharpe edges d All of these

14) Colligative property depends upon _____.
   a) Nature of the solute b) Size of the solute
   c) Number of particles d) Charge on the solute

15) A real solution is one which _____.
   a) Obeys Rault's law b) Does not Obey Rault's law
   c) Obeys Henry's law d) Does not Obeys Henry's law

Q.2 Answer Any Five. **25**

a) Add a note on enthalpy and entropy.
b) State and explain Raoul t's law of lowering vapor pressure. Prove that depression of freezing point is a colligative property.
c) Write construction and working of capillary viscometer.
d) What is polymorphism? Add note on Bragg's method?
e) What is co-solvency? Explain briefly concept of co-solvency?
f) Give applications and limitations of distribution law.

Q.3 Answer Any Three. **30**

a) Define osmotic pressure. Explain in detail determination of osmotic pressure.
b) Discuss non-Newtonian liquids with rheogram, mechanism and examples.
c) Explain different methods of liquefaction of gases.
d) Discuss phase rule. Explain phase diagram for one component system.

SLR-FK-61

Seat No.	

Set P

B.Pharmacy (Semester – III) (CBCS) Examination Nov/Dec-2019
PHARMACEUTICAL ENGINEERING

Day & Date: Monday, 02-12-2019 Max. Marks: 70
Time: 10:00 AM To 01:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Fill in the blanks by choosing correct alternatives given below. 15

1) The product becomes porous, when the following equipment for drying is used _____.
   a) Drum dryer b) Fluidized bed dryer
   c) Spray dryer d) Tray dryer

2) Vena contracta occurs in _____.
   a) Venturi Meter b) Orifice meter
   c) Pitot Tube d) Rota Meter

3) Bernoullis equation can be derived from the conversion of _____.
   a) Energy b) Mass
   c) Angular Momentum d) Volume

4) If the Reynolds number is Re > 2000, then the flow is said to be _____.
   a) Laminar b) Turbulent
   c) Transient d) None of the above

5) When the flow is weather viscous or turbulent, which equation is used to calculate frictional loss _____.
   a) Fannings equation b) Bemoullis theorem
   c) Stocks law equation d) All of the above

6) In which of the following dryer atomizers are used _____.
   a) Tray b) Spray
   c) Roller d) Freeze

7) Which evaporator is used to concentrate insulin, liver extract and vitamins _____.
   a) climbing film evaporator b) falling film evaporator
   c) horizontal tube evaporator d) vertical tube evaporator

8) Which equation is useful in the analysis of simple distillation?
   a) Miers theory b) Hagan Poiseullis equation
   c) Bernoullies equation d) Reyleigh equation

9) The SI unit of Reynolds number is _____.
   a) Nm^{-2} b) m/s
   c) poise d) unitless

10) Diaphgram pump is generally used for transporting _____.
   a) toxic liquids b) gases
   c) slurry d) all

11) Which method is depending on relative volatility of component?
a) evaporation b) distillation
c) drying d) none of these

12) Which of the following use a thin plate for a measurement of a flow of fluids?
a) orifice meter b) velocity of liquid
c) rotameter d) venturi meter

13) In a plunger pump a moving element follows on e of the mechanisms.
a) One direction b) Propelling
c) Reciprocating d Rotating

14) Energy balance equation must include _____ type of energy.
a) heat b) radiation
c) chemical d) all of the above

15 Which type of liquid evaporates first in the distillation?
a) Immiscible Liquid b) Less Volatile Liquid
c) More Volatile Liquid d) Non-Volatile Liquid

Q.2 Answer Any Five. **25**

1) Describe working of Falling film evaporator.
2) Define:- conveying, desorption, sorption, distillation, LOD.
3) Explain in detail Working of Freeze dryer.
4) Write applications of simple distillation in pharmacy.
5) Describe Reynolds experiment.
6) Draw a neat labeled diagram of FBD.

Q.3 Answer Any Three. **30**

1) Describe principle construction and working of screw conveyor.
2) Classify pumps. Explain in detail Centrifugal pump.
3) Give statement and derive Bernoullis theorem. Explain concept of pressure head.
4) Explain the theory of drying curve with suitable diagrams.

SLR-FK-62

Seat No.	

Set P

B.Pharmacy (Semester – III) (CBCS) Examination Nov/Dec-2019
Organic Chemistry – II

Day & Date: Tuesday, 03-12-2019 Max. Marks: 70
Time: 10:00 AM To 01:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Fill in the blanks by choosing correct alternatives given below. 15

1) Which statement about hemiacetal is false?
   a) A hemiacetal is a germinal hydroxy ether
   b) They can be converted to a ketal
   c) The formation reaction is reversible
   d) They are formed by the nucleophilic attack of an alcohol on an aldehyde.

2) Which of the following compound is most basic?
   a) NH_3 b) CH_3NH_2
   c) $CH_3\ CH_2NH_2$ d) $(CH_3CH_2)_3N$

3) Nitriles can be prepared by?
   a) The hydration of amines b) The dehydration of acids
   c) The dehydration of amides d) The reduction of acids

4) Which of the following features is not characteristic of aromatic compounds?
   a) The ring atoms must be carbon atoms
   b) They are planar
   c) They are cyclic
   d) They have an uninterrupted cluod of delocaliuzed *pi* electrons.

5) The common name for aminobenzene is _____.
   a) benzoic acid b) aniline
   c) phenol d) nitrobenzene

6) The hydroxyl group of a phenol?
   a) *o,p*-directing and activating b) *o,p*-directing and deactivating
   c) *m*-directing and activating d) *m*-directing and deactivating

7) All carbon atoms in anthracene are _____.
   a) *sp* hybridized b) sp^3 hybridized
   c) sp^2 hybridized d) none of these

8) How many *pi* electrons does pyridine have?
   a) 2 b) 4
   c) 8 d) 6

9) Oxidation of primary alcohol gives _____.
   a) Aldehyde
   b) Ketones
   c) Mixture of aldehydes and ketones
   d) Acids

10) _____ 3- Hydroxy butanal is the final synthesized compound in
   a) Aldol condensation b) Perkin reaction
   c) Reformatsky Reaction d) None of these

11) Cannizzarro's reaction is not given by _____.
   a) Formaldehyde b) Acetaldehyde
   c) Benzaldehyde d) Trimethylacetaldehyde

12) Identify the five membered ring with two hetero atoms from the list below: _____.
   a) Indole b) Pyrrole
   c) Pyrazole d) Diazine

13) Thiophene gives _____ colourwhen it is added to a solution of iststin in sulphuric acid.
   a) Violet b) Blue-Green
   c) Brown d Red

14) When alkene is heated with CO in presence of H_3PO_4 at 400^oC gives _____.
   a) Anhydrides b) AIcohoIs
   c) Esters d) Carboxylic acids

15 Mannich reaction is _____.
   a) Acid Catalysed b) Base Catalysed
   c) Carried out in aIkaline medium d) All of these

Q.2 Answer Any Five. **25**

a) Write methods of preparation of Indole.
b) Explain the Huckel's rule with suitable examples.
c) Write reactions of Carboxylic acids.
d) What are Phenols? Explain chemical properties of Phenols.
e) Write general methods of preparations of aldehydes and ketones.
f) Elaborate laboratory preparation methods of Esters and Amides.

Q.3 Answer Any Three. **30**

a) Give the methods of preparations and reactions of Furan and Thiophene.
b) Discuss in detail conditions and mechanism of reactions,
   1) Aldol condensation
   2) Cannizzarro's reaction
   3) Perkin reaction
c) Write in detail mechanism of electrophilic aromatic substitution reaction in benzene example.
d) Write in detail about methods of preparations, reactions and structural elucidation of (Naphthalene).

SLR-FK-63

Seat No.	

Set P

B. Pharmacy (Semester – III) (CBCS) Examination Nov/Dec-2019
PHARMACEUTICAL ANALYSIS – I

Day & Date: Thursday, 19-12-2019 Max. Marks: 70
Time: 10:00 AM To 01:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options. **15**

1) In Gay Lussac method _____ is used for end point detection.
   a) Ferric ion b) Potassium chromate
   c) Eosin d) No indicator

2) 0.85 ml in 100 ml HCl gives _____ M HCl.
   a) 1 b) 0.1
   c) 0.01 d) 0.001

3) Decomposition of KMnO4 is catalysed by _____.
   a) HCl b) MnO_2
   c) Mn^{++} d) $MnO4^-$

4) In titration end point detection is done by _____.
   a) Indication of color change b) Turbidity formation
   c) Potentiomeric determination d) All of these

5) Eosin is used in determination of _____.
   a) Cl^- with Ag^+ b) Cl^-, Br^- with Ag^+
   c) Cl^-, Br^- ,I^- with Ag^+ d) Ag^+ with F^-

6) The color change Red - yellow is for _____.
   a) Methyl Red b) Methyl orange
   c) Thymol blue d) All of these

7) 40 gm NaOH in 1000 ml gives _____ M.
   a) 1 b) 0.1
   c) 0.5 d) 2

8) Assay of ascorbic acid can be done by _____.
   a) cerriometry b) iodimetry
   c) both a & b d) iodometry

9) Zeros at the end of a no. & to the left of assumed decimal point(are) _____.
   a) Significant b) Not significant
   c) May or may not significant d) None

10) _____ is used as primary standard in acid base titration.
   a) Oxalic acid b) Benzoic acid
   c) Sodium oxalate d) All of these

11) Absorption spectroscopy involves _____.
   a) UV spectroscopy b) IR spectroscopy
   c) HPLC d) Mass spectroscopy

12) Each ml of 1M H_2SO_4 is equivalent to _____ gm of Na_2CO_3
   a) 0.204 b) 0.106
   c) 0.0106 d) 0.0204

13) The adsorption indicator method is also called as _____ method.
   a) Mohr's b) Volhard's
   c) Fajan's d Gay-Lussac

14) _____ is used as an indicator in redox titrations.
   a) Starch b) Ferroin
   c) Thiocynate d) All of these

15 Nephlometry measures _____.
   a) R.I. b) Scattering of light
   c) Optical rotation d) Current

Q.2 Answer any five of the following questions. **25**

a) Define :
   1) Molarity
   2) ppb
   3) primary standard
   4) equivalent weight
   5) solvent

b) Explain assay of aspirin.

c) Give the difference between classical methods and instrumental methods.

d) Give the preparation & standardization of 0.1 M NaOH with its principle behind it.

e) Define error. Explain its classification in detail.

f) Explain in detail Fajan's method.

Q.3 Answer any three of the following questions. **30**

a) Explain in detail permangnometry.

b) How the error can be minimized?

c) Explain the complete account of strong acid and strong base titration.

d) Compare and contrast Mohr's & Volhard's method.

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Seat No.	

Set P

B. Pharmacy (Semester – III) (CBCS) Examination Nov/Dec-2019
PATHOPHYSIOLOGY & CLINICAL BIOCHEMISTRY–I

Day & Date: Friday, 20-12-2019 Max. Marks: 70
Time: 10:00 AM To 01:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Assume suitable data if necessary.

Q.1 Choose the correct alternatives from the options. **14**

1) Accumulated insoluble calcium salt deposits in the cell organelles are referred as _____.
   a) Pyknosis b) Karyolysis
   c) Karyorrhexis d) Amorphous density

2) Physiological role of sodium includes _____.
   a) Nerve impulse transmission b) Skeletal muscle contraction
   c) Action potential d) All of the above

3) Dark black coloration in gangrene is due to production of ____ pigment.
   a) Hydrogen sulfide b) Iron nitrite
   c) Iron sulfide d) Acid hematin

4) Major microorganism responsible for the development of duodenal ulcer is _____.
   a) E. coli b) H. pylori
   c) S. typhi d) M. tuberculosis

5) Renal ischemia can be categorized under ____ cause of Acute Renal Failure.
   a) Pre-renal b) Renal
   c) Post renal d) Extra renal

6) Which of the following is a risk factor for development of cancer?
   a) Pollution b) Genetics
   c) Smoking d) All of the above

7) Diabetic foot is an example of _____.
   a) Dry gangrene b) Wet gangrene
   c) Gas gangrene d) Pathologic calcification

8) Increase in the concentration of sodium is called as ____
   a) Hypernatremia b) Hyperkalemia
   c) Hypercalcemia d) Hypovolemia

9) The nerve fiber involved in the pathway for slow pain _____.
   a) $A\delta -$ b) C
   c) $F\mu$ d) K-fiber

10) Which of the following type of Hepatitis is spread by faeco-oral route?
   a) Hepatitis A b) Hepatitis B
   c) Hepatitis C d) Hepatitis D

11) The condition in which urine production is decreased below 500 ml per day is called as ____.
   a) Polyria b) Anuria
   c) Oligouria d) Ketouria

12) Pain-food-relief pattern is observed in case of _____.
   a) Enterocolitis b) Gastric ulcers
   c) Duodenal ulcers d) Crohn's disesaes

13) Monitoring the progress of disease condition is termed as ____.
   a) Diagnosis b) Prognosis
   c) Dialysis d) Therapeutic drug monitoring

14) Which of the following is responsible for maintaining of sodium levels in body?
   a) Aldosterone b) Anti-diuretic Hormone
   c) AtriaI Natriuretic Peptide d) All of the above

15) Which of the following is an example of intracellular accumulation of endogenous pigments?
   a) Smoker's lungs b) Tattoo
   c) Jaundice d) All of the above

Q.2 Answer any four of the following questions.

a) Enlist the types of gall stones. Describe the Gall stone formation process. **25**
b) Define inflammation. Describe the cardinal signs of inflammation.
c) Write a note on types of glomerulonephritis.
d) Describe the pathogenesis of reversible injury.
e) Enlist physiological roles of calcium. Describe hormones regulating plasma calcium level.
f) Describe the symptoms acidosis and alkalosis.

Q.5 Answer the following questions. **30**

a) Write a note on etiopathogenesis and clinical manifestations of Acute Renal Failure.
b) Describe the causes and clinical features of peptic ulcers.
c) Differentiate between benign and malignant tumors. Write a note on carcinogenesis.
d) Write a note on Causes, Types and Morphological changes in Necrosis.

SLR-FK-7

Seat No.	

Set P

B. Pharmacy (Semester - II) (CBCS) Examination Nov/Dec-2019
BIOCHEMISTRY

Day & Date: Monday, 09-12-2019 Max. Marks: 75
Time:02:00 PM To 05:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 20

1) Sanger's reagent contains _____.
   a) Phenylisothiocyanate b) 1-Fluoro-2, 4-dinitrobenzene
   c) Urea d) Dansyl chloride

2) All are Basic amino acid except _____.
   a) Lysine b) Arginine
   c) Phenylalanine d) Histidine

3) Induced fit hypothesis of enzyme action was given by _____.
   a) Fischer b) Koshland
   c) Buchner d) Kuhne

4) Adenine is _____.
   a) 6-Amino purine b) 2-Amino-6-oxypurine
   c) 2-Oxy-4-aminopyrimidine d) 2, 4-Dioxypyrimidine

5) Nervon consists of _____.
   a) Nervonic acid b) Lignoceric acid
   c) Cervonic acid d) Clupanodonic acid

6) Higher alcohol present in waxes is _____.
   a) Benzyl b) Methyl
   c) Ethyl d) Cetyl

7) Hydrolysis of fats by alkali is called _____.
   a) Saponification number b) Saponification
   c) Both (a) and (b) d) None of these

8) Gluconeogenesis is _____.
   a) Synthesis of glucose b) Reuse of giucose
   c) Uptake of glucose d) Both (a) & (b)

9) Stereo isomers which are mirror images of each other are called _____.
   a) Isomers b) Optical isomers
   c) Diastereomer d) Enantiomers

10) Inter-conversion of α to β form of glucose is called as _____.
   a) inversion b) tautomerism
   c) muta-rotation d) racemization

11) Reducing property of sugars is attributed to presence of _____ group.
   a) free aldehydic b) free aldehydic or ketonic
   c) ketonic d) aromatic

12) Which of the following is Non-essential fatty acid?
   a) Arachidonic acid b) Linoleic acid
   c) Lenolenic acid d) None of the above

13) The number of Grams of iodine absorbed by 100 grams of fat is called as _____.
a) Iodine number b) Rancidity
c) Acid number d) Saponification number

14) The no. of ATP produced when one molecule of acetyl -CoA is oxidized through TCA cycle _____.
a) 24 b) 38
c) 12 d) 36

15) Example of enzyme specificity _____.
a) Stereo specificity b) Reaction specificity
c) Substrate specificity d) All of these

16) An enzyme which is secreted in inactive form and activated by other cell called_____ secretion.
a) Zymase b) Zymogen
c) Intracellular d) Extracellular

17) Solid alcohol from bile is also known as _____.
a) Cholesterol b) Ergosterol
c) Ianosterol d) Endosterol

18) Phospholipids prevent formation of fatty liver hence they are called as __.
a) eicosanoids b) lipotropic factor
c) fat factor d) fat prevention factor

19) Tyramine is formed from tyrosine by _____.
a) Deamination b) Dehydrogenation
c) Decarboxylation d) Carboxylation

20) Iodine number denotes _____.
a) Degree of unsaturation b) Saponification number
c) Acid number d) Acetyl number

Q.2 Short Answers. (Any Seven) **35**

a) Give structure & functions of mucopolysachharides.
b) Explain the terms Acid value & Saponification value.
c) What are epimers? Write note on anomers and optical rotation.
d) Write note on fatty acids. Give details of EFA.
e) Give in details about Replication of DNA.
f) Explain lock and key theory and induced fit theory.
g) Give in short about factors affecting enzyme activity.
h) Give enzymes involved in biological oxidation. Explain ETC.
i) Add note on denaturation of proteins.

Q.3 Long answers. (Any Two) **20**

a) Describe β-oxidation of fatty acid. Calculate net ATP yield.
b) Explain in detail TCA cycle with energetics. Add note on its amphibolic nature.
c) What are the different levels at which proteins structure is studied?

SLR-FK-8

Seat No.	

Set P

B. Pharmacy (Semester-II) (CBCS) Examination Nov/Dec-2019
PATHOPHYSIOLOGY

Day & Date: Wednesday, 11-12-2019 Max. Marks: 75
Time: 02:00 PM To 05:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options and rewrite the sentence. 20

1) Cell injury is a variety of stress, a cell encounters as a result of changes in its _____ environment.
   a) Internal b) External
   c) Both a & b d) Other than a & b

2) To learn the fundamentals of disease processes at cellular level _____ is essential to have an understanding.
   a) Mechanism of cell injury b) Cellular adaptation
   c) Causes d) All of above

3) _____ is also referred to as a typical hyperplasia.
   a) Hypertrophy b) Hyperplasia
   c) Metaplasia d) Dysplasia

4) Heart failure may be caused by _____.
   a) Intrinsic pump failure
   b) Increased work load on the heart
   c) Both a & b
   d) Other than a & b

5) Elevated jugular venous pressure is an indication of fluid accumulation in ___.
   a) Aorta b) Ventricles
   c) Pulmonary artery d) Atrium

6) _____ is a physical sign for heart failure.
   a) Fast and low pulse b) Pale skin
   c) Cold & sweaty skin d) All of above

7) _____ is a clinical effect for chronic ischemia.
   a) Angina pectoris b) Acute illness
   c) Chest pain d) Silent

8) _____ contribute significantly to the occurrence of ischemic heart disease.
   a) Cocaine b) Contraceptive pill
   c) Anxiety d) Obesity

9) _____ angina is characterised by pain at rest and has no relationship with physical activity.
   a) Typical b) Prinzmetal's variant
   c) Cresendo d) Unstable

10) Asthmatic attach begins with _____.
   a) Difficulty in breathing b) Wheezing noises
   c) Coughing d) All of above

11) _____ asthma common in childhood and caused by exposure to definite allergens.
a) Intrinsic b) Extrinsic
c) Both a & b d) Other than c

12) Pathological change seen in acute renal failure _____.
a) Tubular necrosis b) Glomerulonephritis
c) Both a & b d) Other than c

13) Accumulation of uric acid in the blood is characterised by _____.
a) Fatigue b) Muscle twitch
c) Cramps d) All of above

14) _____ is the development of iron deficiency anaemia.
a) Increased blood loss
b) increased requirement
c) Decreased intestinal absorption
d) All of above

15) Insulin is a polypeptide with molecular weight of _____ Dalton.
a) 5000 b) 6000
c) 7000 d) 8000

16) _____ is a sign for hyperthyroidism.
a) Warm moist skin b) Dry skin
c) Bradycardia d) Puffy face

17) _____ is adverse effect of progesterone.
a) Dizziness b) Diminished sex drive
c) Weight gain d) All of above

18) Oestrogen and androgen combination used to treat _____.
a) Post partum breast engorgement
b) Menopause vasomotor symptoms
c) Both a and b
d) Other than a and b

19) Seizure lasts for 2-5 minute. When it stops, after this person may have _____.
a) Head ache b) Confusion
c) Fatigue d) All of above

20) _____ sign and symptom of meningitis observed usually occur one week after exposure.
a) Fever b) Stiff neck
c) Sore throat d) All of above

Q.2 Answer any two of the following questions. 20

a) Define homeostasis. Describe components and types of feedback systems with suitable examples.

b) What is meant by congestive heart failure? Write in detail etiology and pathophysiology of congestive heart failure.

c) Define epilepsy. Give its types and explain etiology and clinical manifestations of epilepsy.

Q.3 Answer any seven of the following questions. **35**

a) Mention causative agent, pathology, clinical manifestations and management of AIDS.

b) Explain leprosy pathophysiology aspect in detail.

c) Write a note on peptic ulcer.

d) What you mean by UTI? Describe in short about the causes of pathogenesis.

e) Define Psychosis. Write the symptoms of psychosis and its treatment.

f) Differentiate between the Hypothyroidism and Hyperthyroidism.

g) Comment on sickle cell anaemia.

h) What is hypertension? Give type and management of same.

i) Define the terms Pathology, Pathophysiology, Histology, Health and disease.