SLR-TV – 1

Seat No.	

Set **P**

B.Pharm. (Semester – I) (New CBCS) Examination, 2018
HUMAN ANATOMY AND PHYSIOLOGY – I

Day and Date : Friday, 7-12-2018 Max. Marks : 75
Time : 10.30 a.m. to 1.30 p.m.

1. Multiple Choice Questions. **20**

1) The _____ Plane divides body into right and left sections.
   a) Coronal b) Frontal c) Sagittal d) Transverse

2) Which cells in blood do not have a nucleus ?
   a) Lymphocyte b) Erythrocyte c) Monocyte d) Basophill

3) _____ structural fibrous protein present in dermis layer of skin.
   a) Collagen b) Melanin c) Heparin d) Titin

4) The brain and spinal cord are protected by membranes known as the
   a) Meninges b) Axomembranes
   c) Myelin Sheath d) Nodes of ranvier

5) Circulation of oxygenated and deoxygenated blood to lungs is classified as
   a) Lymphatic Circulation b) Pulmonary Circulation
   c) Systemic Circulation d) None of the above

6) Joints which are held together by fibres of connective tissue are called
   a) Hinge joint b) Ball and socket joint
   c) Synovial joint d) Fibrous joint

7) A substance can only be accumulated against its electrochemical gradient by
   a) Facilitated diffusion b) Ion channel
   c) Uniport d) Active transport

8) A specialized bone, forming and non-dividing cells are named as
   a) Osteopontins b) Osteoblast c) Osteocyte d) Osteoclast

9) Gap junction allows exchange of
   a) Solute b) Solution c) Solvent d) Water only

10) 'Keratin' protein is synthesized by the
   a) Mitochondria b) Nucleus
   c) Nucleolus d) Ribosomes

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11) Histamine secreting cells are found in
   a) Muscular tissue b) Connective tissue
   c) Epithelial tissue d) Lungs
12) The parts of inner membranous labyrinth is
   a) Vestibule b) Semicircular canal
   c) Cochlead d) All the above
13) A change in an environmental parameter that generates a response called as
   a) Stimulus b) Touch c) Labyrinth d) Olfactory
14) The functional unit of contractile system in striated muscle is
   a) Myofibril b) Sarcomere c) Sarcoplasm d) Myolemma
15) Moving a part toward the midline
   a) Adduction b) Abduction
   c) Plantar Flexion d) Flexion
16) Microfilaments are composed mainly protein of
   a) Actin b) Tubulin c) Myosin d) Chitin
17) The Trochlear nerve is _____ cranial nerve.
   a) IV b) IX c) V d) VI
18) Platelets are formed from _____ type of cell.
   a) Melanocyte b) Macrophages
   c) Astrocytes d) Megakaryocytes
19) T lymphocytes mature in the
   a) Spleen b) Thymus
   c) Lymph nodes d) Red bone marrow
20) Haversian canals occur in
   a) Clavivle b) Humerus c) Pubis d) Scapula

2. Long Answers (Solve **any two**). **(2×10=20)**
   1) Define histology, write in detail about structure, location and function of types of skeletal, muscular, connective and nervous tissue.
   2) Discuss anatomy and physiology of Eye and Ear.
   3) Describe the conduction and circulation system of heart, draw a neat labelled diagram of heart.

3. Short Answers (Solve **any seven**). **(7×5=35)**
   1) Explain cell communication and cell junction process.
   2) Write physiology of muscle contraction.
   3) Give structure and function of parasympathetic and sympathetic nervous system.
   4) Write a short note on cardiac cycle.
   5) Explain mechanism of coagulation and enlist the disorders of blood.
   6) Discuss levels of structural organization and basic anatomical terminology.
   7) Write a composition, formation, function of lymph.
   8) Define joint and explain types of joint movements.
   9) Write divisions of skeletal system and types of bone.

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SLR-TV – 2

Seat No.	

Set **P**

B.Pharmacy (Semester – I) (New CBCS) Examination, 2018
PHARMACEUTICAL ANALYSIS – I

Day and Date : Monday, 10-12-2018 Total Marks : 75

Time : 10.30 a.m. to 1.30 p.m.

I. Multiple choice questions : **(20×1=20)**

1) _____ is used as primary standard for standardization of NaOH.
   a) Sodium carbonate b) Sodium bicarbonate
   c) Sodium chloride d) Potassium dichromate

2) Phenolphthalein has a pH range of
   a) 6.8 – 8.4 b) 1.2 – 2.8 c) 8.3 – 11.0 d) 4.2 – 6.3

3) Errors arise due to the individual analyst is responsible for them
   a) Method error b) Instrumental error
   c) Personal error d) Random error

4) Solution of known concentration
   a) Standard solution b) Concentration
   c) Solution d) Concentrated solution

5) Primary standard used in redox titration
   a) Potassium dichromate b) Oxalic acid
   c) Arsenic trioxide d) All

6) Acid is a substance which dissociates in water to produce hydrogen ions
   a) Arrhenius theory b) Lewis theory
   c) Bronsted theory d) Lowry theory

7) The colour change is due to ionisation of the acid base indicators
   a) Ostwald theory b) Chromophore theory
   c) Quinonoid theory d) Resonance theory

8) Substance that can be reversibly oxidized or reduced, having different distinct colour in the individual oxidized and reduced forms
   a) Redox indicators b) Redox potential
   c) Redox number d) Redox state

9) 20 gm NaOH in 500 ml =
a) 0.1 N b) 1 N c) 0.5 M d) 0.05 N

10) In oxidation reduction change in _____ of reacting element takes place.
a) Volume b) pH c) Absorbance d) Valency

11) _____ is not an amphiprotic solvent.
a) Water b) Alcohol c) Acetic acid d) None

12) Mordant blue III indicator is used for _____ detection.
a) Aluminium b) Calcium c) Magnesium d) Thorium

13) _____ is not type of co-precipitation.
a) Surface adsorption b) Occlusion
c) Crystallization d) Mechanical entrapment

14) Acidic dyes used in Fajan's method
a) Phenol b) Rhodamine series
c) Fluorescein d) Thymol blue

15) Oxidation-Reduction titration is also known as
a) Complexometric titration b) Gravimetric titration
c) Redox titration d) Gasometric titration

16) Potentiometry is type of _____ method.
a) Qualitative b) Chromatographic
c) Classical d) Electro-chemical

17) Chelating agent is
a) Salicylic acid b) EDTA
c) Benzoic acid d) Glycerol

18) _____ used as titrant in non-aqueous titration.
a) EDTA b) Perchloric acid
c) Sodium nitrite d) Silver nitrite

19) Assay of calcium gluconate _____ used to increase the sharp end point.
a) Magnesium sulphate b) Calcium sulphate
c) Calcium carbonate d) Magnesium carbonate

20) Conductometry used for the measurement of
a) Conductivity b) Potential
c) Temperature d) Concentration

II. Long answers (**any 2**) : **(10×2=20)**

1) Explain any two neutralisation curves with examples.
2) Explain Fajan method and Mohr's method.
3) Explain the types of redox titration.

III. Short answers (**any 7**) : **(5×7=35)**

1) Write about masking and demasking agent with example.
2) Discuss the concept of Co-pricipitation.
3) Discuss in brief principle of conductometric titration.
4) Define pharmaceutical analysis. Give the importance of pharmaceutical analysis.
5) Define and classify errors.
6) Enlist steps involved in gravimetry. Explain in detail filtration.
7) How will you prepare and standardize 1M $KMnO_4$?
8) Draw the diagram and advantages of Dropping Mercury Elecrode.
9) Explain the solvents used in non-aqueous titrations.

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SLR-TV – 3

Seat No.	

Set **P**

B.Pharmacy (Semester – I) Examination, 2018
PHARMACEUTICS – I (New CBCS)

Day and Date : Wednesday, 12-12-2018 Max. Marks : 75
Time : 10.30 a.m. to 1.30 p.m.

I. Multiple choice questions : **(20×1=20)**

1) In prescription signatura means
   a) Direction to patient
   b) Direction to pharmacist
   c) Direction to physician
   d) None of the above

2) "Inter cibos" means
   a) Between the meals
   b) After meals
   c) Before meals
   d) None of the above

3) Immiscibility of oil and water is _____ type of incompatibility.
   a) Physical
   b) Chemical
   c) Therapeutic
   d) Toxic

4) When action of one drug is opposed by other drug on the same physiological system is
   a) Synergism
   b) Antagonism
   c) Idiosyncrasy
   d) Tolerance

5) Elixirs are _____ type of dosage forms.
   a) Aqueous
   b) Non-aqueous
   c) Hydroalcoholic
   d) Oily

6) Which of the following method is formed for preparation or emulsion ?
   a) Dry gum method
   b) Wet gum method
   c) Bottle method
   d) All of the above

7) Which of the following is sign of instability in emulsion ?
   a) Cracking
   b) Creaming
   c) Phase inversion
   d) All of the above

8) Lanolin is also known as
   a) Wool fat b) Wool alcohol
   c) Hydrous wool fat d) Bees wax

9) Paste contains high concentration of _____
   a) Solids b) Liquids c) Colours d) Falvors

10) Pessaries are meant for introduction into
   a) Vagina b) Rectum c) Oral cavity d) Nasal cavity

11) Which of the following test used for identification of emulsion ?
   a) Dilution test b) Dye test
   c) Conductivity test d) All of the above

12) If emulsifying agent is soluble in water then _____ type of emulsion is produced.
   a) O/W b) W/O
   c) Both a) and b) d) None of these

13) In non-flocculated suspension the particles exist as _____
   a) Aggregates b) Separate entities
   c) Flocs d) None of these

14) Emulsifying agents reduce _____ between two phases.
   a) Solubility b) Reaction
   c) Interfacial tension d) None of these

15) Antipruritic agents used to relieve
   a) Fever b) Itching
   c) Swelling d) Bleeding

16) The phase inversion of emulsion means
   a) Change of o/w to w/o b) Change of w/o to o/w
   c) Both a) and b) d) None of the above

17) In the prescription the term subscription means _____
   a) Direction to pharmacist b) Direction to patient
   c) Direction to physician d) None of the above

18) Fourth edition of Indian pharmacopoeia published in the year
   a) 1955 b) 1965 c) 1985 d) 1996

19) Who is the father of pharmacy education in Indian ?
   a) Prof. M. L. Schroff
   b) Prof. R. N. Chopra
   c) Dr. B. N. Ghosh
   d) Dr. G. M. Sadique

20) Aqueous iodine solution is also known as
   a) Mandl's paint
   b) Lugol's solution
   c) Dakin's solution
   d) None of the above

II. Answer **any two** : **(2×10=20)**

1) Define posology. Explain factors affecting it.
2) What are suspensions ? Differentiate flocculated and deflocculated suspension. Add a note on stability of suspension.
3) Define incompatibility. Add a note on different types of incompatibility.

III. Answer **any seven** : **(7×5=35)**

1) Add a note on career and scope of pharmacy.
2) What are powders ? Add a note on effervescent granules.
3) Define the following terms :
   a) Paste
   b) Suppositories
   c) Creams
   d) Emulsion
   e) Aerosols.
4) Explain different technique of solubility enhancement.
5) Explain different identification test for emulsion.
6) Define and classify dosage forms with suitable examples.
7) What are ointments ? Classify ointment bases with example.
8) Explain handling of prescription.
9) Explain different factors affecting dermal penetration of drugs.

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SLR-TV – 4

Seat No.	

Set P

B. Pharmacy (Semester – I) (New CBCS) Examination, 2018
PHARMACEUTICAL INORGANIC CHEMISTRY

Day and Date : Friday, 14-12-2018 Max. Marks : 75
Time : 10.30 a.m. to 1.30 p.m.

1. Multiple choice question. **(1×20=20)**

1) In limit test of sulphate alcohol not allow
   a) saturation b) super saturation
   c) less saturation d) precipitation

2) Limit test are _____ test designed to identify and control small quantities of impurities.
   a) Qualitative b) Quantitative c) Imperative d) All of these

3) Limit test for iron purple color is due to formation of _____
   a) Ferrous thiogycolate b) Glycolate
   c) Ferric glycolate d) Glycollic acid

4) According to Lewis concept acid is
   a) electron pair accepter b) electron pair donor
   c) proton accepter d) electron accepter

5) Boron trifluoride is
   a) Acid b) Base c) Neutral d) Amphoteric

6) The pH vale of blood is
   a) 7.4 to 7.5 b) 5.4 to 7.5 c) 4.5 to 8.0 d) 2.0 to 4.0

7) Carbonic acid is _____ acid.
   a) strong b) weak c) very strong d) none of these

8) In parenteral pharmaceutical preparation following buffer is used
   a) Borate b) Phosphate
   c) Chlorate d) None of these

9) Boric acid having _____ mol.wt.
   a) 61.83 b) 40.1 c) 45 d) 50

10) Sodium thiosulphate is titrated with _____ solution.
   a) 0.1 N iodine b) 0.5 N iodine c) 0.1 N HCL d) 0.5 N HCL

11) Baking soda is known for
   a) Na_2CO_3 b) $NaHCO_3$ c) NaOH d) K_2CO_3

12) Hydrogen peroxide is used as
   a) antiseptic b) acidifying agent
   c) protective d) antioxidant

13) Compounds capable of function as antimicrobial agent through oxidative mechanism are
   a) H_2O_2 b) halogen c) $KMnO_4$ d) all of these

14) Hydrogen peroxide is titrated from
   a) 0.6 N $KMnO_4$ Irritation b) 0.3 N $KMnO_4$
   c) 0.5 N $KMnO_4$ d) 0.1 N $KMnO_4$

15) When _____ gas is passed through potassium permanganate solution, which disappear violet colour.
   a) Hydrogen sulphide b) Chlorine
   c) Carbon dioxide d) Oxygen

16) Ammonium chloride is titrated with _____ solution.
   a) Sodium fluoride b) Sodium iodide
   c) Sodium carbonate d) Silver nitrate

17) Copper sulphate is titrated with
   a) Sodium fluoride b) Sodium iodide
   c) Sodium thiosulphate d) Sodium hydroxide

18) _____ is required in carbohydrate and protein metabolism.
   a) Magnesium b) Calcium c) Sodium d) Potassium

19) _____ is used as antidote in cyanide poisoning.

a) Sodium fluoride b) Sodium iodide

c) Silver nitrate d) Sodium thiosulphate

20) Identify strong oxidizing agent

a) CO_2 b) SO_2 c) H_2S d) H_2O_2

2. Long answer (answer **2** out of 3). **(2×10 =20)**

1) Explain method of preparation and assay of sodium chloride. Enlist properties and uses of it.

2) Explain various sources and type of impurities in pharmaceuticals. Discuss principle and Working of Gutzeit apparatus for the limit test of Arsenic.

3) Explain the term “emetics” with example and highlights various antidotes along with their mechanism.

3. Short answer (answer **7** out of 9). **(7×5=35)**

1) Define the term antacids. Explain preparation and uses of sodium bicarbonate.

2) Explain the role of ammonium chloride as effective expectorants.

3) Highlights precaution and pharmaceutical application of radiopharmaceuticals.

4) Explain the term dentifrices with example.

5) Write principle and reaction involved in limit test of lead.

6) Discuss the term ‘physiological acid base balance”.

7) Explain role of sodium and potassium.

8) Give properties and medicinal uses of sodium nitrite 333.

9) Define pharmacopeia and highlight history of it.

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SLR-TV – 5

Seat No.	

Set **P**

B.Pharmacy (Semester – II) (New CBCS) Examination, 2018
HUMAN ANATOMY AND PHYSIOLOGY – II

Day and Date : Friday, 7-12-2018 Total Marks : 75

Time : 2.30 p.m. to 5.30 p.m.

1. MCQ/Objective type questions : **(20×1=20)**

1) Nervous system follows _____ as a main function.
   a) Sensory input b) Integration of data
   c) Motor output d) All of above

2) Within the axoplasm, when the substance is transport from the nerve terminals towards the cell body is known as
   a) Anterograde b) Retrograde
   c) Both a) and b) d) None of the above

3) _____ is an inhibitory neurotransmitter.
   a) GABA b) Glutamate
   c) Nor epinephrine d) None of the above

4) _____ is the second largest part of the human brain.
   a) Brain stem b) Diencephalon
   c) Cerebellum d) Cerebrum

5) _____ part of stomach is commonly filled with air or gas.
   a) Cardiac orifice b) Fundus
   c) Body d) Pylorus

6) Bile containing _____
   a) Bile pigment b) Bile salt
   c) Cholesterol d) All of above

7) Basal metabolic rate is higher in _____
   a) Pregnancy b) Fever
   c) Growing age d) All of above

8) Upper respiratory tract includes except _____
   a) Pharynx b) Epiglottis
   c) Larynx d) Trachea

9) _____ is known as wind pipe.
   a) Pharynx b) Larynx
   c) Trachea d) Bronchi

10) Vital capacity is _____ millilitres.
   a) 6000 b) 4000 to 5000
   c) 1200 d) 3000

11) _____ is the only part of the renal tubule that dips into the renal medulla.
   a) Proximal tubule b) Loop of Henle
   c) Distal tubule d) Collecting duct

12) _____ is also known as Kimmelstiel-Wilson syndrome.
   a) Diabetic nephropathy b) Nephrolithiasis
   c) Polynephritis d) Glomerulonephritis

13) _____ results from thyroid atrophy in the adult.
   a) Goitre b) Hypothyroidism
   c) Cretinism d) Myxedema

14) _____ causes ovulation in females and sex hormone secretion in both males and females.
   a) Somatrotropin b) Thyrotropin
   c) Adrenocorticotropic hormone d) Luteinizing hormone

15) Delivery of baby is known as _____
   a) Insemination b) Fertilization
   c) Gestation d) Parturition

16) Scrotum has a rich sensory _____ nerve supply.
   a) Genitofemoral b) Ilioinguinal
   c) Perineal d) All of above

17) Protein synthesis is the biological process which includes _____ steps.
   a) Transcription b) Translation
   c) Both a) and b) d) None of the above

18) Human cells have _____ pairs of chromosomes.
   a) 23 b) 46
   c) 2 million d) 3 Billion

19) Semen is slightly _____ in nature.
   a) Acidic b) Alkaline
   c) Neutral d) Strong acidic

20) Each kidney extends from 12th thoracic vertebra up to _____lumbar vertebra.
   a) First b) Second
   c) Third d) Fifth

2. Answer **any two** of the following : **(2×10=20)**

   A) Draw spinal cord. Give the location and functions of the spinal cord.

   B) Give the internal structure of pancreas and discuss intestine in detail.

   C) Describe respiratory system in detail. Brief the functions of the respiratory system.

3. Answer **any seven** of the following : **(7×5=35)**

   A) Discuss about the disorder of thyroid gland.

   B) Explain the process of spermatogenesis.

   C) Give the importance of the cerebrospinal fluid, where and how cerebrospinal fluid is formed.

   D) Describe lung volume and lung capacity.

   E) How kidney regulates acid base balance ?

   F) Write a note on mechanism of hormone action.

   G) Draw a neat labelled diagram of female reproductive system.

   H) Enlist role of genes.

   I) Discuss electrophysiology of nervous system.

SLR-TV – 6

Seat No.	

Set P

B.Pharmacy (Semester – II) (New CBCS) Examination, 2018
PHARMACEUTICAL ORGANIC CHEMISTRY – I

Day and Date : Monday, 10-12-2018 Max. Marks :75
Time : 2.30 p.m. to 5.30 p.m.

1. Multiple Choice Questions : **20**

1) Victor meyers test is not given by

a) $(CH_3)_3$ COH b) $C_2 H_5$ OH

c) $(CH_3)_2$ HCOH d) $CH_3 CH_2 CH_2$ OH

2) In Diels – alder reaction the 1, 3 – butadiene is reacted with _____ 100°C to form Tetrahydro benzaldehyde.

a) Acroline b) Aniline c) Acytyline d) Salicylate

3) Propadiene $CH_2 = C = CH_2$ is

a) Cumulated diene b) Conjugated diene

c) Isolated diene d) None of above

4) Isobutyl group is which type of an alkyl group

a) Primary b) Secondary c) Tertiary d) None

5) According to anti Markovnikov's rule when propylene reacts with HBr in presence of peroxide product is

a) n – propyl bromide b) Isopropyl bromide

c) Butyl bromide d) Isobutyl bromide

6) Which of the following compound would react most rapidly in an SN_2 reaction ?

a) $CH_3 CH_2$ I b) $CH_2 = CHI$

c) $(CH_3)_2$ CHI d) $(CH_3)_3$ Cl

7) 1, 2 dibromo ethane is formed by the reaction between

a) $CH_2 = CH_2$ and Br_2

b) Acetylene with excess of HBr

c) Ethylene with excess of HBr

d) 1, 2 dichloro ethane with Br_2

8) What is the IUPAC name of given structure $CH_3 – CH = CH – CH_2 – OH$
   a) 2 – buten – 1 – 01
   b) 2 – buten – 4 – 01
   c) 2 – buten – 2 – 01
   d) 2 – butan – 4 – 01

9) Less basic amine of the following
   a) $CH_3 – Ar – NH_2$
   b) $Ar – NH_2$
   c) $NO_2 – Ar – NH_2$
   d) $R – NH_2$

10) Tollen's reagent can be used to distinguish
   a) Aldehydes and higher ketones
   b) Aldehydes and lower ketones
   c) Aldehydes and Ketones
   d) Neither

11) 2-bromo butane reacts with alcoholic KOH to give
   a) 1 – butene
   b) 2 – butene
   c) 1 – butenol
   d) 2 – butane

12) Alcohols reacts with PCl_5 to give
   a) Alkene
   b) Alkyl halide
   c) Acid
   d) None of these

13) Cross cannizzaro's reaction is given by
   a) C_6H_5 CHO, HCHO
   b) C_6H_5 CHO, CH_3CHO
   c) CH_3 CHO, HCHO
   d) All of above

14) Which of the following is strongest acid ?
   a) Water
   b) Formic Acid
   c) Acetic acid
   d) Propanoic acid

15) In Hofmann's method for separation of 1°, 2° and 3° amines, the reagent used is
   a) acetyl chloride
   b) diethyl oxalate
   c) nitrous acid
   d) none of above

16) Which of the diazonium salt is most stable
   a) aryl diazonium salt
   b) alkyl diazonium salt
   c) cyclo alkyl diazonium salt
   d) None of above

17) Primary alcohol is obtained by
   a) Hydration of alkene
   b) dehydration of alkenes
   c) Dehydrogenation of alkenes
   d) None of above

18) Benzylamine reacts with nitrous acid to form
   a) Azo benzene
   b) Benzyl alcohol
   c) Benzene
   d) Phenol

19) Alkyl halides almost insoluble in water because
   a) They have low polarity
   b) They are covalent compound
   c) They do not form hydrogen bond with water
   d) None of above

20) SN_1 mechanism proceeds _____ intermediate state.
   a) Free radical
   b) Carbonium ion
   c) Pentavalent transition
   d) Carbanion state

2. Answer **any seven** of the following : **(7×5=35)**
   i) Write any five chemical reactions of aliphatic amines.
   ii) Write methods of preparation of alcohols.
   iii) Explain any five chemical reactions of alkenes.
   iv) Write methods of preparation of 1, 3, – butadiene.
   v) Write chemical reactions of alkanes.
   vi) Explain any four methods of preparation of carboxylic acids and explain effect of substituent on acidity.
   vii) Write methods of preparations of aldehydes and ketones.
   viii) Write a note on SN_1 and SN_2 reactions of Alkyl halides.
   ix) Draw the structures from given IUPAC names or common names
      i) 2 – oxo – 3 – methyl pentane
      ii) 2 – methyl – 2 – phenyl heptanol
      iii) 5 – hydroxy hexanoic acid
      iv) 2 – butanoic acid
      v) Isobutyl alcohol.

3. Solve **any two** : **(10×2=20)**
   1) Write mechanism, reaction, conditions and criteria along with applications of following :
      i) Cannizzarro's reaction
      ii) Benzoin reaction.
   2) How will you separate a mixture primary, secondary and tertiary alcohols.
   3) Explain in detail E_1 and E_2 reaction.

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SLR-TV – 7

Seat No.	

Set P

B.Pharm. (Semester – II) (New CBCS) Examination, 2018
BIOCHEMISTRY

Day and Date : Wednesday, 12-12-2018 Max. Marks : 75
Time : 2.30 p.m. to 5.30 p.m.

1. Multiple Choice Questions. **(20×1=20)**

1) Edman's reagent contains
   a) Phenylisothiocyanate b) 1-Fluoro-2, 4-dinitrobenzene
   c) Urea d) Dansyl chloride

2) An aromatic amino acid is
   a) lysine b) arginine
   c) phenylalanine d) histidine

3) Key and lock hypothesis of enzyme action was given by
   a) Fischer b) Koshland
   c) Buchner d) Kuhne

4) Guanine is
   a) 6-Amino purine b) 2-Amino-6-oxypurine
   c) 2-Oxy-4-aminopyrimidine d) 2, 4-Dioxypyrimidine

5) Kerasin 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) Cori cycle is

a) Synthesis of glucose b) Reuse of glucose

c) Uptake of glycose d) Both (a) and (b)

9) Stereo isomers which are not mirror images of each other are called

a) isomers b) stereoisomers

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 essential fatty acid ?

a) Arachidonic acid b) Lenoleic acid

c) Lenolenic acid d) All of the above

13) The number of _____ of iodine absorbed by 100 grams of fat is called as iodine number.

a) Kilograms b) Milligrams

c) Grams d) Micrograms

14) The no. of ATP produced when 2 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 ready for action is called _____ secretion.

a) Zymase b) Zymogen

c) Intracellular d) Extracellular

17) Solid alcohol from bile is also known as
   a) Cholesterol b) Ergosterol
   c) Lanosterol 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) Histamine is formed from histidine 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

2. Long answers (Answer **2** out of 3). **(2×10=20)**
   1) Describe β-oxidation of fatty acid. Calculate net ATP yield.
   2) Explain in detail TCA cycle with energetics. Add note on its amphibolic nature.
   3) What are the different levels at which proteins structure is studied ?

3. Short answers (Answer **7** out of 9). **(7×5=35)**
   1) Give structure and functions of mucopolysaccharides.
   2) Explain the terms acid value and saponification value.
   3) What are epimers ? Write note on anomers and optical rotation.
   4) Write note on fatty acids. Give details of EFA.
   5) Describe Watson and Crick model of DNA structure.
   6) What are high energy compounds ? Give the examples.
   7) Explain structure and biosynthesis of cholesterol.
   8) Discuss Sanger's and Edman's reactions.
   9) Write in details about inhibitors of enzymatic action.

SLR-TV – 8

Seat No.	

Set P

B.Pharm. (Semester – II) Examination, 2018
PATHOPHYSIOLOGY (New CBCS)

Day and Date : Friday, 14-12-2018 Max. Marks : 75
Time : 2.30 p.m. to 5.30 p.m.

1. Multiple Choice Questions : **(20×1=20)**

1) Decrease in size and number of parenchymal cell is called as
A) Dystrophy B) Atrophy C) Atopy D) Metaplasia

2) Which of the following is a cell mediated mediator of inflammation ?
A) Adrenaline B) Pyridoxamine
C) Histamine D) All of the above

3) Monitoring the progress of disease condition is termed as
A) Diagnosis B) Prognosis
C) Dialysis D) Therapeutic drug monitoring

4) Symptoms of diabetes mellitus do not include
A) Pruritis B) Polyphagia
C) Vulvitis D) Polydipsia

5) The condition in which urine production is decreased below 500 ml per day is called as
A) Polyria B) Oligouria
C) Anuria D) Ketouria

6) Quantitative abnormalities of Polypeptide globin chain synthesis leads to
A) Thallassaemia B) Hemophilia
C) Hematuria D) Polycythemia

7) The major location of occurrence of Emphysema is
A) Bronchus B) Trachea
C) Bronchioles D) Acinus

8) Which of the following Hepatitis is having the longest incubation period ?
A) Hepatitis A B) Hepatitis B C) Hepatitis C D) Hepatitis D

9) Which of the following type of cell in GIT is majorly responsible for secretion of mucus ?
A) Chief cell B) Parietal cell
C) Goblet cell D) Peptic cells

10) The duration of the initial asymptomatic incubation period in typhoid fever is about
A) 2 days B) 2 weeks C) 2 months D) 2 years

11) The study of causes of diseases is known as
A) Epidemiology B) Etiology
C) Histology D) Morphology

12) Spread of tumour to distant tissues by invasion is termed as
A) Dysplasia B) Metaplasia
C) Oncogenesis D) Metastasis

13) The causative organism for syphilis is
A) *Salmonella typhi* B) *Vibrio cholera*
C) *Tropodema pallidum* D) *Clostridium tetani*

14) Loss of appetite is known as
A) Insomnia B) Nausea C) Anorexia D) Alopecia

15) A sudden rise in blood pressure above 200/140 mmHg is termed as
A) Pre-hypertension B) Malignant hypertension
C) Benign Hypertension D) Isolated systolic hypertension

16) Progressive dementia is the feature of
A) Parkinson's disease B) Epilepsy
C) Alzheimer's disease D) Psychosis

17) Which of the following is not an example of negative feedback mechanism ?
A) Thirst
B) Renin- Angiotensin- Aldosterone Pathway
C) Platelet aggregation
D) Release of thyroid hormone

18) _____ change in reversible injury is also known as glassy change.
A) Hyaline B) Fibrinoid C) Hydropic D) Fatty

19) Pathogenesis of bronchial asthma involves development of
A) Deficiency of α-1 antitrypsin B) Airway damage
C) IgE- sensitized mast cells D) Ciliary paralysis

20) The parameter which can describe the blood sugar level over a period of 3 months is
A) Fasting sugar B) Post-prandial sugar
C) Random sugar D) Glycosylated hemoglobin

2. Long answers. (Answer **two** out of three) : **(2×10=20)**

1) Describe the etiopathogenesis of Peptic Ulcers. Differentiate between gastric and duodenal ulcers.
2) Write a note on pathogenesis and clinical manifestations of Parkinson's and Alzheimer's disease.
3) Classify hypertension. Describe the etiology and clinical complications of hypertension.

3. Short answers. (Answer **seven** out of nine) : **(7×5=35)**

1) Define Homeostasis. With the help of one example, describe the role of negative feedback mechanism.
2) Describe the process of emigration of leucocytes in inflammatory condition.
3) What are the causes and symptoms of Chronic Bronchitis ?
4) Write a note on causes of Acute Renal Failure.
5) Describe the etiology and role of genetics in development hemophilia.
6) Distinguish between clinical features of hyperthyroidism and hypothyroidism.
7) Explain the process of carcinogenesis.
8) Describe the causes and clinical manifestations of Rheumatoid arthritis.
9) Write a note on the causative organism, mode of transmission and clinical complications of AIDS.

Seat No.	

SLR-TV – 9

Set P

B.Pharmacy (Semester – II) (Old) (CBCS) Examination, 2018
PHARMACEUTICS – II

Day and Date : Friday, 7-12-2018 Total Marks : 70
Time : 2.30 p.m. to 5.30 p.m.

I. Multiple choice question : **(15×1=15)**

1) Based on impact and attrition _____ mill works.
   a) Ball mill b) Hammer mill
   c) Roller mill d) All of above

2) _____ used for mixing of immiscible liquids.
   a) Silverson mixer b) Colloid mill
   c) Rapisonic mixer d) All of above

3) Colloid mill used for_____ purpose.
   a) Mixing b) Size reduction
   c) Filtration d) Both a) and b)

4) In solid mixing convective mixing mechanism is also known as
   a) Micro mixing b) Shear mixing
   c) Macro mixing d) Distributive mixing

5) Ultrafine particle size reduction can be done by _____ mill.
   a) Roller b) Hammer
   c) Fluid energy d) Cutter

6) _____ is used as sweetener in tooth powder.
   a) Saccharine b) Peppermint
   c) Menthol d) Vanillin

7) Basket centrifuge equipment is used for
   a) Filtration b) Mixing
   c) Size reduction d) All of these

8) Eutectic substances liquefy when intermixed. This can be avoided by
   a) Dispensing individual ingredients separately
   b) Compounding powder using diluents
   c) Both a) and b)
   d) None of the above

9) Syrup I.P. contains _____% W/W of sucrose.
   a) 66.7 b) 50 c) 60 d) 80

10) Sweetland filter is variants of
   a) Filter press b) Filter leaf
   c) Drum filter d) Edge filter

11) Rate of filtration is _____ proportional to the viscosity of the fluid.
   a) Directly b) Inversely
   c) Both a) and b) d) None of above

12) For mixing of dry powder _____ mixer is used.
   a) Planetary mixer b) Sigma blade mixer
   c) Ribbon mixer d) All of the above

13) _____ filter is used for continuous operation and is utilized to filter slurries containing high proportion of solids.
   a) Drum filter b) Filter leaf
   c) Filter press d) None of above

14) Levigation is also called as
   a) Dry grinding b) Wet grinding
   c) Both a) and b) d) None of above

15) Citric acid is used to _____ in effervescent granules.
   a) To impart slightly acidic taste
   b) To provide water of crystallization
   c) Both a) and b)
   d) None of the above

II. Answer **any five:** **(5×5=25)**

1) Explain briefly solid mixing mechanisms.

2) Describe in brief formulation of talcum powder.

3) Write a note on equipments used for manufacturing of liquids.

4) With neat labeled diagram explain construction and working of plate and frame filter.

5) Discuss factors affecting size reduction.

6) Write a note on principle and formulation of dry syrup.

III. Answer **any three** questions: **(3×10=30)**

1) Describe in detail principle, construction, working and uses of rotary drum filter.

2) With neat labeled diagram explain construction and working of colloid mill and basket centrifuge.

3) Elaborate in detail principle and formulation of ORS and artificial syrup.

4) Classify surgical dressing. Explain briefly about surgical catgut.

SLR-TV – 10

Seat No.	

Set P

B.Pharmacy (Semester – II) (Old CBCS Pattern) Examination, 2018
MODERN DISPENSING AND HOSPITAL PHARMACY

Day and Date : Monday, 10-12-2018 Max. Marks : 70
Time : 2.30 p.m. to 5.30 p.m.

1. Multiple Choice Questions : **15**

i) In prescription _____ includes direction to the patient regarding the administration of the drug.
a) Signatura b) Subscription c) Inscription d) Superscription

ii) Which of the following concentration of NaCl is iso-osmotic with red blood cells ?
a) 0.6 b) 0.7 c) 0.8 d) 0.9

iii) The latin term for powder is
a) Charata b) Cremor c) Emulsio d) Haustous

iv) In inventory control E.O.Q. means
a) Economic Order Quantity b) Economic Order Quality
c) Equal Order Quality d) Equal Order Quantity

v) The minimum qualification of pharmacist to work as hospital pharmacist is
a) D. Pharm. b) B. Pharm.
c) M. Pharm. d) All of the above

vi) In latin once a day means
a) Bis in die b) Ter in die
c) Semel in die d) None of the above

vii) Which of the following is most accurate label for suspension ?
a) For external used only b) Shake well before use
c) Store in cool place d) All of the above

viii) Minimum number of beds required for small hospital is
a) Less than 1000 b) Less than 100
c) Between 500 – 1000 d) Between 100 – 500

ix) Incompatibility will occur when mixing of two _____ substances.
a) Agonist b) Antagonist
c) Similar therapeutic effect d) None of the above

x) When the calculation involves mixing of two similar preparation of different strength, the _____ method is used.
   a) Dissolution b) Mixing
   c) Allegation d) All of the above

xi) In posology average body surface area for adult is _____ m^2.
   a) 1.53 b) 1.73 c) 2.73 d) 1.37

xii) Which of the following is example of physical incompatibility ?
   a) Liquification b) Drug interaction
   c) Alkaloidal incompatibility d) Error in dosage

xiii) Posology is related to
   a) Dose b) Body weight
   c) Age d) None of the above

xiv) Which of the following is source of error in prescription ?
   a) Abbreviation b) Dose
   c) Dosage form d) All of the above

xv) 7% solution means
   a) 7 gm in 100 ml of water b) 1 gm in 700 ml of water
   c) 7 gm in 10 ml of water d) 1 gm in 70 ml of water

2. Answer **any five** : **25**

a) What are different sources of errors in prescription ?

b) Give eligibility, duties and responsibilities of hospital pharmacist.

c) Calculate dose for (i) a nine month old infant (ii) a boy 16 year age, when adult dose of drug is 100 mg.

d) Calculate the volume of 70% and 30% alcohol required to produce 500 ml of 40% alcohol.

e) Write a note on drug distribution in hospital.

f) Write a note on E.O.Q. formula.

3. Answer **any three** : **30**

a) Define and classify incompatibility. Write a note on physical incompatibility.

b) What is displacement value ? Calculate the displacement value of bismuth subgallate in theobroma oil suppositories containing 25% of bismuth subgallate and prepared in 1 gm mould. The weight of 10 suppositories is 12 gm.

c) Write a detail note on hospital and hospital pharmacy.

d) Explain in detail prescription and its parts. How will you handle the prescription ?

_____

SLR-TV – 11

Seat No.	

Set **P**

B.Pharmacy (Semester – II) (Old-CBCS) Examination, 2018
ORGANIC CHEMISTRY – I

Day and Date : Wednesday, 12-12-2018 Max. Marks : 70
Time : 2.30 p.m. to 5.30 p.m.

1. Multiple choice question : **(15×1=15)**

1) In the detection of alcohol when alcohol reacts with PCl_5 and mixture becomes warm with evolution of _____ gas.
   a) H_2 b) N_2 c) HCl d) CO_2

2) In Victor Meyer test if blue colour is produced the original alcohol is
   a) Primary alcohol b) Secondary alcohol
   c) Tertiary alcohol d) All of the above

3) Ozonolysis of butane gives
   a) Formic acid b) Propionic acid
   c) Acetic acid d) Butanoic acid

4) Acid that is capable of donating a photon H^+ and base is a substance that can accept a proton according to
   a) Bronsted-Lowry concept b) Arrhenious
   c) Lewis d) None of these

5) The least stable carbanion is
   a) $C_6H_5CH_2^-$ b) $(CH_3)_3C^-$ c) CCl_3^- d) CH_3^-

6) A low concentration of nucleophile favours the
   a) SN2 reaction b) SN1 reaction
   c) Both SN1 and SN2 reaction d) None of these

7) Rectified spirit is
   a) 100% ethanol b) 90% ethanol
   c) 100% methanol d) 95% ethanol

8) Which of the following classes of the compounds characterized by carbon-nitrogen triple bound ?
   a) Amines b) Amino acids c) Nitriles d) Amides

9) SN2 reaction can be best carried out with
   a) Primary alkyl halide b) Secondary alkyl halide
   c) Tertiary alkyl halide d) All

10) Elimination bimolecular reaction involves
   a) First order kinetics b) Second order kinetics
   c) Tertiary order kinetics d) Zero order kinetics

11) Ethers are
a) Lewis acid b) Natural gas
c) Lewis bases d) Cannot be predicted

12) Saturated hydrocarbons are otherwise referred as
a) Alkanes b) Alkenes c) Alkynes d) Alkaloids

13) Dienes are the name given to compounds with
a) Exactly a double bond b) Exactly a triple bond
c) Exactly two double bond d) More than two bond

14) An acceptor of pair of electron is termed as
a) Nucleophile b) Electrolphil c) Carbocation d) Anion

15) Formation of radicals which attack reactants molecules generates more free radical is done in
a) Initiation step b) Propagation step
c) Termination step d) Elimination step

2. Answer **any five** questions : **(5×5=25)**

1) Write method of preparation and reaction of ethers.

2) Explain the qualitative test for alcohol.

3) What is E1 reaction and give its mechanism ?

4) Write structure, generation, stability and reaction of carbocation.

5) Describe hyperconjugation and steric effect.

6) Write the reaction of alkyne.

3. Answer **any three** questions : **(3×10=30)**

1) Explain the Markovnikovs and Anti Markovnikovs rule with example.

2) Describe the theories of acids and bases along with example and explain the factor affecting on it.

3) Explain the SN2 reaction mechanism and write down the factor affecting SN1 and SN2 reaction.

4) Define and classify the dienes and write the method of preparation and reaction of 1, 3 butadiene.

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SLR-TV – 12

Seat No.	

Set **P**

B.Pharm. (Old CBCS) (Semester – II) Examination, 2018
BIOCHEMISTRY – II

Day and Date : Friday, 14-12-2018 Max. Marks : 70
Time : 2.30 p.m. to 5.30 p.m.

1. Multiple choice questions : **(1×15=15)**

1) Ninhydrin forms a purple colour complex with _____
   a) Urea b) Peptide bond
   c) α-Amino acids d) Histamine

2) The optically inactive amino acid is _____
   a) Glycine b) Serine
   c) Threonine d) Valine

3) DNA rich in A-T pairs have _____
   a) 1 Hydrogen bond b) 2 Hydrogen bonds
   c) 3 Hydrogen bonds d) 4 Hydrogen bonds

4) Codons are present on _____
   a) Template strand of DNA b) mRNA
   c) tRNA d) rRNA

5) An aromatic amino acid is
   a) Lysine b) Arginine
   c) Phenylalanine d) Histidine

6) The process of transfer of amino group from an amino acid to keto acid called as _____
   a) Oxidative deamination b) Nonoxidative deamination
   c) Transdeamination d) Transamination

7) Replication of DNA is _____

a) Conservative b) Semi-conservative

c) Non-conservative d) None of above

8) The p^H at which amino acid exists as zwitter ion called as _____

a) Cation b) Anion

c) Isoelectric p^H d) Undissociated ion

9) Folding or twisting of polypeptide chain is called as _____

a) α-helix b) β-sheets

c) Parallel sheets d) Antiparallel sheets

10) In feedback regulation, the end product binds at _____

a) Active site b) Allosteric site

c) E-S complex d) None of these

11) The reagent used in sequenator to find amine acid sequence is _____

a) Sanger's reagent b) CNBr reagent

c) Trypsin d) Edman's reagent

12) The imino acid found in protein structure is _____

a) Argenine b) Proline

c) Histidine d) Lysine

13) Deficiency of Vitamin D causes _____

a) Rickets b) Beri-Beri

c) Night blindness d) Pellagra

14) What is the name of Vitamin B1 ?

a) Thiamine b) Pyridoxine

c) Niacin d) Biotin

15) _____ vitamin is having antioxidant property.

a) A b) D

c) E d) K

2. Answer **any five** of the following questions : **(5×5=25)**

   1) Explain Zwitter ions and isoelectric precipitation.

   2) Explain lock and key theory and induced fit theory.

   3) Add note on denaturation of proteins.

   4) Explain reversible, irreversible inhibition of enzymes.

   5) Give detail about gene, genome and its characteristics.

   6) Give in details about Replication of DNA.

3. Answer **any three** of the following questions : **(3×10=30)**

   1) What are the different levels at which proteins structure is studied ?

   2) Add note on protein biosynthesis.

   3) Give the complete account of fat soluble vitamins.

   4) Give in brief factors affecting enzymatic reaction.

SLR-TV – 13

Seat No.	

Set P

B. Pharmacy (Semester – II) (CBCS) (Old) Examination, 2018
ANATOMY, PHYSIOLOGY AND HEALTH EDUCATION – II

Day and Date : Tuesday, 18-12-2018 Max. Marks : 70
Time : 2.30 p.m. to 5.30 p.m.

1. Multiple Choice questions. **(1×15=15)**

1) In a healthy adult the glumerular filteration rate is about
   A) 100 ml/min B) 125 ml/min
   C) 150 ml/min D) 175 ml/min

2) The light bands contain only actin filaments and are called
   A) F B) G C) H D) I

3) The membrane potential is caused by diffusion of
   A) Na^+ions B) K^+ions
   C) Both A and B D) Na^+K^+pump

4) Hyper secretion of pituitarism causes _____ after puberty.
   A) gigantism B) acromegaly
   C) dwarfin D) hypogonadism

5) Composition of semen is
   A) mineral B) mucus
   C) glucose D) all of the above

6) Malaria is a _____ type of infection.
   A) Respiratory B) Intestinal
   C) Anthropod borne D) Surface

7) The puberty occurs in male between the ages of
   A) 8 to 10 years B) 10 to 14 years
   C) 14 to 18 years D) other than A, B and C

8) _____ is a causative agent of whooping cough.
   A) Influenza virus A B) Corneybacterium
   C) Bordetella pertusis D) Mycobacterium

P.T.O.

9) Function of hypothalamus include control of
   A) appetite B) thirst
   C) body temperature D) all of the above

10) In male _____ stimulates the production of spermatozoa.
   A) Follicle stimulating hormone B) Luteninzing hormone
   C) Growth hormone D) Thyrotrophic hormone

11) Low count of sperm results in infertility termed as
   A) Azotospermia B) Testes descends
   C) Cryptus childism D) Dwarfin

12) A pregenant woman usually develops hypochromic anemia because from diet mother does not absorb sufficient
   A) protein B) calcium and phosphate
   C) iron D) all of the above

13) The kidneys are _____ in colour.
   A) dark red B) dark blue
   C) black D) dark yellow

14) Specific gravity of cerebrospinal fluid is
   A) 1.02 B) 1.04
   C) 1.005 D) 1.0005

15) _____ is a coloured part of the eye.
   A) Iris B) Ciliary body
   C) Cornea D) lens

2. Solve **any five**. **(5×5=25)**

A) Give the structure of nephron, add single functions of ureter, urinary bladder and urethra.

B) Explain steps involved in muscle contraction.

C) Give structure and functions of cerebrum.

D) Name the hormones of anterior pituitary gland and mention their functions.

E) Draw a neat labeled diagram of eye. Discuss the physiology of vision in short.

F) Differentiate the male and female reproductive systems.

3. Solve **any three**. **(10×3=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.

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SLR-TV – 15

Seat No.	

Set P

B.Pharm. (Semester – III) (New CBCS) Examination, 2018
PHARMACEUTICAL ORGANIC CHEMISTRY – II

Day and Date : Saturday, 8-12-2018 Max. Marks : 75

Time : 10.30 a.m. to 1.30 p.m.

I. Choose the most appropriate answers from the following answers : **(20×1=20)**

1) Identify a compound which is non-aromatic, from the following

a) Cycloheptatrienyl cation b) Cyclobutadiene

c) Cycloheptatriene d) Cyclohexatriene

2) An a mine with a 'pKa' value of _____ is more basic.

a) 11 b) 7.8

c) 4 d) 0.78

3) Identify the following reaction :

$(RCO)_3$ Glycerol (TAG) + R'OH (Excess) $\xrightarrow{\text{Heat}}$

a) Trans-acidification b) Trans-esterification

c) Hydrolysis d) None

4) The correct starting material for preparing esters by Fischers method is

a) $RCONH_2$ b) $(RCO)_2O$

c) RCOOH d) RCOCl

5) Anthracene on nitration yields _____ derivative.

a) 1-nitro b) 2-nitro

c) 9-nitro d) 1, 2-dinitro

6) Reichert-Meissel number indicates volatile but water _____ Small Chain Fatty Acids.

a) Soluble b) Insoluble

c) Miscible d) None

7) Identify the functional group which increases acidity when present on a phenol

a) $-CH_3$ b) $-CH_3O$

c) –OH d) $-NO_2$

8) Least basic of the following compounds is

a) R_2NH b) R_3N

c) $ArNH_2$ d) $R - NH_2$

9) Correct name of the compound with CH_3-(OH)-CH-CH-(C_2H_5)-side chain at 4-position of C_6H_4OH is

a) 4-(2-OH-1-ethyl) propyl Phenol

b) 4-(1-ethyl-2-OH) propyl Phenol

c) 2-OH-3-ethyl-3- hydroxyl phenyl propane

d) None

10) Product obtained on heating phthalic acid in presence of ammonia is

a) Maleimide b) Phthalimide

c) Phthalic anhydride d) None

11) Which acid with _____ pKa value is the most acidic.

a) 10 b) 2

c) 8 d) 4

12) Most common fatty acid among the natural FAs is

a) Caproic b) Myristic

c) Oleic d) Linoleic

13) The product of reaction between Cycloproane and Br_2 is

a) Cyclopropane

b) 1-Bromo Cyclopropane

c) 1, 2- dibromo Cyclopropane

d) 1, 2, 3- tribromo Cyclopropane

14) Identify the correct structure for Linoleic acid.

a) 18 : 0 b) 18 : 1

c) 18 : 2 d) 18 : 3

15) 4-sulphonate derivative of phenols is formed at

a) 100°C b) 0°C

c) 25°C d) –15°C

16) Oxidation of Phenanthrene with ozone yields

a) Diphenyl dicarboxyl ‘

b) Diphenyl dicarboxaldehyde

c) 9,10-diphenanthrone

d) None

17) Saponification value of oil indicates _____ in an oil sample.

a) Free fatty acid

b) Unsaturation

c) Mol. wt

d) Average mol. weight

18) According to Bayer, angular strain in cyclobutane is

a) – 5°16’ b) 24° 44’

c) 0° 44’ d) 9° 44’

19) Chloro benzene on nitration yields _____ derivative.

a) o-nitro b) p-nitro

c) m-nitro d) o, p and m-nitro

20) Which of the reaction is not possible when replacement reaction with diazonium salt is carried out

a) Hoffmann

b) Gomberg

c) Scheimann

d) Sand-Meyer

II. Answer **any two** questions of the following : **(2×10=20)**

1) What is aromaticity ? How it could be explained using Huckel’s rule. Describe EAS reactions in benzene. **(5+5)**

2) a) What is acid value ? What is the importance of its determination ?

b) List and explain chemical reactions of aromatic acids. **(5+5)**

3) Discuss :

a) Chemical reactions of Phenanthrene.

b) Two methods of preparation of cyclobutane and cyclopropane. **(5+5)**

Set P

III. Answer **any seven** questions of the following : **(7×5=35)**

1) Write five chemical reactions undergone by aromatic amines.
2) Explain how Naphthalene is synthesized in the laboratory.
3) Explain how basicity of aromatic amines changes with substituents on the ring and on the amine 'N'.
4) Explain the chemical basis for "rancidity of oil" and methods to prevent it.
5) Write the structure and uses of : a) Diphenyl methane b) Anthracene.
6) Write two methods of preparation for cyclopropane and cyclobutane.
7) List and describe special reactions of Phenols.
8) Describe the principle, method and significance of Saponification value determination of an oil sample.
9) Demonstrate with two examples how diazotization can be used for attaching a second group at a specific point on a benzene ring.

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SLR-TV – 16

Seat No.	

Set **P**

B.Pharm. (Sem. – III) (New CBCS) Examination, 2018
PHYSICAL PHARMACEUTICS – I

Day and Date : Tuesday, 11-12-2018 Total Marks : 75

Time : 10.30 a.m. to 1.30 p.m.

I. Choose the correct alternative : **(20×1=20)**

1) An Azetropic mixture of two liquids boils at lower temperature than either of them when

A) It is saturated

B) It shows positive deviation from Raoult's law

C) It is Metastable

D) It shows negative deviation from Raoult's law

2) Colligative properties are the properties of the solution that depends upon

A) Nature of molecules B) Quality

C) Physical properties D) Number of Molecules

3) The solubility of gases increases in liquid with decreasing

A) Mass B) Volume

C) Temperature D) Pressure

4) If a solution has to be a buffer, its pH should be

A) As its pKa value B) At is Ka Value

C) At 7 D) At 14

5) The vander Waal radius of hydrogen atom in water molecule is

A) 1.2 A° B) 1.4 A°

C) 1.6 A° D) 1.8 A°

6) Normal pH of blood is

A) 7.0 B) 7.2

C) 7.1 D) 7.4

7) The Heat of vaporization of water molecules at atmospheric temperature is

A) 1260 J/g B) 2260 k.cal

C) 2260 J/g D) 1260 k.cal

8) Ions which are produced from ligands are

A) Cations B) Complex ion

C) Anion D) All of them

9) Terms and conditions of Nernst's law

A) Constant Temperature B) Dilute solution

C) Non-miscible solvents D) All

10) In Nematic crystals, molecules are mobile in how many dimensions.

A) One B) Two

C) Three D) Zero

11) Buffer Capacity is the maximum at

A) pKa = pH B) pKa < pH

C) pka = Concentration D) pka > pH

12) At Constant temperature the solubility of gas in a liquid is proportional to the pressure of the gas above it is called as

A) Raoult's law B) Henry's law

C) Graham's law D) None of above

13) The Amorphous form of drug dissolves _____ than the crystalline form.

A) Faster B) Slower

C) Equal to one D) Does not dissolve

14) Spreading agents usually have an HLB value in the ranges

A) 0-3 B) 9-12

C) 7-9 D) 8-16

15) The pKw at 25°C is

A) 7.0 B) 10

C) 5.0 D) 14

16) When a suitable pH of solution is added to an acidic drug, the solubility is promoted due to

A) Enhanced ionization B) Formation of drug solvates

C) Formation of salt D) Improved stability

17) The Partition coefficient considers the solute concentration as one of the following (molecular) species

A) Dimer B) Dissociated Ion

C) Hydrate and Solvate D) Monomer

18) Which of the following is not a multiple ligand ?

A) EDTA B) Ammonia

C) Deferoxamine D) Dimethylglycoxime

19) Protein binding _____ distribution of drugs.

A) Increases B) Prevents

C) Decreases D) None of these

20) The rapid increase in solubility of a surfactant solution above a definite temperature is known as

A) Cloud point B) Krafft point

C) CMC D) Triple point

II. Solve **any two** : **(2×10=20)**

a) Explain in detail methods used for liquification of gases.

b) What is adsorption isotherm ? Discuss in detail Freundlich and Langmuir adsorption Isotherm.

c) Define partition coefficient. Explain its derivation and principle behind Association and dissociation of molecules.

III. Solve **any seven** : **(7×5=35)**

1) Define Critical Solution Temperature. Write note on UCT and LCT.
2) What is Kinetic Molecular Theory ? Give its assumptions for Kinetic Molecular Theory.
3) Explain factors affecting on solubility of gases in liquids.
4) Explain buffer equations for weak acid and its salt.
5) Discuss methods used to determination of pH.
6) Discuss methods for determination of Complexation.
7) Explain the mechanism of Solute-Solvent Interaction.
8) Write note on Eutectic Mixtures and Polymorphism.
9) Discuss in detail Spreading Coefficient.

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SLR-TV – 17

Seat No.	

Set P

B.Pharmacy (Semester – III) (New CBCS) Examination, 2018
PHARMACEUTICAL MICROBIOLOGY

Day and Date : Thursday, 13-12-2018 Max. Marks : 75
Time : 10.30 a.m. to 1.30 p.m.

1. Multiple Choice Questions : **(20×1=20)**

1) The purpose of staining is to demonstrate
   a) Cell size b) Cell shape
   c) Arrangement of bacterial cell d) All of above

2) The process of autoclaving is
   a) Only vegetative cell gets killed
   b) Spores and vegetative cell gets killed
   c) Spores get killed only
   d) Nucleus of the cell gets killed

3) Efficiency of HEPA filter is
   a) 99.97 b) 88.87 c) 90.97 d) 98.97

4) The media in which nutritional environment is provided in such a way that growth of certain bacteria is enhanced than other is called
   a) sugar media b) transport media
   c) enriched media d) enrichment media

5) Radiation used for cold sterilization are
   a) X-ray b) Gamma rays c) Cosmic rays d) All of above

6) The phase of maximum multiplication result in increased population of bacteria with reduced generation time is
   a) log phase b) lag phase
   c) decline phase d) stationary phase

7) Testing which confirms that products are free from the presence of viable microorganisms is known as
   a) sterility testing b) pyrogen testing
   c) minimum inhibitory coefficient d) none of above

8) A fully assembled infectious virus is called as
   a) micron b) prion c) virion d) none of above

9) The mycellum is complex of several filaments called
a) Lumen b) Hyphae c) Septum d) Plasmalemma

10) DNA present in bacteria is
a) Single, circular b) Single, linear
c) Single, crossed d) Double, circular

11) Which of the following methods are used for obtaining pure culture of microorganisms ?
a) Streak plate method b) Pour plate method
c) Spread plate method d) All of above

12) The stain which differentiates two groups of bacteria in a mixture is known as
a) Negative stain b) Simple stain
c) Differential stain d) Indirect stain

13) Which of the following are chemical indicators of sterilization ?
a) Browne's tube b) Witness tube
c) Royce Sachet d) All of above

14) Test based on the rise of body temperature of rabbit is
a) Sterility testing b) Pyrogen testing
c) Minimum inhibitory coefficient d) None of above

15) Best autoclaving is achieved at
a) 121°C for 15 min. b) 120°C for 1 hr.
c) 110°C for 2 hrs. d) 100°C for 3 hrs.

16) Microorganisms which grow in absence of oxygen are called
a) Aerobic b) Microscopic c) Anaerobic d) None of above

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

18) Citrate utilization test is usually performed on
a) Chocolate agar b) Simmon's citrate agar
c) Nutrient agar d) MacConkey agar

19) On the outer surface of the viral envelope, glycoprotein subunits exposed in the form of projecting spikes are known as
a) Capsid b) Capsule c) Peplomers d) All of above

20) When finite cell line undergoes transformation and acquires the ability to divide indefinitely, it becomes
a) Continues cell line b) Discontinuous cell line
c) Infinite cell line d) Both b and c

2. Answer **any 2** of the following : **(2×10=20)**

   1) What is sterilization ? Classify and explain.

   2) Write a note on designing of aseptic area.

   3) Describe bacterial anatomy.

3. Answer **any 7** of the following : **(7×5=35)**

   1) Classify virus.

   2) Write about assessment of microbial contamination and spoilage.

   3) Describe about bacterial growth curve.

   4) Explain about different culture media.

   5) Describe about cultivation of viruses in chick embryo.

   6) Describe cup plate method.

   7) Write characteristic of ideal disinfectant.

   8) Explain working and principle of autoclave.

   9) What is IMViC test ?

SLR-TV – 18

Seat No.	

Set P

B.Pharm. (Semester – III) (New) (CBCS) Examination, 2018
PHARMACEUTICAL ENGINEERING

Day and Date : Monday, 17-12-2018 Max. Marks : 75
Time : 10.30 a.m. to 1.30 p.m.

1. MCQ's : **20**

1) If particle of fluid flow same path the flow said to be

a) Laminar flow b) Turbulant flow
c) Fluid flow d) Both a) and b)

2) Fluid energy mill is also known as

a) Micronizer b) Jet Mill c) Pulveriser d) All of the above

3) Bernoullis equation can be derived from conservation of

a) Energy b) Mass
c) Angular momentum d) None of the above

4) End runner mill works on principle of

a) Crushing and Friction b) Cutting and Attrition
c) Crushing and Shearing d) Grinding

5) Manometer is used to measure

a) Fluid flow b) Fluid pressure
c) Temperature d) Pressure

6) The mill does not have any moving part in the grinding area

a) Disintegrator Mill b) Hammer Mill
c) Collid Mill d) Fluid energy Mill

7) Which mill works on principle impact and attrition ?

a) Hammer Mill b) Ball Mill
c) Roller Mill d) All the above

8) Heat transfer take place as per
   a) Zeroth law of thermodynamics
   b) First law of thermodynamics
   c) Second law of thermodynamics
   d) Kirchhoff's Law

9) Elutriation is process of
   a) Size reduction using mechanical force
   b) Size separation using stationary fluid
   c) Size reduction using electrical force
   d) Size separation by using moving fluid

10) Evaporation occur only
   a) After boiling
   b) After extreme cooling
   c) At surface of fluid
   d) None of the above

11) Heat transfer in liquid and gases takes place by
   a) Conduction
   b) Convection
   c) Radiation
   d) None of the above

12) Fourier law of heat conduction is valid for
   a) One dimensional cases only
   b) Two dimensional cases only
   c) Three dimensional cases only
   d) None of the above

13) Most commonly used size separation instrument in laboratory
   a) Cyclone separator
   b) Sedimentation tank
   c) Sieve shekar
   d) All the above

14) Differential distillation is
   a) Simple distillation
   b) Vaccum distillation
   c) Molecular distillation
   d) None of the above

15) The condensate which returns to the liquid mixture is known as
   a) Distillate b) Feed c) Distilland d) Reflux

16) How the liquid does gate separate in freeze dryer ?
   a) Boiling b) Distillation c) Freezing d) None of the above

17) Moisture inside the substance is known as
   a) Bound moisture
   b) Unbound miosture
   c) Equilibrium moisture
   d) Free moisture

18) This is irreversible type of mixing
   a) Positive mixing
   b) Negative mixing
   c) Neutral mixing
   d) None of the above

19) Which one of the following is continuous type of centrifuge ?
   a) Perforated centrifuge
   b) Super centrifuge
   c) Non-perforated centrifuge
   d) None of the above

20) Corrision of metal involves
   a) Physical reaction
   b) Chemical reaction
   c) Both a) and b)
   d) None of the above

2. Solve **any two** : **(2×10=20)**

1) Define distillation, write application of distillation and explain construction, working laboratory scale vacuum distillation unit.
2) Explain in detail Ball Mill with its merits and demerits.
3) Write construction, working principle, advantage, disadvantage of Fluid energy mill .

3. Solve **any seven** : **(7×5=35)**

1) Write in detail factor affecting size reduction.
2) Write pharmaceutical application and mechanism of size reduction.
3) Write a note on spiral plate exchanger with its advantage and disadvantages.
4) Explain in detail Multiple effect evaporator.
5) Explain theory of corrosion.
6) Write pharmaceutical application of filtration and theory of filtration.
7) Write a note on Lyophylizer .
8) Define corrosion and explain types of corrosion.
9) Write factor affecting on mixing and explain mechanism of solid mixing.

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Seat No.	

Set **P**

B.Pharm. (Semester – III) (Old CBCS Pattern) Examination, 2018
PHYSICAL PHARMACY – I

Day and Date : Saturday, 22-12-2018 Total Marks : 70
Time : 2.30 p.m. to 5.30 p.m.

1. Multiple choice questions : **(1×15=15)**

1) Isopiestic methods is used for determining
   A) Vapour pressure B) Melting point
   C) Osmotic pressure D) Boiling point

2) Colligative properties are originally developed for the solution of
   A) Amphilytes B) Non-electrolytes
   C) Strong electrolytes D) Weak-electrolytes

3) Which one of the following intensive property ?
   A) Mass B) Volume
   C) Internal energy D) Freezing point

4) The entropy of the system increases in the order
   A) Gas < liquid < solid
   B) Gas < solid < liquid
   C) Solid < liquid < gas
   D) None of these

5) All the spontaneous processes proceed in direction which leads to
   A) Decreases the enthalpy
   B) Increases the entropy of the system
   C) Increases the entropy of the universe
   D) Increases the enthalpy

6) _____ system exhibits negative thixotropy.
   A) Acacia in water B) Magnesia magma
   C) HPMC in water D) None of these

7) Pair of liquids that are miscible in all proportions are known as
   A) Binary liquids B) Polar liquids
   C) Concentrated liquids D) Saturated liquid
8) The average kinetic energy of the gas molecules is
   A) Directly proportional to its absolute temperature
   B) Inversely proportional to its absolute temperature
   C) Equal to its absolute temperature
   D) None of these
9) Vapour pressure of liquid is directly proportional to _____
   A) Temperature B) Volume of liquid
   C) Amount of vapour D) All
10) Amount of heat required to raise the temperature of 1 mole of substance by 1K is called _____
   A) Heat capacity B) Molar heat capacity
   C) Molar heat D) Molar capacity
11) Which of the following is example of ideal solution ?
   A) Methanol-water B) Benzene-toulene
   C) n-hexane-n-heptane D) All
12) Which of the following physiochemical constant are not useful in predicting solubility of drug ?
   A) Valency B) pH of solution
   C) pKa of drug D) Dielectric constant
13) The phenomenon of increasing solubility of non-polar drugs by addition of surfactant is known as _____ solubilization.
   A) Surface B) Polar
   C) Non-polar D) Micellar
14) Cottrell's method is used to determine
   A) Elevation of boiling point B) Depression of freezing point
   C) Elevation of freezing point D) Depression of boiling point
15) In osmosis flow of solvent molecules can take place from _____
   A) Concentrated to dilute solution B) Dilute to concentrated solution
   C) Any one solution to other D) None of these

2. Solve **any five** : **(5×5=25)**
   1) Comment on “Debye Huckel Theory”.
   2) Write principle, construction and working of cup and bob viscometer.
   3) Define thermochemistry and explain different types of thermochemical reactions with example.
   4) State and explain Hess’s law of constant heat summation with suitable example.
   5) What is kinetic molecular theory ? Give its assumptions.
   6) Give different types of solvents.

3. Solve **any three** : **(3×10=30)**
   1) What is meant by polymorph ? Add a note on liquid crystals and glassy state.
   2) Define phase diagram and degree of freedom. Explain phase diagram for one component water system.
   3) Define partition coefficient. Describe the experimental method for the determination of partition coefficient of solute between two immiscible liquids.
   4) Classify different types of viscometer. Explain in detail single point viscometer (any two).

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SLR-TV – 20

Seat No.	

Set P

B.Pharmacy (Semester – III)(Old CBCS) Examination, 2018
PHARMACEUTICAL ENGINEERING

Day and Date : Monday, 24-12-2018 Max. Marks : 70
Time : 2.30 p.m. to 5.30 p.m.

1. Multiple choice questions. **(1×15=15)**

1) Which one of the following is example of unit operation ?
   a) Determination of viscosity b) Drying
   c) Production of tablets d) Synthesis of penicillin

2) Reynolds number depends on one of the following factor
   a) Roughness of the pipe b) Surface area of the pipe
   c) Viscosity of the pipe d) Volume of the liquid

3) Which type of head is measured using pitot tube ?
   a) Kinetic velocity head b) Pressure head
   c) Total head d) Static velocity head

4) Separation of liquids by distillation is based on one of the following principles
   a) Vapour pressure b) Miscibility
   c) Boiling point d) Viscosity

5) Raoults law is applicable is one of the following distillation process
   a) Flash distillation b) Simple distillation
   c) Molecular distillation d) Fractional distillation

6) Which type of liquid evaporates first in the distillation ?
   a) Immiscible liquid b) Less volatile liquid
   c) More volatile liquid d) Non-volatile liquid

7) The product becomes porous, when the following equipment for drying is used
   a) Drum dryer b) Spray dryer
   c) Fluidised bed dryer d) Tray dryer

8) 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

9) In a plunger pump a moving element follows one of the mechanisms
   a) One direction b) Propelling
   c) Rotating d) Reciprocating

10) 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

11) In a belt conveyor, the carcass is usually impregnated and bonded with one of the following materials.
   a) Iron b) Rubber
   c) PVP d) Plastic

12) Calendria consists of a number of
   a) Baffals b) Jackets
   c) Outlets d) Tubular surfaces

13) In a strip and blister packing of tablets and capsules, strips are conveyed through one of the following conveyor
   a) Belt b) Bucket
   c) Chain d) Pneumatic

14) Which one of the following pump is similar to turbine pump ?
   a) Gear pump b) Piston pump
   c) Volume pump d) Plunger pump

15) Which of the following gives direct reading of flow of fluids ?
   a) Orifice meter b) Pitot tube
   c) Venturi meter d) Rotameter

2. Answer **any five**. **(5×5=25)**

1) How will you carry out conveying of solid ?

2) Explain in brief principle, construction and working of Rotameter.

3) Describe in brief construction and working of Plunger pump.

4) Give the construction and working of Climbing film evaporators.

5) Define and classify evaporation. Describe in detail factor affecting evaporation.

6) Describe the principle, construction and working of simple distillation.

3. Answer **any three**. **(10×3=30)**

1) Differentiate between evaporation and distillation. Describe principle, construction and working of Fractional distillation with neat labelled diagram.

2) Enlist the different flow meter used for measurement of rate of flow of fluid. Describe one such flow meter.

3) Explain the theory behind drying. Give the principle, construction and working of tray dryer.

4) Describe in detail Bernoulli's theorem. Derive an expression for Bernoulli's theorem.

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Seat No.	

Set P

B.Pharm. (Semester – III) (Old-CBCS) Examination, 2018
ORGANIC CHEMISTRY – II

Day and Date : Wednesday, 26-12-2018 Max. Marks : 70
Time : 2.30 p.m. to 5.30 p.m.

I. Choose the most appropriate one from the following answers : **(1×15=15)**

1) Nucleophilicacyl substitution of -OR is easily possible by
   a) $-NH_2$ b) –OC(=O)R c) –SH d) –Cl

2) Identify the six membered heterocycle with two hetero atoms from the list below.
   a) Indole b) Pyrrole c) Pyrazole d) Diazine

3) Product obtained on heating phthalic acid to its melting point is
   a) Maleimide b) Phthalimide
   c) Phthalic anhydride d) None

4) _____ reaction that requires non α-hydrogen containing carbonyl compound.
   a) Mannich b) Reformatsky c) Perkin d) Cannizzaro

5) Identify a compound which is non-aromatic, from the following
   a) Cyclo heptatrienyl cation b) Cyclobuta diene
   c) Cyclohepta triene d) Cyclohexatriene

6) Oxidation of naphthalene with Vanadium pentoxide yields
   a) Phthalicacid b) Benzoquinone
   c) Naphthoquinone d) None

7) Phenanthrene on nitration yields _____ derivative.
   a) 1-nitro b) 2-nitro c) 3-nitro d) 1,2,3-trinitro

8) Most suited method for separation of amines in the lab is
   a) Hinsberg b) Distillation c) Hoffmanns d) Solvent extraction

9) Oxidizing agent used for obtaining aldehydes from alcohol is

a) $HCrO_4$ b) CrO_3

c) $KMnO_4$ d) Pyridinium Chloro Chromate

10) Choose the correct reagent for completing the following reaction :

Pyrrole + $\Longrightarrow$ 2-Nitro pyrrole

a) HNO_3 b) HNO_3:H_2SO_4

c) CH_3COONO_2 d) $NaNO_2$

11) In order to get p-chloro derivative of Aniline selectively, the reaction/s to be used

a) Halogenation, Alkylation b) Acylation, Halogenation

c) Halogenation, Acylation d) Alkylation, Halogenation

12) The reaction that uses chloroform, NaOH with phenols to yield Salicylaldehyde

a) Fischer b) Hoffmanns

c) Reimer-Tiemann d) Gomberg

13) p-nitrophenols have higher solubility and lower b.p. compared to o-nitrophenols because _____ H-bonding.

a) Intramolecular b) Intermolecular

c) No d) None

14) p-sulphonate derivative of phenols is formed at

a) 100°C b) 25°C c) 0°C d) –15°C

15) Nulceophilic aromatic substitution occurs in benzene by _____ mechanisms.

a) Unimolecular b) Bimolecular

c) –yne substitution d) All

II. Answer **any five** questions from the following : **(5×5=25)**

1) Write four methods for preparing aldehydes and ketones.

2) Outline Hoffmann's method for separating amines.

3) Write three characteristic reactions for anthracene and phenanthrene.

4) What is nucleophilic addition reaction ? Explain Cannizzaro reaction in brief.

5) Explain briefly :
   i) Role of substituents of chemical behaviour of benzene
   ii) Reaction of amines with HONO.

6) What happens when phenol is reacted with an alkali, an acyl halide and sodium dichromate, an alkyl halide in alkali ?

III. Answer **any three** questions from the following : **(10×3=30)**

1) Write the definition, mechanism, conditions of reaction, scope and applications of :
   a) Oppennauer oxidation
   b) Reformatsky reaction. **(5+5)**

2) Write two methods of preparation and two chemical reactions of pyridine and indole. **(5+5)**

3) Describe the characteristic reactions of benzene with examples. **(2.5×4)**

4) Write in brief :
   a) Structure elucidation of Naphthalene
   b) Nucleophilic acyl substitution. **(5+5)**

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Seat No.	

Set **P**

B.Pharmacy (Semester – III) (Old CBCS Pattern) Examination, 2018
PHARMACEUTICAL ANALYSIS – I

Day and Date : Thursday, 27-12-2018 Total Marks : 70
Time : 2.30 p.m. to 5.30 p.m.

1. MCQ : **15**

1) Standardization of Iodine is carried out using _____
   a) Sodium thiosulphate
   b) Oxalic acid
   c) Perchloric acid
   d) None of these

2) IM H_2SO_4 _____ N H_2SO_4.
   a) 1 b) 2
   c) 0.5 d) 0.1

3) The tolerance capacity for one mark 10 ml pipette as per I.P. is _____ ml.
   a) 0.02 b) 0.005
   c) 0.01 d) 0.001

4) In Redox titration _____ is used as primary standard.
   a) Sodium carbonate
   b) Potassium bromate
   c) Potassium hydrogen phthalate
   d) All

5) The degree of agreement between measured value and accepted true value is _____
   a) Precision b) Accuracy
   c) Range d) Average deviation

6) Acidic Dye used in Fajan's series is _____
   a) Eosin b) Rhodamine series
   c) Floroscein d) Both a) and c)

P.T.O.

7) Gasometric analysis determines _____ gases.
   a) Cyclopropane b) Amyl Nitrate
   c) Octyl Nitrate d) All

8) Phenolphthalein has pH range of _____
   a) 6.8 to 8.4 b) 1.2 to 2.8
   c) 8.3 to 11.0 d) 4.2 to 6.3

9) Drug which is not titrated by Volhard's method is
   a) Aminophylline b) Potassium chloride
   c) Thiomersal d) Sulphobromophthalein sodium

10) Behavior of indicator is explained by _____ theory.
   a) Chromospheres b) Ionic
   c) Color d) Resonance

11) pH is defined as
   a) $-\log [OH^-]$ b) $-\log [OH^+]$
   c) pH + pOH d) log pOH

12) The titration carries out between KCl and $AgNO_3$ is termed as _____ titration.
   a) Oxidation-Reduction b) Precipitation
   c) Acid-Base d) None of these

13) Approx. quantity of Indicators used in titration is _____ % of solution being titrated.
   a) 0.0001 to 0.0004 % b) 0.0004 to 0.0008 %
   c) 0.01 to 0.02% d) 0.001 to 0.004 %

14) Molecular weight of isoniazide power as per I.P. is _____ gm.
   a) 136.02 b) 138.10 c) 138.90 d) 137.14

15) 8.5 ml HCl in 1 litre = _____
   a) 0.1 M b) 0.1 N
   c) Both a) and b) d) 0.5 M

2. Answer **any 5 :** **25**

1) Write a note on preparation and standardization of 0.05 M cerric ammonium sulphate.
2) Write a note on redox titrations.

3) Define accuracy, presision, significant figures, relative errors, mole fraction.

4) Explain Neutralization curve for strong acid and strong base.

5) Explain solubility product and common ion effect.

6) Explain in detail turbidity method.

3. Answer **any 3 :** **30**

1) Explain Fajan's method. Add a note on behavior of indicators.

2) Explain law of mass action. Write a note on principle involved in NaCl injection I.P.

3) Explain Volhard's method. How will you overcome the problems during Volhard's method ?

4) Explain errors with suitable examples. How will you determine the percentage purity of aspirin powder I.P. ?

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SLR-TV – 23

Seat No.	

Set P

B.Pharm. (Semester – III) (Old CBCS) Examination, 2018
PATHOPHYSIOLOGY AND CLINICAL BIOCHEMISTRY – I

Day and Date : Friday, 28-12-2018 Max. Marks : 70
Time : 2.30 p.m. to 5.30 p.m.

1. Multiple Choice Questions. **(15×1=15)**

1) Identification of disease is termed as

A) Diagnosis B) Prognosis

C) Dialysis D) Therapeutic drug monitoring

2) Which of the following is responsible for maintaining of calcium levels in body ?

A) Aldosterone B) Anti-diuretic Hormone

C) Atrial Natriuretic Peptide D) Parathyroid Hormone

3) Reduction in blood flow to a particular part of the body is known as

A) Necrosis B) Ischemia

C) Infarction D) Hypoxia

4) Gall stone is also known as

A) Cholestasis B) Cholelithiasis

C) Cholecystitis D) Hepatoblastoma

5) Clinical manifestation of nephrotic syndrome includes

A) Heavy proteinuria B) Hypoalbuminaemia

C) Hyperlipidaemia D) All of the above

6) Pain-food-relief pattern is observed in case of

A) Enterocolitis B) Gastric ulcers

C) Duodenal ulcers D) Crohn's disease

7) Loss of appetite is known as

A) Insomnia B) Nausea

C) Anorexia D) Alopecia

8) Nuclear fragmentation into small bits dispersed in the cytoplasm is known as

A) Pyknosis B) Karyolysis

C) Karyorrhexis D) Amorphous density

9) The sign of inflammation describing edema is

A) Rubor B) Calor C) Dolor D) Tumor

10) Which of the following type of cell in GIT is majorly responsible for secretion of mucus ?

A) Chief cell B) Parietal cell

C) Goblet cell D) Peptic cells

11) Renal ischemia can be categorized under _____ cause of acute renal failure.

A) Pre-renal B) Renal

C) Post renal D) Extra renal

12) Growth promoting genes are called as

A) Proto-oncogenes B) Anti-oncogenes

C) Apoptosis regulatory genes D) DNA repair genes

13) _____ change in reversible injury is also known as glassy change ?

A) Hyaline B) Fibrinoid C) Hydropic D) Fatty

14) Increase in the concentration of potassium is called as

A) Hypernatraemia B) Hypercalcaemia

C) Hyperkalaemia D) Hypovolaemia

15) The nerve fiber involved in the pathway for slow pain

A) Aδ- B) C C) Fμ D) K-fiber

2. Answer **any five** of the following questions. **(5×5=25)**

1) Draw flowchart of Renin-Angiotensin-Aldosterone pathway.

2) Write a note on types of glomerulonephritis.

3) Define inflammation. Describe the effects of altered vascular permeability.

4) Give the types, causative organisms and symptoms of viral hepatitis.

5) Define – Atrophy, Hypertropy, Hyperplasia, Metaplasia and Dysplasia.

6) Define neoplasia. Describe the risk factors for cancer.

3. Answer **any three** of the following questions. **(3×10=30)**

1) Write a note on pathogenesis and clinical complications of Chronic Renal Failure.

2) Describe the etiopathogenesis and clinical manifestations of peptic ulcer.

3) Define – apoptosis. Explain in detail the mechanism of apoptosis.

4) Write a note on types, causes, symptoms and complications related to cancer.

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Seat No.	

Set **P**

B.Pharmacy (Semester – IV) (New CBCS) Examination, 2018
PHYSICAL PHARMACY – II

Day and Date : Saturday, 8-12-2018 Max. Marks : 70
Time : 2.30 p.m. to 5.30 p.m.

1. Multiple Choice Questions : **(1×15=15)**

1) In _____ process dispersion medium is move under influence of applied potential.
   A) Elecctrophoresis B) Electroosmosis
   C) Osmosis D) Electroplating

2) Gold number is introduced by which of the following scientist ?
   A) Robert Brown B) Griffin
   C) Zsigmondy D) Albert Einstein

3) In a dialysis process, solution that is outside the dialysis membrane called as
   A) Dialysate B) Dialyser C) Diffusate D) All

4) Aerosol is the reverse of
   A) Emulsion B) Liquid foam C) Smoke D) Solid foam

5) Which of the following factors are utilized in formulation of suspension ?
   A) Particle size B) Viscosity of medium
   C) Density of medium D) All of these

6) In ring detachment method, which type of metal ring is used ?
   A) Gold B) Silver C) Platinum D) Nickel

7) As the pressure increases, surface tension
   A) Decreases B) Increases
   C) Remain constant D) None

8) HLB requirement for the detergency is about
   A) 1-5 B) 13-16 C) 9-12 D) 5-9

9) Adsorption of benzene on silica gel is which type of adsorption isotherm ?
   A) Type-I B) Type-II
   C) Type-III D) Type-IV

10) In the dispersion of sulphur in water, acacia is used as
A) Complexing agent B) Deflocculating agent
C) Detergent D) Wetting agent

11) Which of the following is hydrophilic surfactant ?
A) Tweens B) Spans C) SLS D) Both A) and C)

12) Which method is also called as stream scanning ?
A) Conductivity B) Sieving
C) Sedimentation D) Optical microscopy

13) Which of the following is analytical method of complex ?
A) Dilution B) Distribution C) Diffusion D) Dialysis

14) Alloys are the which type of colloidal system ?
A) Solid sol B) Sol C) Solid foam D) Gel

15) Which of the following equation is used for predicting shelf life of drug product ?
A) Hixon-Crowel B) Arrhenius
C) Michaelis-Menten D) Henderson-Hasselbatch

2. Answer **any five** : **(5×5=25)**

a) Write a note on 'Theory of sedimentation'.

b) Discuss in detail flow properties of powders.

c) Write in brief about cumulative frequency distribution curve.

d) What is micromeritics ? Give advantages and disadvantages of microscopy method.

e) Write in detail about electrophoresis.

f) Add a note on adsorption at liquid interface.

3. Answer **any three** : **(10×3=30)**

a) What is shelf life and expiration dating ? How would you determine shelf life of new pharmaceutical product ?

b) Explain in detail theories of emulsification.

c) Write in detail various kinetic properties of Colloids.

d) Define surface tension with its unit. Explain any two methods for its determination.

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SLR-TV – 25

Seat No.	

Set P

B.Pharmacy (New CBCS) Examination, 2018
Semester – IV : MICROBIOLOGY

Day and Date : Tuesday, 11-12-2018 Total Marks : 70
Time : 2.30 p.m. to 5.30 p.m.

1. Multiple choice questions : **(1×15=15)**

1) R.W. coefficient indicates
   a) efficacy of a disinfectant b) dilution of a disinfectant
   c) quantity of a disinfectant d) purity of disinfectant

2) Which cell causes phagocytosis ?
   a) B cell b) T cell
   c) Macrophage d) None of the above

3) What is function of bactericidal agent ?
   a) kills spores b) inhibits bacteria
   c) does not kill bacteria d) destroys bacteria

4) _____ is a dermatophyte.
   a) Microsporum b) Saccharomyces
   c) Aspergillus d) Penicillium

5) The earlier microscope was invented by
   a) Avery b) Antony Van Leeuvenhoek
   c) Louis Pasteur d) Robort Koch

6) Dry heat kills the microorganisms by _____ of proteins.
   a) dehydration b) oxidation c) coagulation d) proteolysis

7) P ring in Flagella is
   a) Polysaccharide ring b) Polypeptide ring
   c) Peptide ring d) Peptidoglycan ring

8) Humoral immunity is also called as _____ immunity.
   a) antigen mediated immunity b) antibody mediated
   c) macrophage mediated d) mast cell mediated

9) Envelope of virus is usually derived from
   a) cell wall b) cell membrane
   c) both of above d) none of above

P.T.O.

10) Ricketssia requires _____ cells for their growth.
a) dead cells b) living cells
c) non-lining prokaryotes d) any of the above

11) Common mode of reproduction in yeast is
a) binary fission b) fragmentation
c) budding d) sexual reproduction

12) Germ theory of disease was postulated by
a) L. Pastuer b) Anttony Vanleeuwenhoek
c) R. Koch d) P. Ehrlich

13) When exact composition of medium is known, the medium is described as
a) selective b) chemically defined
c) complex d) differential

14) Generation time of tuberculous bacillus is
a) 15 days b) 15 hours c) 15 minutes d) 15 seconds

15) _____ is found in all bacterial cells.
a) capsule b) pilli c) ribosome d) spores

2. Answer **any five** : **(5×5=25)**

1) Discuss any two methods of cultivation of human virus.

2) Discuss applications of microbiology to field of pharmacy.

3) Discuss the factor affecting the choice of antibacterial agent.

4) Compare and contrast optical versus electron microscopy.

5) Discuss sterilization monitors with suitable examples.

6) Classify fungi and discuss its morphology.

3. Answer **any three** : **(3×10=30)**

1) Define sterilization. Explain thermal sterilization with respect to its types, principles, procedures, equipments, applications and limitations.

2) Explain bacterial growth and discuss various methods of bacterial growth study.

3) Describe morphology, cultural characteristics of *Ricketssia*. Add a note on humoral immunity.

4) Give ideal characteristics of disinfectants. Describe any one process to evaluate disinfectant.

_____

SLR-TV – 26

Seat No.	

Set P

B. Pharm. (Semester – IV) (New CBCS) Examination, 2018
ORGANIC CHEMISTRY – III

Day and Date : Thursday, 13-12-2018 Max. Marks : 70
Time : 2.30 p.m. to 5.30 p.m.

I. Choose the most appropriate one from the following answers : **(1×15=15)**

1) Order of migration of groups in Wagner-Meerwein rearrangement is
   a) Methyl > t-Butyl > Phenyl b) Phenyl > Methyl > t-Butyl
   c) t-Butyl > Phenyl > Methyl d) Phenyl > t-Butyl > Methyl

2) Addition of water to this alkene is faster in
   a) Ethene b) Propene c) E-Butene d) Z-Butene

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

4) Markovnikov's addition is seen with _____ addition reaction.
   a) Hydration b) Halogenation
   c) Hydroboration-Oxidation d) Hydrogeneration

5) The term anti-periplanar means
   a) ±30° same side b) ±60° same side
   c) ±30° opposite side d) ±150° opposite side

6) Willgerodt rearrangement reaction belongs to _____ type.
   a) Electrophilic b) Aromatic c) Radical d) Nucleophilic

7) The group with highest priority in according to CIP rules
   a) $-CCl_3$ b) $-C = O$ c) $-C \equiv N$ d) None

8) Halogenation reaction is
   a) Stereoselective b) Regioselective
   c) Stereospecific d) Chemoselective

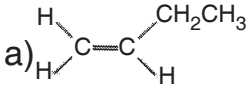
P.T.O.

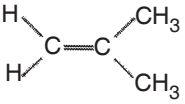
9) _____ isomers are generated by rotation of groups around a C – C bond.

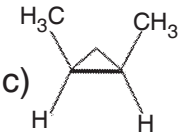
a) Geometric b) Conformational

c) Enantiomers d) None

10) Identify the geometrical isomer from the following :

a) 

b) 

c) 

d) None

11) Pyrolysis requires

a) Solvent b) Heat c) Light d) Agitation

12) Chose correct reagent for completing the following reaction :

$R^1CROHCH_2R^2 \Longrightarrow$ $\boxed{R^1 - CR = CH - R^2}$

a) HCl, H_2O b) NaOH c) NaOET d) H_2O

13) In a substitution reaction, small sized, strong nucleophiles lead to _____ type of reaction.

a) S_N1 b) S_Ni c) S_N2 d) E1

14) Identify the reaction type

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

15) _____ differentiates mesomers from enantiomers.

a) Symmetry b) Rotation around bond

c) Connectivity d) Rigidity

II. Answer **any five** questions of the following : **(5×5)**

1) Define addition reaction. Explain a method in which *synaddition* occurs.

2) Describe *Curtius* rearrangement reaction.

3) Enlist the role of conformation in chemistry and biology. Describe briefly Butane's conformational analysis.

4) How are geometrical isomers named ? Explain.

5) Write a note on pericyclic reactions including their synthetic applications.

6) Define and give an example for : Tautomer; Mesomer; E-Z-isomer; Rotamer.

III. Answer **any three** questions of the following : **(3×10)**

1) Describe SN1 and E2 reaction taking an example. Add note on stereochemistry. **(5+5)**

2) Explain *Claisen* rearrangement and *Dakin oxidation*. **(5+5)**

3) Describe chemical and physicochemical methods of separation of enantiomers.

4) Write a note on :

   a) Diels Alder reaction

   b) Cope elimination. **(5+5)**

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SLR-TV – 27

Seat No.	

Set P

B.Pharm. (Semester – IV) (New CBCS Pattern) Examination, 2018
PHARMACEUTICAL ANALYSIS – II

Day and Date : Monday, 17-12-2018 Max. Marks : 70

Time : 2.30 p.m. to 5.30 p.m.

1. Multiple choice questions : **(1×15=15)**

1) _____ First proposed Oxygen flask combustion method.

a) Schoniger b) Peter Griessin

c) Karl Fischer d) None of these

2) For fluorine determination combustion is carried out _____ glass flask.

a) Silica glass b) Borosilicate

c) Soda glass d) Both a) and c)

3) Mordant black II is not used for determination of metals like

a) Ca b) Fe c) Zn d) Al

4) _____ type of crucibles can be used for drying of precipitate upto 1000°c.

a) Silica b) Porcelein

c) Sintered glass d) None of above

5) Xylenol orange is not used in the estimation of

a) Zinc b) Thorium

c) Mercury d) Copper

6) 0.75 gm of sodium nitrite in 100 ml gives _____ M sodium nitrite.

a) 0.1 b) 0.05 c) 0.01 d) 1

7) _____ gm of Zn^{+2} equivalent to 0.05 M $C_{10}H_{14}N_2Na_2O_8$.

a) 0.003269 b) 0.006018

c) 0.002639 d) None of above

P.T.O.

8) _____ is unaffected by chemical reagents and heating prior to 500°c.
   a) Munroe crucible
   b) Glass fibre discs
   c) Permanent porous filter discs
   d) Gooch crucible

9) Erichrome black T shows _____ clour at pH 6-7.
   a) Red-Blue
   b) Violet-Red
   c) Blue-Yellow
   d) Red-Yellow

10) For gaseous sampling _____ °c temperatue required for silica quartz tubes.
   a) Above 500
   b) Below 500
   c) 500
   d) None of above

11) _____ solvents are acidic in nature.
   a) Aprotic
   b) Protogenic
   c) Protophilic
   d) Amphiprotic

12) Paracetamol analysis involves limit test for
   a) Chloride
   b) Sulphate
   c) Heavey metal
   d) Arsenic

13) Primary aromatic amines formed _____ type compound with nitrous acid.
   a) No reaction
   b) Stable
   c) Unstable
   d) Phenol

14) The determination of halogen done by
   a) Kjeldahl method
   b) Karl-Fischer method
   c) Oxygen flask combustion method
   d) Argentometry method

15) RIA gives _____ of the sample.
   a) Radiating power
   b) Complex forming ability
   c) Concentration
   d) None of these

2. Answer **any five** : **(5×5=25)**

   1) Define complexometric titration. How will you prepare and standardize 0.05 M Disodium EDTA ?

   2) Write the end point detection in sodium nitrite titration. Explain assay of Sulphanilamide.

   3) Write the Apparatus and procedure for Kjeldahl method.

   4) Explain oxygen flask combustion method.

   5) Define and classify ligand with suitable e.g. Explain assay Magnesium sulphate powder.

   6) Explain in detail ELISA technique.

3. Answer **any three** of the following : **(10×3=30)**

   1) Describe the classification of Non-aqueous titration. Write a note on assay of Mebendazole and Salbutamol sulphate powder.

   2) What is sampling ? Explain the sampling of liquid material.

   3) Define Gravimetric analysis. Give in detail sampling, filteration and ignition. Explain assay of Zinc sulphate by Gravimetry.

   4) Write the theory, preparation and standardization of Karl-Fischer method.

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SLR-TV – 28

Seat No.	

Set P

B.Pharm (Semester – IV) Examination, 2018
PATHOPHYSIOLOGY AND CLINICAL BIOCHEMISTRY – II (New CBCS)

Day and Date : Wednesday, 19-12-2018 Max. Marks : 70
Time : 2.30 p.m. to 5.30 p.m.

1. Multiple Choice Questions : **(15×1=15)**

1) A marked and sudden increase in blood pressure to 200/140 mmHg is known as
   A) Benign hypertension B) Malignant hypertension
   C) Isolated hypertension D) Prehypertension

2) Which of the following disease does occur in acinus ?
   A) Chronic bronchitis B) Emphysema
   C) Bronchial asthma D) Bronchiectasis

3) The protein deposited in Alzheimer's disease is
   A) Aα amyloid B) Aβ amyloid C) Bα amyloid D) Bβ amyloid

4) Which of the following cells are depleted in HIV infection ?
   A) Fixed Macrophages B) Wandering Macrophages
   C) Cytotoxic T-cells D) Helper T-cells

5) The biochemical parameter which describes the blood glucose level for last 3 months is
   A) Glycosylated insulin B) Glycosylated hemoglobin
   C) Fasting BSL D) Post-prandial BSL

6) Which of the following is involved in pathogenesis of Rheumatoid Arthritis ?
   A) Rheumatoid factor B) Adhesion molecule
   C) Cytokines D) All of the above

7) Which of the following is not a liver function test ?
   A) Inulin clearance test B) Glucose tolerance test
   C) Serum bilirubin D) SGOT estimation

8) Thyroid function test includes
   A) Determination of calcitonin B) Determination of thyrolobulin
   C) Determination of T_3 D) All of the above

P.T.O.

9) Mainly affected region in Alzheimer's disease is
   A) Spinal cord B) Motor neurons
   C) Cerebral cortex D) Basal ganglia

10) Which of the following type of lipids is protective against atherosclerosis ?
   A) LDL B) VLDL C) HDL D) Phospholipids

11) Difficulty in breathing is known as
   A) Eupnoea B) Tachypnoea C) Apnoea D) Dyspnoea

12) Which of the following is the main feature of Parkinson's disease ?
   A) Progressive dementia
   B) Abnormality of posture and movements
   C) Depression
   D) Attention deficit hyperactivity

13) Which of the following characteristic biochemical abnormalities is seen in primary hyperparathyroidism ?
   A) Hypercalcaemia B) Hypophosphataemia
   C) Hypercalciuria D) All of the above

14) Which of the following is a cell mediated hypersensitivity reaction ?
   A) Anaphylaxis B) Cytotoxic reaction
   C) Arthus reaction D) Delayed hypersensitivity

15) Which of the following type of Angina pectoris is referred to as 'pre-infarction angina' ?
   A) Stable B) Prinzmetal's C) Crescendo D) Typical

2. Answer **any five** of the following questions : **(5×5=25)**
   1) Write a note on the symptoms and clinical complications of AIDS.
   2) What are the risk factors for bronchial asthma ?
   3) Describe the pathogenesis of Parkinson's disease.
   4) Write a note on the etiopathogenesis of myasthenia gravis.
   5) Explain the process and consequences of coronary atherosclerosis.
   6) Describe the pathogenesis of pneumonia.

3. Answer **any three** of the following questions : **(3×10=30)**
   1) Describe pathophysiology and clinical manifestations of congestive heart failure.
   2) Describe different types of epilepsy. Write a note on its clinical manifestations.
   3) Explain in details – pathophysiology of diabetes mellitus.
   4) Describe in details – Renal Function Test.

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SLR-TV – 31

Seat No.	

Set P

B.Pharmacy (Semester – V) Examination, 2018
(New CBCS Pattern)
PHARMACEUTICS – III

Day and Date : Friday, 7-12-2018 Max. Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

I. Multiple choice questions : **(15×1=15)**

1) Uneven color distribution on the surface of the tablet is known as
   a) Mottling b) Chipping
   c) Layering d) Lamination

2) Picking of tablet can be prevented by
   a) Use of large lettered punch tips
   b) Use of anti-adherants
   c) Plating punch tips with chromium
   d) All of the above

3) One which controls the movement of punches in rotary tabletting machine is known as
   a) Turrets b) Strips
   c) Cams d) Toolings

4) Diluents are added in the formulation for
   a) Development of bulk of the tablet
   b) Improvement flow property
   c) Decrease the volume of the tablet
   d) None of these

5) If the average weight of tablet is 500 mg then what is maximum percentage (%) deviation allowed as per I.P. ?
   a) 10 b) 7.5
   c) 5.5 d) 5

P.T.O.

6) Resistance to chipping and abrasion is evaluated for
   a) Coated tablets b) Uncoated tablets
   c) Dispersible tablets d) Fast dissolving tablets

7) What is the disintegration time for enteric coated tablets in 1.2 pH buffer ?
   a) < 2 hours b) > 2 hours
   c) < 1 hour d) None of the above

8) Which of the following is used as sealant in sugar coating process ?
   a) Starch b) Talc c) Shellac d) HPMC

9) During film coating process _____ % weight is gained by the tablet.
   a) 15 – 20 b) 30 – 40 c) 8 – 10 d) 2 – 5

10) During tablet coating the sticking and picking can be prevented by
   a) Reducing liquid application rate
   b) Increase in drying air temperature
   c) Reducing excessive tackiness
   d) All of the above

11) Conversion of powder to granules
   a) Enhances flow property b) Increases density
   c) Improves tableting property d) All of the above

12) Separation of tablet into two or more distinct layers is known as
   a) Capping b) Lamination c) Mottling d) Impression

13) What is the % deviation allowed (as per I.P.) for capsule weighing less than 300 mg ?
   a) 5 b) 7.5 c) 10 d) 15

14) Which of the following method used for finishing the capsules ?
   a) Pan polishing b) Cloth dusting
   c) Brushing d) All of these

15) Selection of capsule sizer depends upon
   a) Density b) Fill weight of formulation
   c) Both a) and b) d) None of the above

II. Answer **any five** : **(5×5=25)**

1) Give the comparison between hard gelatin capsules and soft gelatin capsules.

2) Highlight the significance of weight variation test and give the procedure for weight variation test for uncoated tablets as per I.P.

3) Add a note on disintegration test for uncoated tablets.

4) Discuss the tablets manufacturing defects.

5) What is film coating ? Discuss objectives of enteric coating.

6) Briefly explain steps involved in sugar coating.

III. Answer **any three** : **(3×10=30)**

1) Discuss wet granulation and dry granulation techniques.

2) Explain in detail process of extraction of gelatin with flow-chart.

3) Discuss the different filling principles of hard gelatin capsules.

4) What are microcapsules ? Mention the different method of preparation of microcapsules and enlist the applications of microcapsules.

SLR-TV – 32

Seat No.	

Set P

B.Pharm. (Semester – V) Examination, 2018
BIOPHARMACEUTICS
(New CBCS Pattern)

Day and Date : Monday, 10-12-2018 Total Marks : 70

Time : 10.30 a.m. to 1.30 p.m.

1. Multiple choice questions : **(1×15=15)**

1) Pore transport drug absorption mechanism is also called as

A) Convective transport B) Bulk flow

C) Filtration D) All of these

2) Permeability is rate limiting step in absorption for which of following class of drug ?

A) I B) III

C) II D) IV

3) _____ is also called Tamoxifen binding site.

A) Site-III B) Site-I

C) Site-II D) Site-IV

4) Which of following globulin binds to Antigens ?

A) α_1 B) β_1 C) γ D) α_2

5) By using which compound, we determine Active tubular Secretion of kidney.

A) PAH B) Iodopyracet

C) Both A) and B) D) Creatinine

6) For both urine and bile excretion, drugs molecular weight should be _____ Daltons.

A) Less than 300 B) More than 500

C) 300-500 D) All of these

7) C_{max} value depends on

A) Dose Administered B) Rate of adsorption

C) Rate of Elimination D) All of these

P.T.O.

8) Synonym for compartment models is

A) Empirical model B) Realistic model

C) Psychological model D) Both A) and B)

9) pH of urine varies between

A) 4.5 to 7.5 B) 2.5 to 5.5

C) 3.5 to 7.5 D) 7.5 to 9.5

10) Which of following is primary parameter ?

A) V_d B) Clearance

C) $t_{½}$ D) Both A) and B)

11) Volume of fluid cleared of unchanged drug per unit time is called

A) Clearance

B) Elimination

C) Volume of distribution

D) None of the above

12) _____ is poorly perfused organ.

A) Brain B) Muscle

C) Bone D) Liver

13) Digitoxin binding site of Albumin is known as

A) Site I B) Site II

C) Site III D) Site IV

14) Elimination process having which of following processes ?

A) Excretion

B) Biotransformation

C) Distribution

D) None of the above

15) A agent that causes toxic effects on foetus called as

A) Teratogen

B) Allergen

C) Antigen

D) Both B) and C)

2. Solve **any five** : **(5×5=25)**

   1) How pharmaco-technical factors affected on gastrointestinal drug absorption ?
   2) Write in detail about BCFB and BPB barriers.
   3) Explain binding of drug to HSA and Globulins.
   4) Describe salivary excretion as one of non-renal route of drug excretion with suitable example.
   5) Define non-linear pharmacokinetics and explain in brief causes of Non-linearity.
   6) Write a note on film theory as one of dissolution mechanism.

3. Solve **any three** : **(10×3=30)**

   1) What is mean by Pharmacokinetics model ? Classify and explain various pharmacokinetic and pharmacodynamic parameters in detail.
   2) Write a detailed note on one-compartment open model intravenous infusion.
   3) Explain in detail various mechanism of drug absorption with suitable examples.
   4) Write detail various factors affected on renal excretion of drug.

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SLR-TV – 33

Seat No.	

Set P

B.Pharm (Sem. – V) (New CBCS) Examination, 2018
MEDICINAL CHEMISTRY – I

Day and Date : Wednesday, 12-12-2018 Max. Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

1. Multiple choice questions : **(15×1 =15 Marks)**

1) Metabolism is mainly observed in _____
   A) Liver B) Heart
   C) Brain D) None of these

2) Chloropropamide is synthesized from _____
   A) Chlorobenzene B) Benzene
   C) Aniline D) None of these

3) For non-volatile drug according to ferguson principle relative super saturation
   A) St/so B) Pt/po C) So/st D) None

4) Metronidazole having efficacy due to _____ group, this participates in endogenous reduction process.
   A) Nitro B) Amino
   C) Alkyl D) None of these

5) Mannitol is showing action by _____ Phenomenon.
   A) Osmosis B) Reverse osmosis
   C) Both A) and B) D) None of these

6) _____ drug inhibits protein synthesis.
   A) Emetine B) Acetazolamide
   C) Quinine D) Paracetamol

7) Paton and Rang proposed _____ theory.
   A) Occupation theory B) Rate theory
   C) Induced fit theory D) Activation – Aggregation theory

8) B-lactam antibiotics inhibit the synthesis by inhibiting

A) Peptoglycan B) Peptidoglycan

C) Polypeptide D) Peptidase

9) Identify the high celling diuretics of below

A) Mannitol B) Furosemide

C) Spirinolactone D) Acetazolamide

10) _____ drug is not effective against systemic amoebiasis.

A) Metronidazole B) Chloroquine

C) Diloxanide furoate D) Dihydroemetin

11) Niclosamide is used in the treatment of

A) Cestode B) Nematode

C) Trematode D) All of the above

12) The heterocyclic ring is present in thiabendazole is

A) Benthiazale B) Thiazole

C) Benzimidazole D) Furan

13) Penicillin on degradation in alkaline medium forms

A) Penillic acid B) Penicillic acid

C) Penicilloic acid D) Penicilenic acid

14) Bacampacillin is _____

A) Active drug B) Prodrug

C) Active metabolite 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

2. Answer **any five** of the following questions : **(5×5=25)**
   1) Write a note on Bio-isosterism.
   2) Discuss in details of drug receptor interaction.
   3) Write SAR and MOA of sulphonyl urease.
   4) Write the synthesis of Niclosamide Mebendazole.
   5) Draw the structure, chemical name of Metronidazole, Niridazole, Mebendazole.
   6) Define Diuretics. Explain in details of Thiazide Diuretics.

3. Answer **any three** of the following questions : **(3×10=30)**
   1) Define and classify antibiotics with suitable e.g. Write MOA and SAR of B-lactam antibiotics.
   2) Write a note on receptor and biological response.
   3) List out the Phase I and Phase II metabolism process. Explain in details Phase II reaction.
   4) Discuss conversion to Tetracycline to
      a) 4-epitetracyclin by epimerization
      b) Anhydrotetracyclin
      c) Isotetracyclin
      d) Chelate comp

      Give MOA of Tetracycline.

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SLR-TV – 34

Seat No.	

Set P

B.Pharm. (Semester – V) (New CBCS) Examination, 2018
PHARMACEUTICAL ANALYSIS – III

Day and Date : Friday, 14-12-2018 Total Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

I. Multiple choice questions.

1) Which is the complimentary colour of red ?
   a) Yellow b) Blue c) Orange d) Green

2) Which of the following element is generally analysed by flame photometer ?
   a) Lithium b) Potassium c) Calcium d) All of these

3) Vierdot's method is popularly known as _____ method.
   a) Simultaneous Eqn. b) Q – ratio
   c) Absorption ratio d) Geometric correction

4) In Atomic Absorption Spectroscopy, with what material is the cathode in Hollow cathode lamp constructed ?
   a) Tungsten b) Quartz
   c) Element to be investigated d) Aluminium

5) Shifting of absorption maxima towards longer wavelength is termed as
   a) Bathochromic shift b) Hypsochromic shift
   c) Hyperchromic effect d) Hypochromic effect

6) In Atomic absorption spectroscopy, which of the following is the generally used radiation source ?
   a) Tungsten lamp
   b) Xenon mercury arc lamp
   c) Hydrogen or deuterium discharge lamp
   d) Hollow cathode lamp

7) According to the Beer-Lambert Law, absorbance is
   a) Inversely proportional to the concentration
   b) Directly proportional to the concentration
   c) Directly proportional to the transmittance
   d) Inversely proportional to the log of the concentration

8) Which of the following fuel oxidant mixture produces highest temperature ?
   a) Hydrogen-air
   b) Propane-air
   c) Natural gas-air
   d) Acetylene-Oxygen

9) Which of the following is not a detector used in Flame emission photometers ?
   a) Photovoltaic cell
   b) Chromatogram
   c) Photoemissive tube
   d) Photronic cell

10) In which instrumentation there is no need of an external energy source ?
   a) Flame photometry
   b) Spectrophotometry
   c) Fluorimetry
   d) Chemiluminescence

11) Laminar flow burner used in Flame photometers is also known as
   a) Turbulent burner
   b) Premix burner
   c) Total consumption burner
   d) Nozzle mix burner

12) The visible region of the electromagnetic spectrum lies in the wavelengths region of
   a) 200-300 nm
   b) 340-650 nm
   c) 380-750 nm
   d) 100-900 nm

13) The photomultiplier can be used in spectrophotometry as a
   a) Filter
   b) Source that generate energy beams
   c) Detector
   d) Monochromator

14) Which of the following is the principle of Atomic absorption photometers ?
   a) Radiation is absorbed by non-excited atoms in vapour state and are excited to higher states
   b) Medium absorbs radiation and transmitted radiation is measured
   c) Colour of the flame is observed
   d) Only wavelength of the background flame is measured

15) In Flame emission photometers, the measurement of _____ is used for qualitative analysis.
   a) Colour
   b) Intensity
   c) Velocity
   d) Frequency

II. Answer **any five** of the following questions. **(5×5=25)**

1) Enlist various methods of assay of substances in multi component samples. Derive simultaneous equation method.
2) Explain factor affecting an intensity of fluorescence.
3) Enlist various burners used in flame photometry. Discuss any two.
4) Explain in detail electronic transitions in UV visible spectroscopy.
5) Explain quenching of fluorescence. Add a note on applications of fluorimetry.
6) Write the principle of Flame Photometry.

III. Answer **any three** of the following questions. **(10×3=30)**

1) Describe the Instrumentation of flourimetry with a neat labeled diagram.
2) Explain the Instrumentation of Atomic Absorption Spectroscopy with a neat labeled diagram.
3) Explain in brief the interferences and applications in Atomic Absorption Spectroscopy.
4) State and derive Beer-Lambert's law. Explain deviations from Beers Law.

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SLR-TV – 35

Seat No.	

Set **P**

B.Pharmacy (Semester – V) Examination, 2018
PHARMACOLOGY – I (New) (CBCS Pattern)

Day and Date : Tuesday, 18-12-2018 Max. Marks : 70

Time : 10.30 a.m. to 1.30 p.m.

1. Multiple Choice Question : **(1×15=15)**

1) What is characteristic of the oral route ?
   A) Fast onset of effect
   B) Absorption depends on GI tract secretion and motor function
   C) A drug reaches the blood passing the liver
   D) The sterilization of medicinal forms is obligatory

2) Half life (t½) doesn't depend on
   A) Biotransformation
   B) Time of Drug Absorption
   C) Concentration of a drug in plasma
   D) Rate of drug elimination

3) The mechanism of atropine action is
   A) Competitive ganglion blockade
   B) Competitive muscarinic blockade
   C) Competitive neuromuscular blockade
   D) Noncompetitive neuromuscular blockade

4) Acetylcholine is not used in clinical practice because
   A) It is very toxic
   B) The doses required are very high
   C) It is very rapidly hydrolyzed
   D) It is very costly

5) β_1 receptor is present in
A) Adipose tissue B) Bronchi
C) Heart D) All of the above

6) Which of the following sympathomimetics acts indirectly ?
A) Epinephrine B) Norepinephrine
C) Ephedrine D) Methoxamine

7) Antimuscarinics are used in the treatment of the following disorders except
A) Motion Sickness B) Glaucoma
C) Hyperhidrosis D) Asthma

8) _____ the substance which changes the activity of an effector element but doesn't belong to second messengers
A) cAMP B) cGMP C) G-protein D) Calcium ions

9) The therapeutic index of a drug is a measure of its
A) Safety B) Potency
C) Efficacy D) Dose Variability

10) Indicate the alpha$_2$ selective agonist
A) Phentolamine B) Dihydroergotamine
C) Clonidine D) Labetalol

11) Which of the following effects is associated with beta3-receptor stimulation ?
A) Lipolysis B) Decrease in platelet aggregation
C) Bronchodilation D) Tachycardia

12) Aggregation of platelet is promoted by the
A) Prostaglandin B) Prostacyclin
C) Thromboxane D) Both option A) and C)

13) 5-HT appears to play a role in the following except
A) Regulation of Normal BP
B) Regulation of Intestinal peristalsis
C) Haemostasis
D) Causation of migraine

14) Which is prostaglandin analogue ?
A) Pirenzepine B) Hyoscine
C) Latanoprost D) Norepinephrine

15) Which of the following eicoasanoids is Ulcer Protective ?
A) PGI_2 B) TXA_2 C) LTB_4 D) LTC_4

2. Answer **any five** of the following : **(5×5=25)**

   1) Discuss about Adrenergic receptor, their Sites, Agonist, and Antagonist.
   2) Write in brief about Nature and Sources of Drug.
   3) List out unique advantages and disadvantages of oral and parental route of Administration.
   4) Write short notes on Ganglionic blockers and Ganglionic stimulants.
   5) Classify skeletal muscle relaxants. Give their uses.
   6) Give the muscarinic action of acetylcholine on heart and various smooth muscles

3. Answer **any three** of the following : **(3×10=30)**

   1) What are autacoids ? Write the Synthesis, Pharmacological action and Pathophysiological role of 5-HT.
   2) Classify Adrenolytics with examples. Discuss in details pharmacology of α-adrenergic blocker.
   3) Classify H1 antagonist with suitable examples. Explain mechanisms of action, pharmacological action, adverse effects, therapeutic uses of antihistaminic.
   4) Classify Anticholinergic drugs with example. Discuss in detail pharmacology of Atropine

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SLR-TV – 36

Seat No.	

Set **P**

B.Pharmacy (Semester – V) (New CBCS) Examination, 2018
BIOTECHNOLOGY

Day and Date : Thursday, 20-12-2018 Total Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

N.B. *: Figures to* ***right*** *indicate marks.*

1. Choose the correct answer : **(1×15=15)**

1) The name Kary Mullis is associated with _____
   a) PAGE b) RFLP
   c) SDS-PAGE d) PCR

2) _____ harmone secreted in urine is responsible to show positive reaction for UPT kit during pregnancy.
   a) Progesterone b) Estrogen
   c) Chorionic d) Cortisone

3) Vitamin B_{12} is produced from the strains of _____ by fermentation technology.
   a) *Streptomyces olivaceus* b) *Pseudomonas denitrificans*
   c) *Clostridium butyricum* d) All of these

4) _____ is an intracellular product obtained by fermentation technology.
   a) Penicillin b) Streptomycin
   c) Cobalamine d) Dextran

5) Optimum pH maintained during the production of penicillin by fermentation process is _____
   a) 4.2 to 4.8 b) 9.2 to 10.2
   c) 6.2 to 6.8 d) 8.2 to 8.8

6) Conversion of cortisone to prednisone in presence of *Corynebacterium simplex* is _____ reaction.
   a) Dehydrogenation b) Reduction
   c) Esterification d) Hydrolysis

7) Most widely used chemical for protoplast fusion as fusogen is _____
   a) Mannitol b) Sorbitol
   c) Mannol d) PEG

8) Part of plant used for culturing is called as _____
   a) Scion b) Explants
   c) Stock d) Callus

9) Anchorage dependent animal cells require _____ as support of substrate for their normal growth.
   a) Borosilicate glass b) Cotton
   c) Wool d) Jute

10) Disaggregation of cells can be achieved by _____
   a) Physical disruption b) Enzymatic digestion
   c) Treating with chelating agents d) All of these

11) Aminobenzyloxymethlyl filter paper is commonly used for transfer in _____ blotting.
   a) Western b) Southern
   c) Northern d) Dot

12) PCR is a _____
   a) DNA Degradation Technique b) DNA Amplification Technique
   c) DNA Sequencing Technique d) All of these

13) In which condition electrophoresis not used ?
   a) Separation of proteins b) Separation of amino acids
   c) Separation of lipids d) Separation of nucleic acids

14) How many classes of restriction endonucleases are there ?
   a) 1 b) 2
   c) 3 d) 4

15) Monoclonal antibodies are _____
   a) Heterogenous antibodies produced from single clone of plasma cells
   b) Homogeneous antibodies produced from single clone of plasma cells
   c) Both a) and b)
   d) None of these

2. Answer **any five** of the following questions : **(5×5=25)**

   1) Discuss scope of biotechnology with reference to biomedical field and enzyme industry.

   2) Explain construction of conventional fermenter with neat labeled diagram.

   3) Describe various components of media used in plant tissue culture.

   4) Add a note on Agarose gel electrophoresis.

   5) Explain any one technique of gene therapy.

   6) How do dextran produced by fermentation technology ?

3. Answer **any three** of the following questions : **(10×3=30)**

   1) Explain various stages involved in Down Stream Processing with their significance.

   2) Discuss various steps used in isolation of protoplast culture. How the plants are to be generated from leaf protoplast ?

   3) What do you mean by biotransformation ? Write any six bioconversion reactions with reference to steroids.

   4) Write a note on :

      a) Applications of PCR

      b) Role of serum in serum containing media.

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SLR-TV – 37

Seat No.	

Set P

B.Pharm (Semester – VI) (CGPA Pattern) Examination, 2018
PHARMACEUTICS – IV

Day and Date : Friday, 7-12-2018 Max. Marks : 70
Time : 2.30 p.m. to 5.30 p.m.

1. Choose the correct alternative. **(15×1=15)**

1) Ophthalmic ointment must be

a) Sterile b) Non-sterile c) Both a and b d) Can't say

2) Which of the following gelling agent is used in preparation of Unna's paste ?

a) Tragacanth b) Pectin c) Gelatin d) Sodium alginate

3) Swelling and synersis are properties of

a) creams b) paste c) ointments d) Gel

4) Whitfield ointment is synonym for

a) Methyl Salicylate ointment BPC

b) Sulphur ointment

c) Compound benzoic acid ointment BPC

d) None of these

5) Mascara applied on which part of Eye ?

a) Eyelids b) Eye brow c) Eye lashes d) All of these

6) Beeswax borax cream is synonym of

a) Cold cream b) Vanishing cream

c) Cetrimide cream d) All purpose

7) Lipstick is _____ cosmetic.

a) Protective b) Beautifying

c) Both a and b d) None of the above

8) Wool fat is also called as

a) Anhydrous lanolin b) Lanolin

c) Petrolatum d) None

9) Mascara preparation is available in _____ form.
   a) Liquid b) Cream c) Cake d) All of these
10) Which of the following gelling agent resist the bacterial attack ?
   a) Starch b) Cellulose derivatives
   c) Sodium Alginate d) None of these
11) _____ is water soluble ointment base.
   a) Wool fat b) PEG
   c) Petroleum jelly d) All of the above
12) _____ semi solid dosage form contain maximum amount of solid.
   a) Gel b) Jelly c) Ointment d) Paste
13) _____ technique is suitable to enhance drug penetration through transdermal drug delivery system.
   a) Iontophoresis b) Sonophoresis
   c) Both a and b d) None of these
14) _____ is natural suspending agent.
   a) Tragacanth b) Methyl vellulose
   c) Carbopol d) None of these
15) _____ from following is components of aerosol.
   a) Propellent b) Dip tube
   c) Both a and b d) None of these

2. Solve **any five**. **(5×5=25)**
   1) Define ointments. Classify ointment bases with example.
   2) Differentiate between Gels and jellies.
   3) Write on formulation of Vanishing cream.
   4) Define paste. Write its advantages and disadvantages.
   5) Draw a neat labeled diagram of Aerosol. Add a note on propellants.
   6) Define Suspension. Explain in details components of Suspension.

3. Solve **any three**. **(3×10=30)**
   1) Define lipstick. Explain quality control parameters for lipstick.
   2) Explain in detail factors affecting percutaneous absorption.
   3) Explain in detail Q.C. tests for creams.
   4) Define Emulsion. Add a on stability of Emulsion.

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SLR-TV – 38

Seat No.	

Set P

B.Pharm. (Semester – VI) (CGPA Pattern) Examination, 2018
PHARMACOGNOSY – II

Day and Date : Monday, 10-12-2018 Max. Marks : 70
Time : 2.30 p.m. to 5.30 p.m.

1. Multiple choice questions : **(1×15=15)**

1) Identify an unorganized crude drug
   A) Musk B) Agar
   C) Podophyllum D) Musk and Agar

2) Molisch's test is positive for
   A) Cotton B) Silk
   C) Jute D) Cotton and Jute

3) _____ is having narcotic action.
   A) Tobacco B) Indian hemp
   C) Indian Saffron D) Indian Gooseberry

4) *Podophyllum hexandrum* belonging to _____ family.
   A) Labiatae B) Berberidaceae
   C) Meliaceae D) Apocynaceae

5) Haritaki is synonym of
   A) Myrobalen B) Behda
   C) Turmeric D) Podophyllum

6) Choose an example of phenolic ether volatile oil.
   A) Fennel B) Musk
   C) Nutmeg D) Fennel and Nutmeg

7) Amylose and amylopectin are important constituents of starch in the proportion of
   A) 1 : 2 B) 1 : 4
   C) 1 : 6 D) 1 : 8

8) Fixed oils are separated from coarse powered seeds by _____ method.
   A) Ecuelle B) Enfleurage
   C) Distillation D) Soxhlet extraction

9) _____ belonging to family Plantaginaceae.
   A) Indian Allium B) Indian Psyllium
   C) Indian Saffron D) Indian Ghutti

10) Odour and taste of volatile oil class of drugs are due to _____ part.
   A) Oxygenated B) Nitrogen
   C) Sulphur D) None of these

11) _____ oils are having iodine value in the range between 130 to 190.
   A) Drying B) Semi-drying C) Non-drying D) Volatile

12) Lactose on hydrolysis produces
   A) Glucose and glucose B) Galactose and galactose
   C) Glucose and fructose D) Glucose and galactose

13) In histology of cassia bark, oil cells are found in _____ region.
   A) Cortex B) Secondary phloem
   C) Cork D) Sclereid

14) Select the drug not belonging to lipid class.
   A) Ricinus oil B) Cod liver oil
   C) Cassia oil D) Shark liver oil

15) Aqueous extract of _____ produces white precipitate with lead acetate solution.
   A) Clove B) Acacia
   C) Fennel D) Starch

2. Answer **any five** of the following questions. **(5×5=25)**

1) Discuss cultivation, collection and processing of Chinese cinnamon.

2) Define Natural pesticides. Classify with suitable examples. Write merits of natural pesticides over synthetic pesticides.

3) How does Indian gum differentiated from vegetable gelatin ?

4) Discuss method of preparation of black catechu.

5) Define the terms :
   a) Laxative
   b) Demulcent
   c) Astringent
   d) Abortificient
   e) Stomachic
   f) Carminative.

6) Define Natural fibers. Classify with suitable examples. Write their importance.

3. Answer **any three** of the following questions. **(10×3=30)**

1) Define carbohydrates. Classify with suitable examples. How do saccharides differentiated from polysaccharides ?

2) Enlist various leaf constants. Explain any two with their significance.

3) Classify tannins with suitable examples. Write their medicinal and industrial applications.

4) Write biological source and uses of crude drugs of the following classes :
   a) Belonging to ketone volatile oil
   b) Belonging to oleo-resin
   c) Belonging to hydrolysable tannins
   d) Belonging to semidrying oil
   e) Belonging to protein fiber.

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SLR-TV – 39

Seat No.	

Set P

B.Pharm. (Semester – VI) (CGPA) Examination, 2018
MEDICINAL CHEMISTRY – II

Day and Date : Wednesday, 12-12-2018 Max. Marks : 70
Time : 2.30 p.m. to 5.30 p.m.

1. Multiple Choice Questions : **(15×1=15)**

1) Dapsone + Rifampin + Clofazimine combination therapy is used in treating
   A) Fungal B) Cancer
   C) Tuberculosis D) AIDS

2) The short acting Sulphonamide is
   A) Sulphamethizole B) Sulphamethoxypyridazine
   C) Sulphamethoxazole D) Sulphalene

3) Identify the important enzyme in viral replication process
   A) Hydrase B) Isomerase
   C) Reverse transcriptase D) Ligase

4) Dacarbazine shows anti-neoplastic action by which process ?
   A) Alkylation of DNA B) Acetylating DNA
   C) Amination of DNA D) Brominating DNA

5) Chloroquine is synthesized from _____
   A) m-chloroaniline B) o-chloroaniline
   C) p-chloroaniline D) 2-bromoaniline

6) Which of the antineoplastic agent is metabolized by xanthine oxidase ?
   A) 6-mercaptopurine B) Vincristine
   C) Chlorambucil D) 6-thioguanine

7) Which of the drug is DHFR inhibitor ?
   A) Chloroquine B) PAS
   C) Trimethoprim D) Sulfadiazine

8) Nalidixic acid inhibit _____ enzyme.
   A) Topoisomerase – IV
   B) Topoisomerase – I
   C) Ligase
   D) None of above

9) Clotrimazole is a combination of
   A) Sulphadiazine and Trimethoprim
   B) Sulphamethoxazole and Trimethoprim
   C) Sulphamethoxazole and Sulphadia
   D) Sulphamethoxazole and Pyrimethamine

10) Identify folic acid antagonists agent from following
   A) Methotrexate
   B) Busulphan
   C) Cisplatin
   D) Taxol

11) _____ is used as Quinoline antibacterial agent.
   A) Sparfloxacine
   B) Trimethoprim
   C) Nevirapine
   D) Griseofulvin

12) Quinacrine is derivatives of
   A) 9-aminoacridine
   B) 4-aminoquinoline
   C) 8-aminoquinoline
   D) 6-aminoquinoline

13) N-1 position of Norfloxacine is occupied by which group ?
   A) Cyclopropyl
   B) Ethyl
   C) Methyl
   D) Piperazine

14) A potent inhibitor of thymidylate synthatase is
   A) Naftifine
   B) 5-flucytosine
   C) Ciclopirax
   D) Ketocanazole

15) Antifungal antibiotic is
   A) Nystatin
   B) Nafimidine
   C) Tolnaftate
   D) Clotrimazole

2. Answer **any five** of the following questions : **(5×5=25)**

1) Give complete account of DOT therapy.

2) Discuss in problem faced in cancer chemotherapy.

3) Write a note on 4-aminoquinoline and write the synthesis of chloroquine.

4) Explain MOA SAR of Ethambutal with adverse reaction.

5) Write a note on azole derivatives.

6) Explain SAR and MOA of ciprofloxacin as antibacterial agent.

3. Answer **any three** of the following questions : **(3×10=30)**

1) Outline the synthesis of Methotrxate, Acyclovir, Chloroquine.

2) Define and classify antineoplastic agent with suitable eg. Explain MOA of Alkylating agent with eg.

3) Classify antimalerial drugs. Explain life cycle of parasite and drug acting on the various stages.

4) Classify anti-TB drug and explain MOA, SAR adverse effect and synthesis of Para amino salicylic acid.

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Seat No.	

Set P

B.Pharmacy (Semester – VI) (CGPA) Examination, 2018
PHARMACEUTICAL ANALYSIS – IV

Day and Date : Friday, 14-12-2018 Total Marks : 70
Time : 2.30 p.m. to 5.30 p.m.

1. MCQ : **(1×15=15)**

1) The refractive index of liquid _____ with increase in temperature.
   a) Does not changes b) Increases
   c) Decreases d) Slightly increases

2) Mathematically Ohms Law is represented as
   a) I = E/R b) E = I/R c) R α 1/ α d) None of these

3) A target material used in production of X-rays is
   a) Potassium b) Copper c) Aluminium d) Sodium

4) Calibration of IR can be done by using
   a) Polyethelene b) Polyporylene
   c) Polyphenyl d) Polysterene

5) Introduction of electronegative group causes
   a) +ve inductive effect b) –ve inductive effect
   c) no effect d) both a and b

6) Vibration region ranges from
   a) 300 to 400μ b) 2.5 – 25μ c) Visible – 1.2μ d) Above 400μ

7) Nernst glower emits maximum radiation at
   a) 5200 cm^{-1} b) 7100 cm^{-1} c) 3100 cm^{-1} d) 4500 cm^{-1}

8) The region below 1500 cm^{-1} is called as
   a) Infrared active region b) Functional group region
   c) Finger print region d) Dipole moment region

9) The conductivity of solution changes due to
   a) Change in number of ions b) Mobility of ions
   c) Both a and b d) Concentration of ions

10) Which is the example for Weak Acid Vs Strong Base ?
   a) CH_3COOH Vs NaOH b) HCl Vs NaOH
   c) HCl Vs NH_4OH d) CH_3COOH Vs NH_4OH

P.T.O.

11) If the position of atom changes with respect to original bond axis it is called as
a) Stretching b) Rocking c) Scissoring d) Bending

12) Nujol is
a) Hexachlorobutadine b) Mineral oil
c) Perfluorokerosene d) Flurolube

13) Crystal structure can be studied by using
a) X-ray absorption method b) X-ray diffraction method
c) X-ray fluorescence method d) X-ray emission method

14) CO_2 spectrum shows bands at
a) 970 cm^{-1} – 700 cm^{-1} b) 2350 cm^{-1} – 667 cm^{-1}
c) 1380 cm^{-1} – 1050 cm^{1} d) 1500 cm^{-1} – 1300 cm^{-1}

15) Which of the following electrode can be used as both reference and indicator electrode ?
a) Glass electrode b) Hydrogen electrode
c) Saturated calomel electrode d) Antimony electrode

2. Answer **any 5** : **(5×5=25)**

1) How will you determine protein and nucleic acid by circular dichorism spectroscopy ?
2) Define molar refraction, specific refraction, specific refractive index increment, conductance, molecular conductance.
3) Write a note on high frequency titrations.
4) Explain Thermogravimetric curve. Factors affecting TG curve.
5) What are the requirements of molecules to absorb IR radiation ?
6) Write a note on particle size determination by using X-ray techniques.

3. Answer **any 3** : **(3×10=30)**

1) Explain different types of electrodes used in potentiometry.
2) What is DTA ? Explain factors affecting DTA curve.
3) Explain different types of conductometric titrations.
4) Explain Finger Print Region. Add a note on different modes of vibration.

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SLR-TV – 41

Seat No.	

Set P

B.Pharmacy (Semester – VI) Examination, 2018
PHARMACOLOGY – II (CGPA Pattern)

Day and Date : Tuesday, 18-12-2018 Max. Marks : 70

Time : 2.30 p.m. to 5.30 p.m.

1. Multiple choice question. **(1×15=15)**

1) _____Group of drugs is used for asthma treatment.
   a) Methylxanthines
   b) M-cholinoblocking agents
   c) Beta2-stimulants
   d) All of above

2) _____ drug belonging to membrane stabilizing agents.
   a) Zileutin b) Sodium cromoglycate
   c) Zafirlucast d) Montelucast

3) _____ drug stimulating the protective function of the mucous barrier and the stability of the mucous membrane against damaging factors.
   a) Sodium cromoglycate b) Sucralfate
   c) Misoprostol d) Omeprazole

4) Fibrinolytic drugs are used for following except
   a) Central deep venous thrombosis b) Multiple pulmonary emboli
   c) Heart failure d) Acute myocardial infarction

5) _____ antianginal agents is a potassium channel opener.
   a) Dipyridamole b) Validol c) Atenolol d) Minoxidil

6) Gastric acid secretion is under the control of the following agents except
   a) Histamine b) Acetylcholine
   c) Serotonin d) Gastrin

7) _____ drug which is a H2-receptor antagonist.
   a) Omeprazole b) Pirenzepine
   c) Carbenoxolone d) Ranitidine

P.T.O.

8) The mechanism of methylxanthines action is
   a) Inhibition of the enzyme phosphodiesterase
   b) Beta2-adrenoreceptor stimulation
   c) Inhibition of the production of inflammatory cytokines
   d) Inhibition of M-cholinoreceptors

9) _____ is a common adverse effect of ACE inhibitors in susceptible individuals.
   a) Cough
   b) Platelet Aggregation
   c) Disorientation
   d) Gynaecomastia

10) Which of the following antihyperlipidemic drugs reduce cholesterol biosynthesis by blocking Hydroxy Methyl Glutaryl Coenzyme A Reductase enzyme ?
   a) Simvastatin
   b) Nicotinic acid
   c) Cholestyramine
   d) Gugulipids

11) _____ chelating agent used in heavy metal poisoning from the following.
   a) Pralidoxime
   b) Sodium citrate
   c) Potassium Ferricyanide
   d) BAL

12) _____ 5-HT3 antagonists drug suppress vomiting.
   a) Ondansetron
   b) Domperidone
   c) Haloperidol
   d) Cinnarizine

13) _____ is the D2 blockers used to prevent vomiting.
   a) Chlorpromazine
   b) Benzodiazepines
   c) Promethazine
   d) Doxylamine

14) All anti motion sickness drugs act better when taken _____ hour before commencing journey.
   a) 0 hour b) ½ hour c) 2 hour d) 3 hour

15) Spironolactone belongs to _____ class.
   a) High efficacy diuretics
   b) Medium efficacy diuretics
   c) Adjunctive diuretics
   d) Other than a), b) and c)

2. Answer **any five** of the following : **(5×5= 25)**

1) Classify antiplatelet agents. Discuss thrombolytic agents with examples.

2) Give the mechanism of action, adverse reaction and uses of loop diuretics.

3) Discuss in brief the pharmacology of Famotidine.

4) Give classification of antidiarrhoeals with suitable examples.

5) Define Hypertension. Comment on the role of diuretics in the treatment of Hypertension.

6) Give the mechanism of action, adverse effects, contra indications and therapeutic uses of Heparin.

3. Answer **any three** of the following : **(3×10=30)**

1) Discuss in detail the symptoms, first aid and principles of treatment of organophosphorus poisoning.

2) Discuss the pharmacotherapy of Asthma.

3) Define and classify antihypertensive agents. Write a note on ACE inhibitors.

4) Write an entire pharmacological account of Quinidine including mechanism of action, pharmacological actions, pharmacokinetics, adverse effects, interactions, contraindications and uses.

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SLR-TV – 42

Seat No.	

Set P

B.Pharmacy (Semester – VI) (CGPA) Examination, 2018
CLINICAL PHARMACOLOGY

Day and Date : Thursday, 20-12-2018 Total Marks : 70
Time : 2.30 p.m. to 5.30 p.m.

1. Multiple choice questions : **(15×1=15)**

   1) Clinical pharmacology deals with all aspects of the _____ study of drugs in man.
      a) Scientific b) Non-scientific
      c) General d) Animal

   2) Drugs with _____ half-lives are more likely to require loading doses for acute treatment.
      a) Short b) Longer
      c) Intermediate d) Very shorter

   3) Biomedical research involving human subjects, the guidelines having _____ basic ethical principle.
      a) Respect for person b) Beneficene
      c) Justice d) All of above

   4) _____ term is usually reserved for seriously harmful effects of large doses of a drug.
      a) Toxic effect b) Side effect
      c) Adverse drug reaction d) Intolerance

   5) Alterations due to advanced age including changes in _____
      a) Drug-protein binding b) Drug metabolism
      c) Drug distribution d) All of the above

   6) Case studies in the health sciences provide _____
      a) Personal history of an individual patient
      b) Information about one or more health problems
      c) Both a) and b)
      d) Other than a), b) and c)

7) A neonate is less than _____ days of age.
   a) 8 b) 18
   c) 28 d) 365

8) A pioneer clinical pharmacologist _____
   a) Prof U. K. Sheth b) Harry Gold
   c) Clinicians d) Other than a) b) and c)

9) Patient with renal impairment have altered _____
   a) Pharmacokinetic profile b) Renal clearance and elimination
   c) Elimination half life d) All of above

10) _____ trials are aimed to see that whether the new drug have a use full therapeutic activity or not.
   a) Preclinical b) Clinical
   c) Treatment d) Diagnostic

11) _____ trial is more valid if carried out in double blind controlled manner.
   a) Phase-I b) Phase-II
   c) Phase-IV d) None

12) Auto allergy is the _____ type of hypersensitivity.
   a) Type-I b) Type-II
   c) Type-III d) Type-IV

13) _____ is an important cause of absorption interactions.
   a) Intra luminal binding b) G. I. Motility
   c) Mucosa damage d) All of the above

14) The neonatal liver has less capacity for _____
   a) Oxidation b) Conjugation
   c) Glucuronidation d) All of the above

15) Knowledge of the pharmacological basis of drug interactions is essential in prescribing a drug to obtain a _____ interaction.
   a) Desirable b) Recognizing unwanted
   c) Preventing unwanted d) All of the above

2. Answer **any five** of the following questions : **(5×5=25)**

   A) Define clinical pharmacology and give the objectives of clinical pharmacology.

   B) Give the scope and general applications of clinical pharmacokinetics.

   C) Explain ethics of research.

   D) Write a note on sources of adverse drug reactions in response to drug.

   E) Short note on pharmacokinetic drug interactions.

   F) What is Geriatric pharmacology ? Extend the problems of pharmacokinetic aspects of drug with suitable example.

3. Answer **any three** of the following : **(10×3=30)**

   A) Discuss in detail complications of withdrawl of drug therapy. Add note on dosing of drugs in renal failure.

   B) Describe pharmacoepidemiology with different types of observational studies.

   C) What is asthma ? Present case study including different signs and symptoms, alternative treatment of asthma, pharmaceutical care plan and discharge counselling etc.

   D) Describe different types of drug interaction with suitable examples.

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SLR-TV – 43

Seat No.	

Set P

B.Pharm. (Semester – VII) (CGPA) Examination, 2018
STERILE DOSAGE FORMS

Day and Date : Friday, 21-12-2018 Max. Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

I. MCQ : **15**

1) Reduction of D-value by 90% is known as
   a) Z-value b) F-value c) I.V. 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) As per GMP for grade B and C at least _____ per hour.
   a) 10 air changes b) 20 air changes
   c) 50 air changes d) 100 air changes
4) Hot DOP test is useful for the evaluation of
   a) HEPA b) Temperature sensitivity
   c) Blowers d) All of these
5) To evaluate the chemical resistance of glass, which of the following tests are conducted ?
   a) Powder glass b) Water attack test
   c) Both a and b d) None of these
6) Which of the following co-solvents are used to increase the solubility of a drug ?
   a) Ethanol b) Sorbitol c) Glycerin d) All the above
7) Out of following applications which one is not related to a new drug
   a) ANDA b) AADA c) NDA d) Both a and b
8) Mechanism of dry heat sterilization
   a) Oxidation of proteins
   b) Denaturation and coagulation of proteins
   c) Alkylation of sulfhydryl group
   d) Denaturation of DNA
9) The major obstacle for the ocular bioavailability is
   a) Cornea b) Sclera c) Iris d) None of these

P.T.O.

10) LVP containing bacteriostatic agent label should have _____ warning.
   a) Keep in dark place b) Store below 4°C temp.
   c) Not for use in neonates d) Dilute before use

11) For reconstitution of dosage form which solvent is suitable ?
   a) SWFI b) WFI
   c) Bacteriostatic WFI d) RO water

12) To avoid leaching, rubber closures can be laminated with
   a) PVC b) Silicon oil c) Teflon d) All the above

13) Which of the following test is performed on whole container ?
   a) Powder glass b) Water attack test
   c) Both a and b d) None of these

14) Which of the following strength of Dextrose Injection is isotonic in humans ?
   a) 2.5% w/v b) 9% w/v c) 5% w/v d) 0.9% w/v

15) When a needle damages the rubber closure of a parenteral container causing fragments to fall into the container is known as
   a) Coring b) Injectability c) Syringe ability d) Bevel

II. Answer **any five** : **25**

a) Give design of sterile dosage form facility.
b) Write a note on HVAC.
c) Discuss technology transfer.
d) How to detect leak and particulate matter in parenteral dosage forms ?
e) Discuss ocular bioavailability.
f) Discuss rubber as a parenteral packaging component.

III. Answer **any three** : **30**

a) Discuss different types of solvents used in parenteral with their specific applications.
b) Give the essential characteristics of parenteral dosage forms.
c) Discuss different approaches of parenteral manufacturing.
d) Give the cleanliness classes and discuss HEPA with its validation techniques.

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Seat No.	

Set P

B. Pharmacy (Semester – VII) (CGPA) Examination, 2018
PHARMACEUTICAL JURISPRUDENCE

Day and Date : Wednesday, 19-12-2018 Total Marks : 70

Time : 10.30 a.m. to 1.30 p.m.

I. Multiple choice questions/objective type questions. **(15×1=15)**

1) Which schedule is related to standard for cosmetics ?

a) O b) U c) S d) T

2) If a drug is not labeled in prescribed manner then it is known as

a) Spurious drug b) Adulterated drug

c) Misbranded drug d) None of the above

3) One of the Ex-officio members of state pharmacy council

a) Chief Pharmacist of Government hospital

b) Chief Administrative Medical Officer of the State

c) Registered Pharmacist

d) Assistant Drug Controller

4) Government Analyst is appointed by central or state government under Section

a) 19 b) 20 c) 21 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) Pharmacy Act came into force in

a) March 1948 b) April 1948

c) June 1948 d) None of above

7) List of ailments and diseases that a drug should not claim to cure is given in a schedule

a) L b) J c) C d) H

8) No license is essential for sale of _____ drugs.
   a) Alopathic
   b) Homeopathic
   c) Both a) and b)
   d) Ayurvedic

9) Drug inspector is appointed by central or state government under Section
   a) 19 b) 20
   c) 21 d) 22

10) The first Pharmacy Council of India was constituted by the central government in
   a) 1949 b) 1948
   c) 1950 d) 1960

11) The central drug laboratory is established at
   a) Kolkata b) Lucknow
   c) Mumbai d) Kasauli

12) Licence for the retail sale of schedule C and C1 drugs is given in form
   a) 18 b) 19
   c) 21 d) 22

13) The person incharge of state drug laboratory is
   a) Drug controller
   b) Assistant Drug controller
   c) Drug inspector
   d) Govt. Analyst

14) The drug and cosmetics act has been divided into _____ chapters.
   a) 15 b) 16
   c) 5 d) 24

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

II. Answer **any five** : **(5×5=25)**

1) Define advertisement and magic remedies as per Drug and Magic remedies act.
2) Write the constitution and function of DTAB as per D and C Act.
3) Describe the labelling conditions specified in the Drugs and Cosmetics Rules.
4) Explain the duties of public analyst and food inspector as per the prevention of Food Adulteration Act.
5) Define the terms Adulterated food and cosmetics.
6) Explain the salient features of Drugs Prices Control Order.

III. Answer **any three** : **(3×10=30)**

1) Discuss briefly the objectives of the Narcotic Drugs and Psychotropic Substances Act 1985 and explain in detail Illicit Traffic.
2) Describe in detail the procedure for obtaining license and facilities to be provided for running a pharmacy effectively.
3) What are the objectives of Drugs Price Control Order ? How the maximum price to bulk drugs for formulations is calculated ?
4) Discuss in detail about import of drugs.

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Seat No.	

Set P

B.Pharmacy (Semester – VII) (CGPA) Examination, 2018
MEDICINAL CHEMISTRY – III

Day and Date : Monday, 17-12-2018 Total Marks : 70

Time : 10.30 a.m. to 1.30 p.m.

1. MCQ : **15**

1) Theophylline is used as _____ agent.

a) CNS stimulant b) CNS depressant

c) Analgesic d) Anticonvulsant

2) Which of the following proton pump inhibitor ?

a) Ranitidine b) Omeprazole

c) Procainamide d) All of above

3) Testosterone, estrogen and progestin contain _____ carbon in their nucleus.

a) 19, 21, 18 b) 21, 18, 19

c) 19, 18, 21 d) 18, 19, 21

4) The probenacid is used as _____ agent.

a) Oral contraceptive b) Antiulcer

c) Sedative d) Antigout

5) Piroxicam contain _____ nucleus.

a) 1,2 benzothiazine b) Purine

c) Indole d) Pyrazolidine

6) Fluoxymestrone is modification of _____

a) Testosterone b) Estrone

c) Progesterone d) None

7) _____ is nonsteroidal drug.
   a) estradiol b) diethylstillbesterol
   c) estrone d) progesterone

8) _____ not a long acting barbiturate.
   a) Phenobarbital b) Hexabarbital
   c) Mephobarbital d) None of above

9) _____ is MAO inhibitor.
   a) Phenalzine b) Caffine
   c) Malindone d) Fluoxetine

10) Chlorpromazine belongs to _____ class of drug.
   a) Barbiturate b) Phenothiazine
   c) Succinimide d) Xanthine

11) All are used in peptic ulcer except _____
   a) Antazoline b) Omeprazole
   c) Ranitine d) Cimatidine

12) Haloperidol is a major traquilizer, it belongs to the class of _____
   a) Carbamate b) Butyrophenone
   c) Phenothiazine d) None of these

13) Which one of the following antihistaminic is basic ether ?
   a) Pheneramine malate b) Triprolidine HCl
   c) Diphenhydramine HCl d) Pronethazine HCl

14) Morphine and Heroin differ from each other in respect of
   a) Methyl group on nitrogen
   b) Absence of double bond between C4 and C6
   c) Acetyl group at C3 and C6
   d) Absence of D ring

15) _____ substituent on the nitrogen of morphine shows μ antagonist activity.
   a) $-CH_2-CH_2=CH_2$ b) $-CH_3$
   c) $-CH_2-CH_2-Ph$ d) All

2. Answer **any 5** : **25**
   1) Classify NSAID drug and explain MOA and SAR of salicylic acid derivative.
   2) Note on ACTH drugs.
   3) Classify CNS stimulant drug and explain MOA and SAR of central sympathomimetic drugs.
   4) Classify anticonvulsant drug and explain SAR of hydantoin.
   5) Explain MOA and SAR development up to first morphine antagonistic drug.
   6) What are androgens and discuss SAR of it.
3. Answer **any 3** : **30**
   1) Classify Hypnotic and Sedative drug and explain MOA and SAR of long acting barbiturate.
   2) Classify antihistaminic drug and explain development of H2 antagonistic drugs.
   3) Classify psychotherapeutic agents and explain MOA and SAR of MAO inhibitor.
   4) Explain stereochemistry and nomenclature of steroid and note on female sex hormone.

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Seat No.	

Set P

B.Pharm. (Semester – VII)(CGPA) Examination, 2018
PHARMACEUTICAL ANALYSIS – V

Day and Date : Thursday, 13-12-2018 Max. Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

1. Multiple Choice Questions : **(15 ×1=15)**

1) Pre-washing step in HPTLC is done by using
   A) Water B) Ethanol
   C) Methanol D) Benzene

2) _____ technique where separation of sample mixture was carried out by continuous addition of mobile phase.
   A) Elution B) Frontal analysis
   C) Displacement analysis D) None of these

3) _____ are not separated by gel chromatography.
   A) Racemic mixtures B) Enantiomeric mixtures
   C) Isomers D) All of these

4) The $t'_R = t_R - t_M$ is an equation of
   A) Adjusted retention time B) Retention time
   C) Adjusted retention volume D) Retention volume

5) Derivatization procedures in HPLC are carried for
   A) To allow chromatography of compounds
   B) To improve resolution
   C) To improve sensitivity of the method
   D) All of these

6) _____ mechanism is involved in paper chromatography.
   A) Adsorption B) Partition
   C) Ion exchange D) Affinity

7) Calcium sulphate is mixed with silica gel which acts as a _____ in TLC.
   A) Excipients B) Flowing agent
   C) Binder D) Additive

8) _____ of ion exchange resin undergo exchange of ion with sample solution ion.
   A) Fixed ion B) Counter ion
   C) Both A and B D) Movable ion

9) _____ is an application of ion exchange chromatography.
   A) Softening of hard water B) Demineralization of water
   C) Both A and B D) Separation of racemic mixture

10) In gel chromatography, stationary phase is prepared for packing in column by using
   A) Mobile phase
   B) Solvent different than mobile phase
   C) Both A and B
   D) None of these

11) Electron capture detector is used for detecting samples having _____ functional groups.
   A) Electron donating B) Electron withdrawing
   C) Double bond D) All of these

12) _____ is used as column packing material for guard column in HPLC.
   A) Non porous B) 50% Porous particle
   C) Pellicular particle D) Totally porous

13) Non fluorescent solutes can be detected by fluorescence detector of HPLC by reacting with
   A) Ethyl chloride B) Methyl chloride
   C) Thionyl chloride D) Dansyl chloride

14) _____ samples are separated by gas chromatography.
   A) Volatile and thermolabile B) Volatile and thermostable
   C) Non volatile and thermolabile D) Non volatile and thermostable

15) Which of the following detector destroy the separated component by gas chromatography ?
   A) Flame ionization B) Thermal conductivity
   C) Electron capture D) All of these

2. Answer **any five** of the following questions. **(5×5=25)**

1) Explain with suitable diagram operational technique of adsorption column chromatography.

2) Define and classify chromatography.
3) Explain in detail on steps involved in HPTLC.
4) Explain with suitable diagram principle of size exclusion chromatography. Enlist its applications.
5) Define the terms retention time, retention volume, isocratic elution, gradient elution and R_f value.
6) What is Gas chromatography ? Give its types and limitations.

3. Answer **any three** of the following questions. **(3×10=30)**
1) Explain with suitable diagram instrumentation of HPLC.
2) Write on any four detectors used in Gas chromatography.
3) Write in detail on Ion exchange chromatography.
4) What is paper chromatography ? Write on different papers used for it. Give difference between TLC and paper chromatography.

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Seat No.	

Set P

B.Pharmacy (Semester – VII) (CGPA Pattern) Examination, 2018
PHARMACOLOGY – III

Day and Date : Tuesday, 11-12-2018 Max. Marks : 70

Time : 10.30 a.m. to 1.30 p.m.

I. Multiple choice questions : **(15×1=15)**

1) Petit mal seizure is also known as
   a) Absence seizure b) Myoclonic seizure
   c) Atonic seizure d) Tonic seizure

2) Disulfiram is an _____ enzyme inhibitor used in chronic alcoholics for aversion technique.
   a) MAO b) COMT
   c) Aldehydedehydrogenase d) Alcoholdehydrogenase

3) Dissociative anaesthesia is produced by
   a) Dethyl ether b) Propofol
   c) Ketamine d) Diazepam

4) Select the specific antidote used in morphine poisoning
   a) Disulfiram b) Fentanyl
   c) Naloxone d) Flumazenil

5) The antiparkinsonian drug which acts by inhibiting the degradation of dopamine in the brain is
   a) Carbidopa b) Selegiline
   c) Amantadine d) Bromocriptine

6) _____ is one of the cheapest and least toxic anti epileptic.
   a) Diazepam b) Clonazepam
   c) Phenobarbitone d) Carbamazepine

7) Oxytocin is essential for
   a) Initiation of labour b) Formation of milk
   c) Milk ejection reflex d) Both a) and c) are correct

8) Diarrhoea is the most important dose-related side effect of
   a) Piroxicam
   b) Mephenamic acid
   c) Ketorolac
   d) Aspirin

9) Type 2 diabetes mellitus is also known as
   a) Insulin-dependent diabetes mellitus
   b) Juvenile-onset diabetes mellitus
   c) Non-insulin-dependent diabetes mellitus
   d) Gestational diabetes

10) _____ is an antiviral drug found serendipitously beneficial in Parkinsonism.
   a) Selegiline
   b) Amantadine
   c) Bromocriptine
   d) Orphenadrine

11) Sulfonylureas do not lower blood sugar level in
   a) Nondiabetics
   b) Type 1 diabetics
   c) Type 2 diabetics
   d) Obese diabetics

12) Coupling of monoidotyrosine and diiodotyrosine produces
   a) Tetraiodothyronine
   b) Thyroxine
   c) Triiodothyronine
   d) Both a) and b)

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

14) _____ use is now less compelling because of the increasing employment of non-irritant anaesthetics.
   a) Diazepam
   b) Atropine
   c) Famotidine
   d) Pantoprazole

15) Which of the following is not a CNS depressant but increases the tendency to fall asleep at night ?
   a) Pyridoxine
   b) Diphenhydramine
   c) Melatonin
   d) Ethanol

II. Answer **any five** : **(5×5=25)**

1) Write the mechanism of termination of neurotransmitter action.
2) Write the symptoms, diagnosis and treatment of methanol toxicity.
3) Write the ideal properties, complications and interactions of general anesthetics.
4) Define diabetes mellitus and write the comparison between type-I and type-II diabetes mellitus.
5) Write the pharmacological actions of dopamine.
6) Define sedative and hypnotics and classify them with examples.

III. Answer **any three** : **(3×10=30)**

1) Briefly, explain different types epilepsy and classify antiepileptic drugs with suitable examples.
2) What is Parkinson's disease ? Classify anti-parkinsonism drugs and add a note on adverse effect and interactions of levodopa.
3) Define, classify and write the aim of preanaesthetic medicines and briefly explain the stages of general anesthesia.
4) What are immunosuppressant drugs ? Classify immunosuppressant drugs with suitable examples and write the applications of gene therapy.

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Seat No.	

Set P

B.Pharm. (Semester – VII) (CGPA Pattern) Examination, 2018
PHARMACOGNOSY – III

Day and Date : Saturday, 8-12-2018 Max. Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

1. Multiple choice questions (MCQ) : **(15×1=15)**

1) Alkaloid contain at least one _____ atom in their ring structure.
   a) Hydrogen b) Sulphur
   c) Oxygen d) Nitrogen

2) Rauwolfia belongs to _____ family.
   a) Leguminosae
   b) Solanaceae
   c) Apocyanaceae
   d) Liliaceae

3) Tropane alkaloids are obtained from _____ amino acids.
   a) Tryptophan b) Ornithine
   c) Lysine d) Phenyl alanine

4) Cinchona alkaloids are identified by _____ chemical test.
   a) Thalaquine b) Brontragers
   c) Folins d) Vitalis

5) Rio Ipecac is belongs to _____ type of root.
   a) Annulated b) Slender
   c) Tortorus d) Cylindrical

6) Sinalbin obtained from _____ mustard.
   a) White b) Red
   c) Brown d) Black

7) Serratiopeptidase is used in the treatment of _____
   a) Anti-inflammatory
   b) Thrombotic disorder
   c) Analgesic
   d) Febrifuge

8) Identify the drug containing prunasin.
   a) Senna b) Mustard
   c) Aloe d) Almond

9) Bufadionolide contains lactone ring attached at C_{17} made of _____ number of carbons.
   a) 4 b) 5
   c) 3 d) 6

10) Opium contains organic acid known as _____
   a) Quinic acid b) Gallic acid
   c) Muconic acid d) Acetic acid

11) Identify the coloured alkaloid.
   a) Atropine b) Quinine
   c) Cocain d) Berberine

12) Cinchona requires-an important environmental factor to yield better quality.
   a) Temperature b) Altitude
   c) Soil d) Rainfall

13) Ergot under UV light shows _____ fluorescence.
   a) Red b) Green
   c) Blue d) Yellow

14) Identify Indian tobacco official in BP is used as respiratory stimulant.
   a) Tulsi b) Lobelia
   c) Vasaka d) Honey

15) Green tea is act as source of _____
   a) Caffeine
   b) Tannin
   c) Bioflavone
   d) All of these

2. Answer **any five** of the following questions : **(5×5=25)**

   1) Write the general biosynthetic pathway of formation of tropane alkaloids.
   2) How opium is cultivated and collected from plants source explain.
   3) Define glycoside, classify with examples.
   4) What are BITTERS ? Explain Chirata.
   5) Give examples of cardio active marine drugs with their source.
   6) Write the three carbon skeleton structure of Indole alkaloid.

3. Answer **any three** of the following questions : **(10×3=30)**

   1) What are alkaloid amines ? Write, pharmacognostical scheme of ephedra herb.
   2) What are bio flavonoid ? Explain any two samples in detail.
   3) What are anthroquinones ? Write the classification and phytochemistry along with their hydrolysis product of any one.
   4) a) Write importance of natural enzymes.
      b) Write constituents and uses of opium.

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Seat No.	

Set P

B.Pharm. (Semester – VIII) (CGPA) Examination, 2018
NOVEL DRUG DELIVERY SYSTEMS

Day and Date : Saturday, 8-12-2018 Max. Marks : 70
Time : 2.30 p.m. to 5.30 p.m.

1. Multiple Choice Questions/Objective type questions : **(15×1=15)**

1) Pooled samples are utilized for
   a) Immediate release b) Extended release
   c) Sustained release d) Both a and b

2) The Stratum corneum is hard to penetrate because of
   a) High concentration of keratin b) High concentration of melanin
   c) Presence of hair follicles d) Presence of Sweat glands

3) Chitosan is a type of polymer
   a) Polysaccharides b) Cellulose esters
   c) Silicones d) Polyesters

4) Glass transition temperature indicates polymer transition from _____ state.
   a) Rubbery to glassy b) Glassy to rubbery
   c) Liquid to vapour d) None of these

5) The group responsible for lipophillicity of polymer
   a) Amino b) Carboxyl
   c) Hydroxyl d) None of these

6) The maintenance dose is responsible for
   a) Stedy-state plasma concentration
   b) More than maximum effective concentration
   c) Minimum effective concentration
   d) None of these

7) For describing the drug release kinetics from the matrix system containing water soluble drug which model fitting is suitable ?
   a) Zero order b) First order
   c) Higuchi model d) Hixon-crowel model

8) A Tablet which releases promptly after ingestion is known as
   a) Extended release b) Sustained release
   c) Delayed release d) Immediate release
9) Lipophillic matrices are known as
   a) Swellable systems b) Non-swellable systems
   c) Soluble systems d) All of these
10) Eudragit L-100 is soluble at pH more than
   a) 7 b) 6 c) 5 d) 4
11) Poly(acrylic acid) carbomer belongs to the class of
   a) Vinyl polymers b) Cellulose esters
   c) Silicones d) Polyesters
12) Enteric coated tablet is an example of which system ?
   a) Extended release b) Delayed release
   c) Sustained release d) Immediate release
13) Which part of GIT is a host of numerous bacteria ?
   a) Stomach b) Small intestine
   c) Large intestine d) Colon
14) Hydrophillic drugs are highly _____
   a) Permeable b) Soluble
   c) Less permeability d) Both b and c
15) Pulsincap is an example of _____ targeted DDS.
   a) brain b) skin
   c) colon d) nose

2. Solve **any five** : **(5×5=25)**
   1) Give the terms used and commercial importance of NDDS.
   2) Discuss the classification of polymers in CRDDS.
   3) Give the physiological factors to be consider for developing NDDS.
   4) Discuss IUD's and sonophoresis for delivery of drug.
   5) Elaborate ocular drug delivery systems.
   6) Discuss any two kinetic model of drug release.

3. Solve **any three** : **(10×3=30)**
   1) Explain gastroretentive drug delivery systems.
   2) Discuss pre-requisites of drug and biopharmaceutical consideration for the designing of NDDS.
   3) Discuss different approaches for the delivery of drug to the distal part of GIT.
   4) Give the classification of NDDS.

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Seat No.	

Set P

B. Pharmacy (Semester – VIII) (CGPA) Examination, 2018
PHARMACEUTICAL BUSINESS MANAGEMENT

Day and Date : Tuesday, 11-12-2018 Total Marks : 70

Time : 2.30 p.m. to 5.30 p.m.

I. Multiple choice questions/Objective type questions : **(15×1=15)**

1) The oldest form of business organization is

a) Partnership b) Hindu joint family

c) Sole proprietorship d) All the above

2) In which of the following forms of business organizations, registration is compulsory ?

a) Partnership firm b) Sole proprietorship

c) Joint stock company d) All the above

3) The maximum number of persons required to a form a private company is

a) Ten b) Seven c) Two d) Fifty

4) Second step in marketing research process is

a) Define research objectives b) Developed research plan

c) Implement research plan d) None of above

5) _____ is the term derived from the latin word MERCATUS.

a) Market b) Management

c) Both a) and b) d) None of these

6) Brand is a _____ that identifies the market as seller of a product or seller.

a) Name b) Sign

c) Symbol d) All of these

7) _____ come to direct contact with the consumers.

a) Retailers b) Wholesaler

c) Superstockist d) All of these

8) _____ is the obligations to do something.
   a) Responsibility
   b) Delegation
   c) Both a) and b)
   d) None of these

9) The liability of the _____ is unlimited.
   a) Sole proprietor b) Partnership
   c) Both a) and b) d) None of these

10) _____ partner does not take any active part in the management of the business.
   a) Active
   b) Partners in profit
   c) Sleeping
   d) None of these

11) _____ is the first stage of product life cycle.
   a) Growth b) Maturity
   c) Decline d) None of these

12) Business is concerned with
   a) Economic activity b) Non economic activity
   c) Both a) and b) d) None of these

13) A cooperative society is required to be registered under the Cooperative Societies Act.
   a) 1947 b) 1912
   c) 1967 d) None of these

14) A business organization run as a partnership is called a
   a) Firm b) Company
   c) Co-operative society d) None of these

15) Heavy pharmaceutical machinery is sold to the consumer
   a) Direct selling b) Indirect selling
   c) Both a) and b) d) None of these

II. Answer **any five** : **(5×5=25)**

1) Give an account of pharmaceutical distribution channels.
2) Write about the sole proprietorship form of business organization.
3) Define leadership and write various qualities of good leader.
4) Differentiate between generic product and branded product.
5) Discuss planning as a function of management.
6) What are the qualities and duties of professional sales representatives ?

III. Answer **any three** : **(3×10=30)**

1) Explain the various phase's of product life cycle with suitable examples.
2) Define and explain in a brief about market research and market segmentations.
3) Write the process of selection and training of professional sales representatives.
4) Describe the different methods of sale promotions technique with suitable examples.

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SLR-TV – 51

Seat No.	

Set P

B. Pharmacy (Semester – VIII) Examination, 2018
(CGPA Pattern)
MEDICINAL CHEMISTRY – IV

Day and Date : Thursday, 13-12-2018 Total Marks : 70
Time : 2.30 p.m. to 5.30 p.m.

1. MCQ : **15**

1) Nicotinic action of Ach. is blocked by _____
   a) Atropine b) d-tubocurarine
   c) Neostigmine d) None of above

2) _____ not an irreversible cholinesterase inhibitor.
   a) isofiurophate b) ecothiophate iodide
   c) neostigmine d) parathione

3) _____ drug using as calcium antagonist.
   a) verampamil b) quinidine c) amiodarone d) enalapril

4) _____ act as long acting organic nitrate.
   a) isosorbide mononitrate b) nitroglycerine
   c) amylnitrate d) all of above

5) For nitroglycerine _____ route is preferred.
   a) Sublingual b) IM c) IV d) All of above

6) Insertion of _____ bridge in arylethanolamine gives aryloxypropanolamine act as β-adrenergic blocker.
   a) oxyethylene b) oxymethylene
   c) oxybutylene d) none of above

7) _____ not a direct acting drug.
   a) adrenaline b) noeadrenaline
   c) isoprenaline d) amphetamine

8) _____ drug affect the storage of noradrenaline.
   a) guanithidine b) reserpine c) pargyline d) α-methyl dopa

9) _____ is selective β2 agonist.
   a) salbutamol b) phenoxybenzamine
   c) tolazoline d) none of above

10) Acetyl choline is hydrolysed by an enzyme _____
   a) e-cholinesterase
   b) pesudocholinesterase
   c) none of above
   d) both a) and b)

11) _____ is used as antihyperlipemic agent.
   a) clofibrate b) amyl nitrate
   c) digitalis d) tolazoline

12) The drug which inhibits ACE is _____
   a) captopril b) amlodepine
   c) amiodarone d) quinidine

13) Which one of the following is MOA of Lovastatin ?
   a) Increase 7-α hydroxylase activity
   b) Increase lipoprotein lipase
   c) Inhibit 3-hydroxy-3-methylglutaryl-CO-A reductase activity
   d) All of above

14) Which of the following is selective β2 stimulant drug.
   a) cholestyramine b) amlodipine
   c) salbutamol d) none of above

15) _____ drug block the synthesis of catecholamine.
   a) reserpine b) guanithidine
   c) metyrosine d) all

2. Answer **any 5** : **25**

1) Note on Computer aided drug design.
2) Explain MOA and SAR of acetyl choline.
3) Classify parasympathomimetic agent and explain solanaceae alkaloidal drug.

4) Write classification β-adrenergic blockers drugs and explain SAR of it.

5) Classify antihyperlipidemic drug and note on HMG-COA reductase inhibiters.

6) Write synthesis and uses of :

   a) Procainamide

   b) Cyclopentolate.

3. Answer **any 3** : **30**

1) Explain in detail biosynthesis, storage and release and metabolism of NA from amino acid with structure and enzyme involved it.

2) Define and classify antihypertensive agent explain MOA and SAR of ACE inhibitor.

3) Define QSAR and explain in detail physiological parameters of it.

4) Define pro-drug, classify it and explain in detail examples with advantages.

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SLR-TV – 52

Seat No.	

Set P

B.Pharm. (Semester – VIII) (CGPA) Examination, 2018
PHARMACEUTICAL ANALYSIS – VI

Day and Date : Monday, 17-12-2018 Total Marks : 70
Time : 2.30 p.m. to 5.30 p.m.

1. Multiple choice questions. **(15×1=15)**

1) No of orientation for magnetic nuclei is given by _____ formula.
A) 2I + 2 B) 2I + 1 C) 2I – 2 D) 2I – 1

2) The chemical shift value for carboxylic proton is _____ Delta ppm.
A) 10 – 12 B) 4 – 6 C) 9.5 – 10 D) 7 – 9

3) Most intense peak in the mass spectrum is called as _____ Peak.
A) Isotope B) Fragment
C) Base peak D) Rearrangement

4) Bursting strength test is carried out for _____ packaging material.
A) Metallic sheet B) Glass
C) Rubber closure D) Aluminium foil

5) _____ are the reagents used for reducing test of packaging material.
A) $KMnO_4$ B) H_2SO_4
C) KI D) All of these

6) Number of signals for 1-propanol is
A) 3 B) 2 C) 4 D) 5

7) McLafferty rearrangement is seen in the m/z ion having aldehydic, ester, carboxylic, ketone or amide functional group with suitably placed _____ Abstractable hydrogen.
A) Alpha B) Beta C) Gamma D) Delta

8) _____ ion source is used for studying high molecular weight biomolecule samples.
A) MALDI B) Electro spray ionization
C) FAB D) EI

9) Which of the following is not the components of quality management system ?
   A) Quality assurance B) Quality validation
   C) Good manufacturing practice D) All of these

10) _____ is the central value of all the observations arranged from lowest to highest.
   A) Mode B) Mean
   C) Median D) Standard deviation

11) Time of flight mass analyzer, the separation of the ions takes place due to different _____ of ions.
   A) Magnetic dipole B) Velocities
   C) Nuclear spin D) Potential

12) Concurrent validation is carried out _____
   A) During production B) During product development stage
   C) After production D) All of these

13) _____ is the lowest amount of analyte in a sample that can be detected but not necessarily quantitated under stated experimental conditions.
   A) Limit of detection B) Limit of quantitation
   C) Range D) Assay

14) What is the median of the data 7, 2, 4, 3, 2, 5, 10, 1, 12, 8 ?
   A) 4 B) 5.5 C) 4.5 D) 5

15) Standard Error of Mean (S.E.M.) of a sample can be calculated by _____
   A) Dividing variance by sample mean
   B) Dividing S.D. by sample mean
   C) Dividing S.D. by square root of number of variance
   D) Dividing mean by mode sample

2. Answer **any five** of the following questions. **(5×5=25)**

1) Write a note on T-test.
2) Draw a neat labeled diagram of NMR spectrometer. Give its principle.
3) Write on magnetic deflection mass analyzer used in mass spectrometry.
4) Write on accuracy and precision validation parameter of analytical method.

5) Describe bursting strength and hydrolytic resistance test for packaging material.

6) Draw the structure of organic sample having molecular formula $C_4H_8O_2$ and is an ester with NMR signals at 4.1 δ as quartet, 2.1 δ as singlet and 1.2 δ as triplet.

3. Answer **any three** of the following questions. **(3×10=30)**

1) Write on principle, sample inlet system and applications of mass spectrometry.

2) Write on process validation and quality assurance.

3) Explain with suitable examples factors affecting chemical shift.

4) Write on Electron Impact, Chemical ionization as an ion source in mass spectrometry.

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SLR-TV – 53

Seat No.	

Set **P**

B.Pharmacy (Semester – VIII) (CGPA Pattern) Examination, 2018
PHARMACOLOGY – IV

Day and Date : Wednesday, 19-12-2018 Max. Marks : 70
Time : 2.30 p.m. to 5.30 p.m.

I. Multiple choice questions : **(15×1=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) Amino penicillin d) Carboxy penicillin

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 drugs is used for candidiasis treatment ?
   a) Griseofulvin b) Myconazol
   c) Nitrofungin d) Streptomycin

P.T.O.

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

II. Answer **any five** : **(5×5=25)**

1) Classify antifungal drugs with suitable examples and write the uses of Amphotericin B.
2) Classify antiviral drugs, write the mechanism of action and uses of acyclovir.
3) Write the pharmacology of mebendazole.
4) What are general toxicities of cytotoxic drugs ?
5) What are the problems arises with the use of antimicrobial agents ?
6) Name the drugs used in the treatment of glaucoma, otitis media and candidiasis.

III. Answer **any three** : **(3×10=30)**

1) What are aminoglycoside antibiotics ? Write common properties, mechanism of action and toxicities of aminoglycosides.
2) What are the different types of antimetabolites used in cancer chemotherapy ? Write its mechanism of actions.
3) Write in detail about the mechanism of development of microbial resistance towards antimicrobial agents.
4) What is mean by bacteriostatic and bactericidal actions ? Classify antimicrobial agents on the basis of their chemical structure and mechanism of actions.

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SLR-TV – 54

Seat No.	

Set **P**

B.Pharmacy (Semester – VIII) (CGPA) Examination, 2018
HERBAL TECHNOLOGY

Day and Date : Friday, 21-12-2018 Max. Marks : 70
Time : 2.30 p.m. to 5.00 p.m.

I. Multiple Choice Questions : **(1×15=15)**

1) Tea powder in herbal dye acts as _____
   a) Preservatives b) Antioxidents
   c) Colourants d) Nutritive agents

2) The Calcination of metals, minerals or animal are involved in _____
   a) Churna b) Bhasma c) Avaleha d) Vati

3) Instrumental analysis of inorganic elements in bhasma estimation is carried out by _____
   a) Spectroscopical b) TLC
   c) GCMS d) All

4) Herbal health food are required to satisfy _____ as per regulation.
   a) Advertisement b) Economy
   c) Attractive pack d) Safety and efficacy

5) Chyavanprasha is well known example of _____
   a) Pishti b) Gutika c) Paka d) None of the above

6) Evaluation of asava and arista is carried out by determining _____content.
   a) Total Solids b) Total Alkloid
   c) Total Alcohol d) Total Acid

7) The improper post harvesting procedure leads to _____
   a) Low quality of raw materials b) Loss of active ingredients
   c) Increase in microbial load d) All of the above

8) Polyherbal preparation produces _____
   a) Unidirectional action and no synergistic action
   b) Multidirectional action and synergistic action
   c) Low effective
   d) Less toxic

9) Liquid preparation obtained by distillation of certain liquids or crude drugs soaked in water are called as _____
   a) Asava b) Arka
   c) Arista d) Avaleha

10) Herbal medicine prepared from Vedic reference books are referred as _____
   a) Natural Medicine b) Modified Medicine
   c) Imported product d) Medicines in system

11) Which of the following tools are used for checking efficacy of drug ?
   a) Case series
   b) Case reports
   c) Randomization clinical trials
   d) All

12) Total sugar determination is employed as parameters of QC of _____
   a) Lepa b) Bhasma
   c) Taila d) Churna

13) Acasia, concinna (Shikakai) is used in preparation of _____
   a) Soaps b) Toothpaste
   c) Cream d) Lotion

14) Standardization needs to evaluate herbal medicine to confirm _____
   a) Quality b) Chemical constituents
   c) Medicinal use d) Quality and purity

15) Total ash value in herbal material signifies _____
   a) Mineral material b) Organic material
   c) Cellulose material d) Woody material

II. Answer **any five** of the following : **(5×5=25)**

1) Write short note on import and export of herbal drugs.
2) Write method of preparation and QC parameters for Taila.
3) Write a note on quality control of cosmetics.
4) Define the following :
    1) Indigeneous herbal medicine.
    2) Health food.
    3) Herbal material.
    4) Phytoconstituents.
    5) Herbal bath.
5) Write in detail about ingredients used in shampoo.
6) Classify ayurvedic dosage forms and give its advantages and disadvantages.

III. Answer **any three** of the following : **(10×3=30)**

1) Explain quality assessment of herbal drugs as per WHO.
2) Explain polyherbal formulations and explain their merits and demerits.
3) What are the objectives of regulations of Herbal Medicines ?
4) Explain harvest and post harvest process involved in herbs.

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SLR-TV – 55

Seat No.	

Set P

B.Pharmacy – I (Semester – I) Examination, 2018
PHARMACEUTICS – I (Old-CBCS Pattern)

Day and Date : Saturday, 22-12-2018 Max. Marks : 70

Time : 10.30 a.m. to 1.30 p.m.

I. Multiple Choice Questions : **(15×1=15)**

1) Elixirs are _____ dosage forms.
   a) Hydroalcoholic b) Biphasic
   c) Aqueous d) Alcoholic

2) Simple syrup contains _____% w/v of sucrose.
   a) 66.67 b) 65.67 c) 68.67 d) 69.67

3) Which one of the dosage form is applied with rubbing ?
   a) Lotions b) Liniments c) Creams d) Paste

4) Which one of the dosage form is used to treat throat infection ?
   a) Linctus b) Elixir c) Gargle d) Emulsion

5) The first edition of Indian pharmacopoeia published in the year
   a) 1965 b) 1955 c) 1947 d) 1971

6) "Mitte" means
   a) Drop b) Mixture
   c) Put d) Send

7) Lanolin is also known as
   a) Wool fat b) Hydrous wool fat
   c) Wool alcohol d) Beeswax

8) Paste contains large amount of
   a) Liquids b) Solids
   c) Colors d) Flavors

9) Jellies are
   a) Transparent b) Translucent
   c) Non-greasy d) All of the above

10) Who is the father of Indian pharmacy education ?
   a) Prof. M. L. Schroff
   b) Prof. Gelan
   c) Prof. B. N. Ghosh
   d) None of the above

11) The third edition of Indian pharmacopoeia published in the year
   a) 1965 b) 1955
   c) 1975 d) 1985

12) For granulation preparation _____ additive is used as granulating agent.
   a) Starch
   b) $CaCO_3$
   c) Dicalcium phosphate
   d) All of the above

13) Existence of drug molecule more than one crystalline form is
   a) Polymorphism
   b) Amorphous
   c) Crystallinity
   d) Nanocrystals

14) _____ is melting point of cocoa butter.
   a) 25 to 30°c
   b) 30 to 35°c
   c) 37 to 39°c
   d) 39 to 41°c

15) Aqueous iodine solution is also known as
   a) Dakin's solution
   b) Dettol Solution
   c) Lugols's Solution
   d) Mandle's paint

II. Answer **any five** : **(5×5=25)**

1) Define and classify dosage forms with examples.
2) Write a note on career in pharmacy.
3) Define the following terms :
   a) Paste b) Ointment
   c) Liniment d) Tablets
   e) Jelly
4) Add a note on pharmaceutical additives for solid dosage form.
5) What are powders ? Add a note on dusting powder.
6) What are suppositories ? Add a note on suppository bases.

III. Answer **any three** : **(3×10=30)**

1) Define pre-formulation. Explain any eight pre-formulation parameters.
2) Describe briefly I.P. and U.S.P.
3) Discuss in detail development of pharmacy profession and pharmaceutical industries in India.
4) Define, classify and write advantages and disadvantages of liquid dosage forms.

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SLR-TV – 56

Seat No.	

Set P

B.Pharm. (Semester – I) (Old CBCS) Examination, 2018
PHARMACEUTICAL INORGANIC CHEMISTRY

Day and Date : Monday, 24-12-2018 Max. Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

1. Multiple Choice Questions : **(15×1=15)**

1) _____ is a source of impurity.
   A) Raw material B) Method of manufacturing
   C) Both A) and B) D) None of above

2) _____ compound is used as desensitizing agent.
   A) Gel B) Potassium acetate
   C) Zinc chloride D) Magnesium

3) _____ used as emetic.
   A) Magnesium B) Iodine
   C) Boric acid D) Copper sulphate

4) The first edition of IP got published in _____
   A) 1956 B) 1955
   C) 1965 D) 1985

5) _____ cotton plug is used to absorb H_2S gas in Guitzeit apparatus.
   A) Lead acetate B) Lead acetone
   C) Lead chloride D) None of above

6) Sparingly soluble means from _____ to _____ parts.
   A) 30-100 B) 100-1000
   C) 1000-10000 D) 1-10

7) Addition of fluoride to the municipal water supply known as
   A) Fluridation B) Flurination
   C) Flurosis D) All of above

8) Sodium nitrite used in poison due to
   A) CO B) Barbiturates
   C) Cyanide D) Alkaloidal

9) _____ is not class topical agent.
   A) Antibiotic B) Protective
   C) Antimicrobial D) Astrigent

10) The indicator used in complexometric titration is
   A) Methyl orange B) Mordant black II
   C) Both A) and B) D) None of these

11) _____ helps in preventing dental carries.
   A) Fluoride B) Chloride
   C) Magnesium D) None of above

12) Sodium fluoride is assayed by _____ method.
   A) Oxidation reduction B) Complexometric
   C) Precipitation D) Acid base

13) Magnesium sulphate is used as _____
   A) Astringent B) Dental product
   C) Cathartics D) Expectorant

14) Alum is assayed by _____ method.
   A) Oxidation reduction B) Complexometric
   C) Precipitation D) Gravimetric

15) _____ compound used as antacid.
   A) Sodium bicarbonate B) Iron
   C) Lead D) Bismuth subcarbonate

2. Answer **any five** of the following questions : **(5×5=25)**
   1) What is desensitizing agents ? Write a note on zinc eugenol cement.
   2) Write a note on mechanism of action of antimicrobial agents.
   3) Write preparation, used and assay of copper sulphate.
   4) Write in details of ORS.
   5) Write a note on assay of sodium chloride.
   6) Write principle and reaction involved in limit test for sulphate.

3. Answer **any three** of the following questions : **(3×10=30)**

1) Mention sources of contamination of pharmaceutical. Give full account of limit test for Iron.
2) Which different aspects of drug are covered in an official monogrpah.
3) What are antacid ? What are the ideal property of an antacid ? Add a note on aluminium containing antacid.
4) Give preparation, uses and assay of 1) Sodium bicarbonate. 2) Magnesium sulphate.

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Seat No.	

Set **P**

B.Pharm. (Semester – I) (Old CBCS) Examination, 2018
BIOCHEMISTRY – I

Day and Date : Wednesday, 26-12-2018 Max. Marks : 70

Time : 10.30 a.m. to 1.30 p.m.

1. Multiple choice questions : **(15×1=15)**

1) Iodine solution produces no colour with _____

a) Cellulose b) Dextrin

c) Starch d) Glycogen

2) The epimers of glucose _____

a) Fructose b) Ribose

c) Galactose d) Deoxyribose

3) The distinguishing test between monosaccharides and disaccharides is _____

a) Barfoed's test b) Bial's test

c) Seliwanoff's test d) Hydrolysis test

4) The non carbohydrate moiety found in glycoside is known as

a) Glycon b) Cofactor

c) Aglycon d) Coenzyme

5) Ribose and deoxyribose differ in structure around a single carbon, namely

a) C_2 b) C_3

c) C_1 d) C_4

6) During cell fractionation rough ER is disrupted to form small vesicles called _____

a) Cristae b) Mitosol

c) Microsomes d) Chromosomes

7) The transport for which ATP (metabolic energy) is required _____
   a) Active b) Facilitated
   c) Passive d) Osmotic

8) The β-oxidation proper of fatty acid takes place in _____
   a) Cytosol b) Nucleus
   c) Mitochondrial matrix d) Golgi body

9) Waxes contain higher alcohol named as _____
   a) Cetyl b) Ethyl
   c) Acetyl d) Phytyl

10) Lieberman-Burchard reaction is performed to detect _____
   a) Glycerol b) Sterol
   c) Cholesterol d) Fatty acid

11) Lenolenic and arachidonic acid are formed from
   a) Lenoleic acid b) Stearic acid
   c) Palmitic acid d) None of above

12) The number of _____ of iodine absorbed by 100 grams of fat is called as iodine number.
   a) Kilograms b) Miligrams
   c) Grams d) Micrograms

13) The no. of ATP produced when 2 molecule of acetyl-CoA is oxidized through TCA cycle _____
   a) 24 b) 38
   c) 12 d) 36

14) Rancidity of fat is prevented by addition of _____
   a) Vitamin A b) Vitamin D
   c) Vitamin E d) Vitamin K

15) α-D-glucose and β-D-glucose are _____
   a) Anomers b) Optical isomers
   c) Epimers d) None of the above

2. Answer **any five** of the following questions : **(5×5=25)**

   1) Give structure and function of mitochondria and golgi apparatus.

   2) Explain the significance of Osazone test and Fehling's test.

   3) Define terms uniport, symport and antiport. Differentiate between acitve and passive transport.

   4) Explain structure and biosynthesis of cholesterol.

   5) Why sucrose is called as nonreducing sugar ? Explain with structure. Add note on inversion of sucrose.

   6) Describe β-oxidation of fatty acid.

3. Answer **any three** of the following questions : **(3×10=30)**

   1) Define carbohydrates. Give detail classification.

   2) Explain the term biological oxidation. Explain in detail respiration chain.

   3) Explain in detail classification of phospholipids with structures.

   4) Explain in detail glycogenesis and glycogenolysis. Add note on its significance.

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SLR-TV – 58

Seat No.	

Set P

B. Pharmacy (Semester – I) (Old CBCS) Examination, 2018
ANATOMY, PHYSIOLOGY AND HEALTH EDUCATION – I

Day and Date : Thursday, 27-12-2018 Max. Marks : 70

Time : 10.30 a.m. to 1.30 p.m.

1. Multiple choice questions : **(1×15=15)**

1) Blood is _____ connective tissue.
   a) Liquid b) Fibrous
   c) Loose d) Hardest

2) The lymphatic system consists of
   a) Spleen b) Thymus
   c) Tonsils d) All of above

3) _____ wave indicates the relaxation of the ventricular muscle in ECG.
   a) P b) QRS complex
   c) T d) Only QR

4) _____ is called as respiratory tree.
   a) Trachea b) Pharynx
   c) Larynx d) Pleural lobes

5) Stomach starts from
   a) Cardiac orifice b) Fundus
   c) Body d) Pyloric orifice

6) _____ health means that an individual should be physically fit.
   a) Physical b) Mental
   c) Social d) Spiritual

7) The process of development of RBC's from pluripotent stem cells takes place within _____ days.
   a) 5 b) 120 c) 7 d) 2 to 4 days

8) _____ acts as a filter and remove bacteria.
   a) Lymphatic glands
   b) Lymphatics
   c) Lacteals
   d) Bone marrow

9) _____ is store house of oxygenated blood.
   a) Pulmonary vein
   b) Left ventricle
   c) Arch of aorta
   d) Right atrium

10) Maximum volume of air remaining in the lungs after forceful exhalation is known as
   a) Tidal volume
   b) Inspiratory capacity
   c) Residual volume
   d) Vital capacity

11) _____ pigments are prepared from heamoglobin.
   a) Histamine
   b) Antigen
   c) Heparin
   d) Bilirubin

12) Lymph is similar in composition to plasma with the important exception of
   a) Inorganic salts
   b) Waste products
   c) Plasma proteins
   d) Hormones

13) _____ is known as pace maker.
   a) SA node
   b) AV node
   c) Bundle of His
   d) Purkinje fibre

14) Expired air contains
   a) Less oxygen
   b) More CO_2
   c) Saturated with H_2O vapour
   d) All of above

15) Salvia secretion is _____ in reaction.
   a) Acidic
   b) Alkaline
   c) Neutral
   d) Strong acidic

2. Solve **any five** : **(5×5=25)**

A) Discuss composition and functions of blood.

B) Write the functions of spleen.

C) Discuss in brief the cardiac cycle.

D) Draw a neat diagram of trachea and write their functions.

E) Mention the hormones of pancreas and write the functions of each.

F) Define health. Brief the objectives of health education.

3. Solve **any three** : **(10×3=30)**

A) With the help of neat and labelled diagram of heart, describe the events f one heart beat.

B) Discuss blood groups and their significance.

C) Brief the digestion of Carbohydrate and proteins. Add the functions of liver.

D) Give anatomy of respiratory organ and brief the mechanism of respiration.

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Seat No.	

Set P

B.Pharmacy (Semester – I) (Old CBCS) Examination, 2018
PHARMACOGNOSY – I

Day and Date : Friday, 28-12-2018 Max. Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

***Note** : Figures to **right** indicate **full** marks.*

1. Multiple choice questions (MCQ) : **(1×15 =15)**

1) _____ is used as anticancer.
a) Podophyllum b) Cinchona c) Periwinkle d) Both a and c

2) Xylem and phloem are present on same radius in such a way that xylem lies inward and phloem lies outward. Identify the type of vascular bundle.
a) Co-lateral b) Bi-collateral c) Concentric d) Radial

3) Mayer test is general chemical test used for the detection of
a) Alkaloids b) Amino acids
c) Carbohydrates d) Tannins

4) Determination of diameter of starch grains from the sample is _____ method of evaluation.
a) Physical b) Chemical c) Microscopical d) Organoleptic

5) Identify the crude drug having leaflet.
a) Vasaka b) Digitalis c) Senna d) Vinca

6) Dibbling is the _____ method of propagation.
a) Sexual b) Asexual c) Aseptic d) All of these

7) Neem contains _____ type of stomata.
a) Anomocytic b) Anisocytic c) Dicytic d) Paracytic

8) *Triguna theory* is basic principle of _____ system of medicine.
a) Ayurvedic b) Siddha c) Chinese d) Homeopathic

9) _____ is an intentional type of adulteration.
a) Deterioration b) Admixture c) Sophistication d) Substitution

10) Identify the fungicide
a) Malathion b) Parathion c) Chlorophenol d) DDT

11) Identify the crude drug that constitutes for part
   a) Liquorice b) Ashwagandha
   c) Rauwolfia d) All of these

12) Identify the crude drug not to be used in cosmetic industry
   a) Turmeric b) Hemp c) Aloe d) Cucumber

13) Which of the following reagent is used for the staining of lignified cells ?
   a) Phloroglucinol and Conc. HCl b) Ruthenium red
   c) Conc. HNO_3 d) Dil. iodine

14) Identify the unorganized crude drug.
   a) Aloe b) Cinnamon c) Clove d) Mustard

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

2. Answer **any five** of the following questions **(5×5=25)**
   1) Write the scope of pharmacognosy with reference to pharmaceutical industry and food industry.
   2) Explain different type of vascular bundle.
   3) Add a note on ash value with their significance.
   4) Describe gross morphology of fruit.
   5) Write importance of herbarium.
   6) Write a note on alphabetical system of classification.

3. Answer **any three** of the following questions. **(3×10=30)**
   1) Discuss ayurvedic system of medicine.
   2) Explain parameters involved in the microscopical method of evaluation.
   3) Explain factors affecting cultivation of medicinal plants.
   4) Discuss therapeutic method of classification with their merits and demerits.

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