SLR-D – 1

Seat No.	

B.Pharmacy (Semester – I) (CBCS Pattern) Examination, 2017
PHARMACEUTICS – I

Day and Date : Thursday, 4-5-2017 Total Marks : 70

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

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

1) I.P. committee for preparation of 3rd edition was under the chairmanship of _____

A) Nitya Nand B) T.K. Gajjar

C) Bathgate D) Dr. B.N. Ghosh

2) Profession is _____

A) Continuous professional Development

B) Competent in chosen sector

C) Protecting the interest of public

D) All of these

3) Maillards reaction is observed in _____ diluent.

A) Magnesium Stearate B) Aerosil

C) Lactose D) Di calcium phosphate

4) To prevent coalescence of the dispersed globules in emulsion _____ additive is used.

A) Sodium Lauryl Sulphate B) Cetrimide

C) Lactose D) Both a and b

5) _____ semisolid dosage form is meant for internal administration.

A) Electuary B) Cream

C) Ointments D) Both A and B

6) Currently the base units of the SI _____

A) Kilogram B) Second

C) Ampere D) All of these

7) In Imperial system 15 minims is equal to _____ ml.
   A) 0.1 B) 1
   C) 1.1 D) 15

8) Noyes-Whitney equation provide information about _____
   A) Flow property B) Particle size
   C) Dissolution D) All of these

9) _____ is term used in India since last four thousand years, which is equivalent to term pharmacon.
   A) Bheshaj B) Lepa C) Shalya D) None of these

10) _____ solid dosage forms are placed under the tongue for absorption.
   A) Lozenges B) Sublingual
   C) Buccal D) Troches

11) _____ is example of liquid dosage form for internal administration
   A) Lotions B) Liniments
   C) Gargles D) Droughts

12) Liquid dosage form have _____ disadvantage.
   A) Harder to measure accuracy
   B) Shorter life than other dosage form
   C) Easy to loss by the breakage of the container
   D) All of above

13) POULTICES are example of _____ dosage form.
   A) Solid B) Liquid C) Semisolid D) Gaseous

14) To prevent oxidation _____ is used.
   A) Ascorbic acid B) Glycerin
   C) Lactose D) Starch

15) Particle size analysis can be done by _____
   A) Microscopy
   B) Sieve analysis
   C) Coulter counter and Hiac counter
   D) All of these

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

1) Explain briefly pKa, Hygroscopicity, solubility and partition coefficient.
2) What is metrology ? Explain SI system.
3) Explain in detail development of pharmacy profession in India.
4) Classify pharmacopoeia and explain Martindale.
5) Define the term Pharmaceutics. Explain scope of it.
6) What are Aerosols give its advantages and disadvantages ?

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

1) Explain in detail additives of solid dosage form give its limitation and uses/ application.
2) Explain in detail I.P. 1st 2nd and 3rd edition.
3) Describe in detail career in pharmacy.
4) Elaborate in detail liquid dosage form give its advantages and disadvantages.

———————

SLR-D – 2

Seat No.	

B.Pharmacy (Semester – I) Examination, 2017
PHARMACEUTICAL INORGANIC CHEMISTRY
(CBCS Pattern)

Day and Date : Saturday, 06-05-2017 Total Marks : 70

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

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

1) _____ compound is used as desensitizing agent.
   a) Gel b) Potassium acetate
   c) Zinc Choride d) Magnesium

2) In limit test of Arsenic _____ apparatus is used.
   a) Gutzeit b) Dissolution
   c) Disintegration d) None of above

3) _____ is source of impurity.
   a) Raw material b) Method of manufacturing
   c) Both (a) and (b) d) None of above

4) _____ Antidotes producing the effect opposite to that of poison.
   a) Physiological b) Chemical
   c) Mechanical d) None of above

5) _____ compound used as antacid.
   a) Calcium carbonate b) Iron
   c) Lead d) Bismuth subcarbonate

6) _____ is used as emetic.
   a) Magnesium b) Iodine
   c) Boric acid d) Copper sulphate

7) _____ is used as general anaesthetic.
   a) Hydrogen peroxide
   b) Alum
   c) Potassium iodide
   d) Nitrous oxide

8) Magnesium sulphate is used as _____
   a) Astringent
   b) Dental product
   c) Cathartics
   d) Expectorant

9) _____ describe the therapeutic or pharmaceutical applications of drugs.
   a) Title
   b) Dose
   c) Category
   d) Standard

10) _____ is class of gastrointestinal agent.
   a) Antibiotic
   b) Acidifying agent
   c) Emetics
   d) Antifungal

11) _____ is not class topical agent of agent.
   a) Antbiotic
   b) Protective
   c) Anti microbial
   d) Astringent

12) Carbon dioxide is assayed by _____ method.
   a) Oxidation reduction
   b) Complexometric
   c) Gasometric
   d) Acid base

13) Sodium fluoride is assayed by _____ method.
   a) Oxidation reduction
   b) Complexometric
   c) Precipitation
   d) Acid base

14) Alum is assayed by _____ method.
   a) Oxidation reduction
   b) Complexometric
   c) Precipitation
   d) Gravimetric

15) _____ is mechanism of action of antimicrobial agent.
   a) Protein precipitation
   b) Protective
   c) Cathartics
   d) Anticancer

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

   1) Explain emetics. Give preparation, properties, uses and assay of copper sulphate.

   2) Explain protectives. Write in detail Zinc oxide as protective.

   3) Explain in details cathartics. Give preparation, properties, uses and assay of Magnesium sulphate.

   4) Give preparation, properties, uses and assay of Oxygen as official gas.

   5) Give role of fluoride and write a note on sodium fluoride.

   6) Explain in detail steps involved in monographs.

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

   1) What is electrolyte replacement therapy ? Give preparation, properties, uses and assay of a) Calcium gluconate b) Potassium chloride.

   2) Classify Topical agent. Define antimicrobial and give its mechanism of action. Give preparation, properties, uses and assay of a) Iodine b) Potassium permanganate.

   3) Define and classify antidote. Explain in detail sodium thiosulphate and sodium nitrite as antidote.

   4) Write in detail account of limit test for sulphate and Arsenic.

SLR-D – 3

Seat No.	

B.Pharm. (Semester – I) (CBCS) Examination, 2017
BIOCHEMISTRY – I

Day and Date : Tuesday, 9-5-2017 Total Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

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

1) The number of isomer of glucose _____
A) 4 B) 12 C) 8 D) 16

2) On boiling Benedict's solution is not reduced by _____
A) Sucrose B) Lactose
C) Maltose D) Fructose

3) Golgi apparatus is cluster of _____
A) Chromosomes B) Lysosomes
C) Cytosomes D) Dictyosomes

4) The following polysaccharide is composed of β-glycosidic bonds _____
A) Cellulose B) Glycogen
C) Starch D) Dextrin

5) Give the example of glycoside antibiotic _____
A) Ouabain B) Digoxin
C) Glucovanillin D) Streptomycin

6) The membrane proteins loosely bound to the surface of membrane are called
A) Extrinsic B) Integral
C) Intrinsic D) None

7) Synthesis of glycogen from glucose called _____
A) Glycogenolysis B) Gluconeogenesis
C) Glycolysis D) Glycogenesis

8) Intake of macromolecules by the cell called as _____
   A) Endocytosis B) Cytosis
   C) Exocytosis D) None of these

9) Special carnitine transport system is required for _____
   A) Activation of fatty acid B) β-oxidation
   C) Proper oxidation D) Transport of fatty acid

10) Which of the following is not an unsaturated fatty acid ?
   A) Palmitic acid B) Lenoleic acid
   C) Lenolenic acid D) Arachidonic acid

11) The P:O ratio for the oxidation of $FADH_2$ is
   A) 1 B) 4 C) 3 D) 2

12) The HMP shunt produces _____
   A) NADPH B) FAD C) FMN D) GDP

13) Reducing property of sugars is attributed to presence of _____ group.
   A) Free aldehydic B) Ketonic
   C) Aromatic D) Free aldehydic or ketonic

14) ETC is located in _____
   A) Mitochondria B) Nucleus
   C) Cytosol D) Golgi body

15) Inter-conversion of α to β form of glucose is called as _____
   A) Tautomerization B) Racemization
   C) Inversion D) Mutarotation

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

1) Explain in detail about suicidal bag and endoplasmic reticulum.
2) Write note on fatty acids. Give details of EFA.
3) Explain structure and functions of starch.
4) What are epimers ? Write note on anomers and optical rotation.
5) Explain in detail about lipoproteins and glycolipids.
6) Write short note on fluid mosaic model of cell membrane. Write about transport systems.

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

   1) Describe β-oxidation of fatty acid. Calculate net ATP yield.

   2) What is glycolysis ? Enumerates the steps of glycolysis and energetic.

   3) What is biological oxidation ? Give enzymes involved in biological oxidation. Explain ETC.

   4) Describe hexose monophosphate shunt and its significance.

SLR-D – 4

Seat No.	

B.Pharmacy (Semester – I) (CBCS Pattern) Examination, 2017
ANATOMY, PHYSIOLOGY AND HEALTH EDUCATION – I

Day and Date : Saturday, 13-5-2017 Total Marks : 70

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

1. Multiple Choice Questions : **(15×1=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 than 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 haemoglobin.
   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 pacemaker.
   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** : **(3×10=30)**

A) With the help of neat and labeled diagram of heart, describe the events of 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.

———————

SLR-D – 5

Seat No.	

B.Pharmacy (Semester – I) Examination, 2017
PHARMACOGNOSY – I (CBCS Pattern)

Day and Date : Tuesday, 16-05-2017 Total Marks : 70

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

***Note** : Figures to **right** indicate marks.*

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

   1) Kapha is the combination of _____
      a) Ether and Air b) Fire and Water
      c) Earth and Water d) Air and Water

   2) The vascular bundle in which xylem and phloem are present on same radius is called _____ Vascular bundle.
      a) Co-lateral b) Conjoint
      c) Concentric d) Bi-collateral

   3) *'Law of Similars-Similae Similibus Curenture'* is the basic principle of _____ system of medicine.
      a) Chinese b) Unani
      c) Siddha d) Homeopathy

   4) Neem contains _____ type of stomata.
      a) Paracytic b) Dicytic
      c) Anisocytic d) Anomocytic

   5) Collenchyma cells are compactly arranged without intercellular spaces due to extra deposition of
      a) Cellulose b) Pectin
      c) Starch d) Cellulose and Pectin

6) Dilute iodine solution is used to stain _____
   a) Calcium oxalate b) Starch grains
   c) Cellulose d) Lignified cells
7) _____ is an example of compound fruit.
   a) Long pepper b) Mango
   c) Tamarind d) Lemon
8) In which system the crude drugs are classified according to biological activities ?
   a) Morphological b) Biological
   c) Chemotaxonomical d) Therapeutic
9) Identify the drug obtained from red algae.
   a) Acacia b) Agar
   c) Shilajit d) Talc
10) _____ test is used to confirm steroids.
   a) Shinoda b) Borntragers
   c) Salkowoski d) Phenazone
11) _____ hybridization involves crosses between the plants of same variety of different species.
   a) Intravarietal b) Intervarietal
   c) Intergeneric d) Intrageneric
12) Identify the carbohydrate containing crude drug.
   a) Acacia b) Agar
   c) Honey d) All of these
13) Total soluble constituent of the crude drug in a particular solvent is called as _____ value.
   a) Ash b) Acid
   c) Saponification d) Extractive
14) All of the following are fruits except _____
   a) Cardamom b) Nutmeg
   c) Fennel d) Rasna
15) Crude drugs which are highly sensitive to the atmospheric condition are dried by _____ dryer.
   a) Spray b) Tray
   c) Vacuum d) Hair

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

   1) Discuss different methods of seed propagation with their merits and demerits.

   2) Describe unani system of medicine.

   3) Classify crude drugs with suitable examples according to biological activities.

   4) Write a note on extractive value.

   5) Explain various types of vascular bundle.

   6) Write importance of herbarium.

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

   1) Discuss various parameters studied under chemical method of evaluation.

   2) Explain chemical method of classification with their merits and demerits.

   3) Write a note on :

      a) Chemodemes

      b) Scope of Pharmacognosy

      c) Need of cultivation

      d) Micropropagation.

   4) Describe different stages involved in processing of crude drugs with suitable examples.

SLR-D – 6

Seat No.	

B.Pharmacy (Semester – II) (CBCS) Examination, 2017
PHARMACEUTICS – II (New)

Day and Date : Friday, 5-5-2017 Total Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

Note : *1) Choose most **appropriate** from option in **MCQs**.*
*2) Draw **neat** labeled diagram **wherever** necessary.*

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

1) Surgical catgut is tanned or hardened by _____ salt.
   A) Sodium chloride B) Chromic
   C) Potassium chloride D) Calcium chloride

2) To stick the label on container _____ glue is used.
   A) Dextrin B) Gaur gum
   C) Olibanum gum D) All of these

3) Ultrafine particle size reduction can be done by _____ mill.
   A) Roller B) Hammer
   C) Fluid energy D) Cutter

4) Ball mill and fluid energy mill works on _____ principle of size reduction.
   A) Impact B) Attrition
   C) Compression D) Both A and B

5) Freeze-thaw test or evaluation parameter is performed for_____ powder formulation.
   A) Dry syrup B) Tooth
   C) Dusting D) Talcum

6) _____ equipment is used for liquid manufacturing.

A) Filter press B) Homogenizer

C) Bottle filling D) All of these

7) On surgical catgut label "Plain" indicates _____ days of absorption.

A) 10 B) 40

C) 20 D) 30

8) In solid mixing convective mixing mechanism is also known as_____

A) Micro mixing B) Shear mixing

C) Macro mixing D) Distributive mixing

9) _____ is used for prevention of aeration and foam.

A) Ethylene bis stearamide (EBS) B) Alkyl poly acrylates

C) Poly dimethyl siloxane D) All of these

10) _____ is known as tulle grass dressing.

A) Euflavin lint B) Oiled silk

C) Paraffin gauge D) Rayon

11) Basket centrifuge equipment is used for _____

A) Filtration B) Mixing

C) Size reduction D) All of these

12) _____ equipment is under the edge filter.

A) Meta filter B) Leaf filter

C) Disc filter D) Both A and B

13) Karl Fischer (KF) titration method is used for _____ evaluation of powders formulation.

A) Flow property B) Moisture content

C) Foaming character D) Particle size

14) _____ is example of powder mixing equipment works on tumbling or cylindrical mixer.

A) Double cone blender B) Sigma blender

C) Planetary mixer D) Colloidal mill

15) Selection of mill is dependent on _____ factor.

A) Ease of sterilization B) Particle size

C) Melting point D) All of these

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

1) Explain briefly liquid mixing mechanisms.
2) Write a note on Metafilter.
3) Describe about principle, construction, working and use of colloidal mill.
4) What are filter aid ? Explain with example.
5) Describe in detail bandages.
6) How will you select mill for size reduction ? Give suitable example.

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

1) Describe in detail principle, construction, working and use of Ball mill and Hammer mill.
2) What is filtration and clarification ? Explain factors affecting rate of filtration.
3) Elaborate in detail formulation and evaluation of Talcum Powder and Dry Syrup.
4) Define the term sutures and ligature. Explain briefly about surgical catgut.

_____

SLR-D – 7

Seat No.	

B.Pharmacy (Semester – II) Examination, 2017
MODERN DISPENSING AND HOSPITAL PHARMACY
(New CBCS Pattern)

Day and Date : Monday, 8-5-2017 Total Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

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

1) Inscription means
   a) Ingredient list b) Direction to the patient
   c) Direction to administration d) Direction to doctor

2) An auxiliary label for Mouthwash is
   a) Shake well before use
   b) Apply internally
   c) Not to be swallowed in large quantity
   d) Applied with brush

3) Hospital formulary is list of _____
   a) Hospital staff b) Patient
   c) Instrument d) Drug

4) Written order of the physician is called as _____
   a) Prescription b) Superscription
   c) Signature d) None of the above

5) The number pharmacist required for a hospital having 500 bed is
   a) 5 b) 3 c) 15 d) 8

6) Study deals with dose is known as _____
   a) Metrology b) Biology
   c) Posology d) Anthropology

7) Clark's formula is based on
   a) Age b) Weight c) Height d) Both a and b

8) The solutions which are having same osmotic pressure are known as
   a) Hypotonic b) Hypertonic
   c) Paratonic d) Iso-osmotic

9) Who is the chairman of the PTC ?
   a) Physician b) Nurse
   c) Pharmacist d) Patient

10) Proof spirit contains _____ of alcohol.
   a) 57.2% b) 57.1% c) 57.3% d) 57.8%

11) Displacement value means
   a) Number of mg of substance that displaces 1 mg of suppository base
   b) Number of gm of substance that displaces 1 mg of suppository base
   c) Number of kg of substance that displaces 1 kg of suppository base
   d) None of the above

12) Isotonic solution of normal saline contains _____ of sodium chloride.
   a) 0.1% w/v b) 1% w/v
   c) 9% w/v d) 0.9% w/v

13) Latin term Haustous means _____
   a) Drought b) Mouth wash c) Ear drops d) Nasal solution

14) EOQ means
   a) Economic Optional Quantity b) Economic Other Quantity
   c) Economic Order Quantity d) None of the above

15) Green crystals of quinine sulphate shows _____ reaction.
   a) Hansberg b) Hoffman c) Herapathite d) All of the above

2. Solve **any five** : **(5×5=25)**

1) Define the following terms :
   a) Synergism
   b) Antagonism
   c) Idiosyncrasy
   d) Tachyphylaxis
   e) Tolerance

2) How will pharmacist prepare 500 ml of 0.9% w/v solution of NaCl ? Add a note on what happens when he inject hyper and hypotonic solution of NaCl.
3) Define posology. Write any four formulas for calculating doses for children.
4) Classify incompatibilities and how will you dispense the following prescription.

Rx Menthol
Camphor
Ammonium chloride
Calcium Carbonate

5) Explain the organizational structure of hospital.
6) Convert the following Latin term into English.
   a) Mane
   b) Dolere urgent
   c) Jentaculum
   d) Auristille
   e) Si opus sit.

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

1) Write a detail note on drug distribution in hospital.
2) Define incompatibility. Add a note on therapeutic incompatibility with suitable example.
3) Define PTC. Give construction and functions of PTC. What is the role PTC in drug safety ?
4) Define posology. Explain different factors affecting calculation of dose.

———————

SLR-D – 8

Seat No.	

B.Pharmacy (Semester – II) Examination, 2017
New CBCS
ORGANIC CHEMISTRY – I

Day and Date : Friday, 12-05-2017 Total Marks : 70

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

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

1) Which compound has the strongest carbon sigma bond _____
   a) Methane b) Ethyne
   c) Ethane d) Ethene

2) _____ attacks region of high electron density in the substrate molecule.
   a) Nucleophile b) Electrophile
   c) Carbocation d) Free radical

3) In Inductive effect _____ group having greater positive inductive effect.
   a) Tertiary alkyl b) Secondary alkyl
   c) Primary alkyl group d) None of the above

4) Acid that can accept an electron pair and base that can donate electron pair according to _____ concept.
   a) Lewis b) Bronsted-Lowry
   c) Arrhenius d) None of the above

5) Alkyl halide undergoes _____
   a) Electrophilic substitution reaction b) Electrophilic addition reaction
   c) Nucleophilic substitution reaction d) None of the above

6) The rate of SN^2 reaction depends upon _____
   a) Concentration of substrate b) Concentration of Nucleophile
   c) Temperature d) Both a and b

P.T.O.

7) In Victor Mayer test secondary alcohol produce _____ colour.
   a) Blue colour
   b) Red Blood colour
   c) Green colour
   d) Colourless

8) A Diels Alder reaction is a method of making _____
   a) Cyclohexenes
   b) Cyclobutanes
   c) Cyclohexanes
   d) Hexanes

9) Alcohol have higher boiling points than alkanes of comparable molecular weight because of
   a) Hydrogen boding
   b) Diaxial interact
   c) Steric strain
   d) Hyperconjugation

10) The hyperconjugation effect takes place through the interaction between _____ electron.
   a) Sigma& pi
   b) Sigma &sigma
   c) pi & pi
   d) Sigma & n

11) When carboxylic acid is reacted with alcohol in the presence of sulphuric acid to form _____
   a) Ether
   b) Ester
   c) Sulphate salt
   d) Acetaldehyde

12) The following reaction involve the formation of alkene except.
   a) Dehydration of alcohol
   b) Dehydrohalogenation of alkyl halide
   c) Pyrolysis of alkans
   d) Reduction of carbonyl compound

13) Electron delocalization makes a molecule _____
   a) Less stable
   b) Ionic
   c) Radioactive
   d) More stable

14) What is the IUPAC name for given structure $CH_2 = CH - CHO$?
   a) 1-propanal
   b) 2-propanal
   c) 2-propanol
   d) 1-propanoic acid

15) The carbon atoms in an alkyne are _____
   a) SP^4 hybridized
   b) SP^3 hybridized
   c) SP^2 hybridized
   d) SP hybridized

2. Solve **any five** : **(5×5=25)**

   1) Write method of preparation and reaction of alkynes.

   2) Write structure, generation, stability and reaction of carbanions.

   3) Explain Electromeric effect and Hyperconjugation effect.

   4) Explain Morkovnikov rule with example.

   5) Explain E1 reaction for alkenes.

   6) Explain the reaction of ethers.

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

   1) Define diene classify with example and explain method of preparation of 1, 3 butadiene.

   2) Explain the theories of acids and bases along with factor affecting acid base strength.

   3) Write method of preparation and reaction of alcohol.

   4) Explain SN1 and SN2 reaction Mechanism.

SLR-D – 9

Seat No.	

B.Pharmacy (Semester – II) (New-CBCS) Examination, 2017
BIOCHEMISTRY – II

Day and Date : Monday, 15-5-2017 Total Marks : 70
Time : 10.30 a.m. to1.30 p.m.

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

1) At isoelectric pH amino acids exist as
   a) Zwitterions b) Cations
   c) Anions d) Acidic ions

2) In _____ phase of cell cycle DNA replication occurs.
   a) G_0 phase b) S phase
   c) G_1 phase d) G_2 phase

3) The protein present in hair is _____
   a) Keratin b) Collagen
   c) Elastin d) Myosin

4) Which of the following is not a purine ?
   a) Adenine b) Uric acid
   c) Thymine d) Guanine

5) The initiation factors of protein biosynthesis first binds with _____ subunits.
   a) 20 s b) 40 s
   c) 50 s d) 30 s

6) One of the following is absent in DNA structure
   a) Adenine b) Guanine
   c) Cytosine d) Uracil

P.T.O.

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

8) Small fragments that DNA produce during replication are called _____
   a) DNA replicates
   b) DNA fragments
   c) Okazaki fragments
   d) DNA primer

9) The reproduction of DNA is known as _____
   a) Replication
   b) Transcription
   c) Translation
   d) All of the above

10) Free ammonia is released during _____
   a) Oxidative deamination
   b) Purine catabolism
   c) Pyrimidine catabolism
   d) All of these

11) The coenzyme PLP is used to transfer _____ group.
   a) Acyl
   b) Aldehyde
   c) Amino
   d) Phosphate

12) Deficiency of vitamin D leads to
   a) Rickets
   b) Osteomalacia
   c) Bone demineralisation
   d) All of the above

13) The functionally active form of vitamin D is _____
   a) Cholecalciferol
   b) Ergocalciferol
   c) Dehydrocholesterol
   d) Calcitriol

14) The condensation reaction is catalysed by _____
   a) Lyases
   b) Ligases
   c) Transferases
   d) Hydrolases

15) The nitrogenous base not present in RNA structure
   a) Guanine
   b) Adenine
   c) Thymine
   d) Uracil

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

1) Differentiate between DNA and RNA. What are Okazaki pieces ?
2) Explain urea cycle in detail.
3) Write note on transamination reaction. Give importance of SGPT and SGOT.
4) Write note on ATP and UDP as coenzymes.
5) Give in short about factors affecting enzyme activity.
6) What are vitamins ? Give classification of vitamins.

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

1) Describe the chemistry, biochemical functions, daily requirements, sources and deficiency manifestations of vitamin A.
2) Define enzyme. Explain enzyme action with the help of models. Write in details about inhibitors of enzymatic action.
3) Explain in detail replication of DNA.
4) What are different methods of determination of amino acid sequence in proteins ?

———————

SLR-D – 10

Seat No.	

B.Pharmacy (Semester – II) Examination, 2017
ANATOMY, PHYSIOLOGY AND HEALTH EDUCATION – II
(New CBCS)

Day and Date : Wednesday, 17-5-2017 Total Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

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

1) In a healthy adult the glomerular filtration 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 above

6) Malaria is a _____ type of infection.
   a) Respiratory b) Intestinal
   c) Anthropod borne d) Surface

P.T.O.

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 pertussis
   d) Mycobacterium

9) Function of hypothalamus include control of _____
   a) Appetite
   b) Thirst
   c) Body temperature
   d) All of above

10) In male _____ stimulates the production of spermatozoa.
   a) Follicle stimulating hormone
   b) Luteinizing 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 pregnant woman usually develops hypochromic anemia because from diet mother does not absorb sufficient _____
   a) Protein
   b) Calcium and phosphate
   c) Iron
   d) All of 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** : **(3×10=30)**

A) Discuss the causative organism, symptoms, mode of transmission, preventive measures and treatment of measles and add a note on cancer.

B) Uterus in detail. Add note on ovulation.

C) Enumerate the hormones of adrenal gland with their functions.

D) What is nervous system ? Classify it and explain distribution and functions of each division.

———————

SLR-D – 11

Seat No.	

B. Pharmacy (Semester – III) (CGPA) Examination, 2017
PHYSICAL PHARMACY – I

Day and Date : Thursday, 4-5-2017 Max. Marks : 70
Time : 3.00 p.m. to 6.00 p.m.

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

1) Reversible process where gas molecules become liquid is known as
   A) Vaporization B) Condensation
   C) Sublimation D) None of these

2) For Newtonian fluids, the slope of rheogram is
   A) 1 B) 0 C) – 1 D) 2

3) With rise in temperature the surface tension of liquid _____
   A) Increases B) Decreases
   C) Remains same D) None of these

4) Ebullioscopy deals with study of _____
   A) Depression in boiling point B) Elevation in boiling point
   C) Depression in freezing point D) Elevation in freezing point

5) Cup and bob viscometer is example for
   A) Stationary type B) Rotational type
   C) Both A) and B) D) None of these

6) When water is cooled to ice, its entropy _____
   A) Increases B) Decreases
   C) Remains the same D) Becomes zero

7) The maximum work done in _____ process.
   A) Reversible B) Irreversible
   C) Both A) and B) D) None of these

8) Solubility of gases in liquid decreases if
   A) Temperature is increased B) Pressure is decreased
   C) Salt is added D) All of these

9) In anti-thixotropy, the down curve is frequently positioned to
   A) Left B) Right
   C) Bottom D) Superimposible

10) Rast camphor method is used to determine
A) Depression in boiling point B) Elevation in boiling point
C) Depression in freezing point D) Elevation in freezing point

11) One of the following is not a single point viscometer.
A) Cup and bob B) Falling sphere C) Ostwald D) Rolling ball

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 the above

13) Boiling point of solution is _____ than pure solvent.
A) Higher B) Lower
C) Either higher or lower D) None of these

14) "Plug flow" is disadvantage of the _____ viscometer.
A) Ostwald B) Falling ball
C) Both A) and B) D) Cup and bob

15) At absolute temperature, entropy of pure crystal is
A) 1 B) 2 C) 0 D) 3

2. Answer **any five** : **(5×5=25)**
a) Give principle, construction and working of cone and plate viscometer.
b) Add a note on preservative action of weak acids.
c) State and explain Henry's law with its limitations.
d) Write the limitations and applications of distribution law.
e) Define viscosity. Give its units. Explain the factors affecting it.
f) State and explain first law of thermodynamics.

3. Answer **any three** : **(10×3=30)**
a) Explain in detail the solubility of liquids in liquid.
b) Describe non-Newtonian type of flow with rheogram, mechanism and suitable examples.
c) State and derive Raoults law and give deviations of Raoult's law.
d) Explain critical phenomenon of gases. Discuss Claude's method of liquefaction of gases.

_____

SLR-D – 12

Seat No.	

B.Pharmacy (Semester – III) (CGPA) Examination, 2017
PHARMACEUTICAL ENGINEERING

Day and Date : Saturday, 6-5-2017 Total Marks : 70
Time: 3.00 p.m. to 6.00 p.m.

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

1) Which evaporator is used for thermolabile substance ?

a) Climbing film b) Vertical tube
c) Horizontal tube d) None of these

2) _____ is a mechanical device to increase the pressure energy of liquid.

a) Manometer b) Valves
c) Evaporator d) Pump

3) Which conveyor is used for handling of toxic materials ?

a) Pneumatic b) Screw
c) Belt d) Chain

4) A fluid is said to be laminar when

a) The fluid particles move in a zig-zag way
b) The Reynold's number is high
c) The fluid particles move in parallel lines
d) None of the above

5) Which method is depending on relative volatility of component ?

a) Evaporation b) Distillation
c) Drying d) None of these

6) Dryer of industry size may contain more than _____ tray.

a) 5 b) 2
c) 20 d) 3

7) In evaporating pan, the heat is transferred to the aqueous extract by which mechanism.

a) Conduction b) Convection
c) Both (a) and (b) d) None of the above

8) Flash distillation is also known as _____

a) Rectification b) Differential
c) Dry d) Equilibrium

9) Which piston pump requires a minimum of four valves ?

a) Double acting b) Triple acting
c) Single acting d) None of the above

10) The rate of evaporation inversely proportional to the _____

a) Surface area
b) Temperature
c) Both (a) and (b)
d) Viscosity

11) _____ Pump is an example of Reciprocating pump.

a) Piston b) Centrifugal
c) Gear d) Peristaltic

12) How many evaporators are attached in multiple effect evaporators ?

a) 2 b) 5
c) 1 d) None of these

13) Which distillation is used for the separation of miscible liquids ?

a) Fractional b) Simple
c) Steam d) None of the above

14) The process of air binding is usually happening in _____ pump.

a) Piston b) Centrifugal

c) Plunger d) Diaphragm

15) Which method is used to feed the Multiple Effect Evaporator?

a) Mixed feed b) Forward feed

c) Parallel feed d) All of the above

2. Answer **any five** : **(5×5=25)**

1) Give the principle involved in Fractional distillation. Describe construction and working of Fractional distillation.

2) Classify pumps. Explain in detail Rotary pump.

3) Classify the evaporators. Explain in detail principle, construction of Evaporating Pan.

4) Define Drying. Explain in detail the rate of drying.

5) Describe the principle, construction and working of Pneumatic Conveyors.

6) Explain in brief principle, construction and working of Pitot tube.

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

1) Explain in detail Reynolds number. Discuss in detail Reynolds Experiments.

2) Differentiate between Evaporation and Distillation. Explain in detail principle, construction, working and application of Simple Distillation.

3) Discuss the principle, working and operation of Triple Effect Evaporators. How do you feed such evaporators ?

4) Explain in detail Mc. Cabe Thiele method for calculation of number of theoretical plates.

_____

SLR-D – 13

Seat No.	

B.Pharmacy (Semester – III) (CGPA) Examination, 2017
ORGANIC CHEMISTRY – II

Day and Date : Tuesday, 9-5-2017 Total Marks : 70
Time : 3.00 p.m. to 6.00 p.m.

Multiple Choice Questions :

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

1) Nucleophilic substitution of-Cl is possible by _____
   a) – OR
   b) – OC(=O)R'
   c) – NH_2
   d) All

2) The chief factor that makes nucleophilic substitution easier on a carbonyl carbon than an alkane carbon is
   a) Steric bulk
   b) Electronic factors
   c) Flatness and facile bond angle
   d) None

3) Less basic amine of the following is _____
   a) CH_3 – Ar – NH_2
   b) Ar – NH_2
   c) NO_2 – Ar – NH_2
   d) R – NH_2

4) Correct name of the compound CH_3 – CH – (OH) – CH – (C_2H_5) C (=O) OH is _____
   a) 2 – OH – 3 – ethyl butanoate
   b) 2 – ethyl – 3 – OH butanoate
   c) 3 – Carboxy – 4 – OH – pentane
   d) None

5) Imines are obtained when _____ are reacted with an amine.
   a) Aldehydes
   b) Ketones
   c) Both
   d) Neither

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

7) Identify the five membered heterocycle with two hetero atoms from the list below :
   a) Indole b) Pyrrole
   c) Pyrazole d) Diazine

8) Unique reaction of naphthalene and anthracene is
   a) Electrophilic aromatic substitution b) Nucleophilic aromatic substitution
   c) Electrophilic addition d) Oxidation

9) Product obtained on heating phthalic acid in presence of ammonia is
   a) Maleimide b) Phthalimide
   c) Phthalic anhydride d) None

10) An amine on treating with excess of an alkyl halide yields _____
   a) Alkyl amine b) Tetraalkyl amine
   c) Trialkyl amine d) Dialkyl amine

11) _____ rule helps us to differentiate between benzene and non-benzene like molecules.
   a) Hund's rule b) Frie's rule
   c) Huckel's rule d) Woodward's rule

12) A reaction that requires at least one non α-hydrogen containing carbonyl compound is _____ reaction.
   a) Mannich b) Reformatsky
   c) Perkin d) Cannizzaro

13) Identify a compound which is anti-aromatic from the following :
   a) Cycloheptatrienyl anion b) Cyclobutadiene
   c) Cyclopentadienyl cation d) Cyclooctatetraene

14) _____ reduction reaction employs the following reagents : $NaNH_3$, EtOH.
   a) Wolff-Kishner b) Clemmensen
   c) Birch d) Catalytic

15) Oxidation of phenanthrene with ozone yields _____
   a) Diphenyl dicarboxyl b) Diphenyl dicarboxaldehyde
   c) 9, 10-diphenanthrone d) None

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

1) How are Thiophene and Isoquinoline prepared ? Explain.
2) Explain the terms 'reactivity' and 'orientation' in case of reactions of Benzene. Describe the role of electron withdrawing and electron donating groups on 'reactivity' and 'orientation'.
3) How do you separate a given mixture of amines into primary, secondary and tertiary amines using Hinsberg's method ? Explain with an example.
4) Compare reactions for pyrrole with indole.
5) Describe how alcohols, amines and Grignard's reagent and R-Li behave with aldehydes.
6) Write the laboratory methods available for preparing Anthracene.

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

1) Explain the reaction, mechanism, conditions of reaction, applications and limitations of :
   a) Cannizzaro.
   b) Perkin reaction.
2) Write the methods of preparation and chemical reactions of isoquinoline.
3) Write five important reactions of phenols and amines.
4) Write briefly about :
   a) Explain : Oppennauer oxidation and Reformatsky reactions.
   b) Huckel's rule and Benzene structure.

———————

SLR-D – 14

Seat No.	

B.Pharmacy (Semester – III) (CGPA) Examination, 2017
PHARMACEUTICAL ANALYSIS – I

Day and Date : Saturday, 13-5-2017 Total Marks : 70
Time : 3.00 p.m. to 6.00 p.m.

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

1) _____ method is superior method than gravimetric method.
   a) Instrumental method b) Gasometric method
   c) Microbiological method d) Volumetric method

2) Electrical conductance is measured by _____ Instrumental method.
   a) Polarography b) Conductometry
   c) Potentiometry d) Thermal method

3) The no. of formula weight of solute contained in _____ ml of solution.
   a) 1 ml b) 1000 ml c) 10 ml d) 100 ml

4) The law of mass action was first proposed by _____
   a) Goldberg and Wage b) Mohr
   c) W. Ostwald d) None of these

5) Phenol red has PH range _____
   a) 6.8 to 8.4 b) 3.1 to 4.4
   c) 8.3 to 10.5 d) 11.1 to 12.7

6) In titration of weak base with strong acid _____ indicator is commonly used.
   a) Phenolphthalein b) Thymol blue
   c) Methyl red d) Thymolphthalein

7) 4 gm of NaOH dissolved in 1 lit. of distilled water _____ M.
   a) 1 M b) 0.5 M c) 0.1 M d) 0.05 M

P.T.O.

8) Assay of Ephedrine hydrochloride is _____ type of titration.
   a) Acid-base Titration
   b) Non-aqueous acid-base Titration
   c) Precipitation Titration
   d) Redox Titration

9) Loss of electrons from any species _____
   a) Oxidation
   b) Reduction
   c) Oxidising agent
   d) Reducing agent

10) _____ indicator have different colour in their oxidized form and reduced form.
   a) Internal
   b) Self
   c) External
   d) None of these

11) Each ml of 0.05 M Iodine solution is equivalent to _____ gm of sodium thiosulphate.
   a) 0.02482
   b) 0.04282
   c) 0.08224
   d) 0.02842

12) Combination of _____ ionic species to form a very insoluble product.
   a) 3 b) 2 c) 4 d) None of these

13) Each ml of 0.1 M $AgNO_3$ is equivalent to _____ gm of sodium chloride.
   a) 0.00585
   b) 0.00855
   c) 0.004346
   d) 0.003429

14) Degree of reproducibility of series of measurements on the same property _____
   a) Precision
   b) Accuracy
   c) Relative error
   d) Absolute error

15) The error arises from imperfection in measuring device _____
   a) Instrumental
   b) Operational
   c) Method
   d) Proportional

16) The error arise from incorrect sampling and incomplete reactions involved in determination _____
   a) Method error
   b) Personal error
   c) Indeterminate error
   d) Reagent error

2. Answer **any five** : **(5×5=25)**

   1) Define Primary standard and secondary standard. Write a note on different chemical method.

   2) Write a note on Instrumental and Microbiological method of Analytical techniques.

   3) What is law of mass action ? Write a note on mixed indicator and Universal indicator.

   4) Give the assay of ferrous sulphate powder I.P. Write a note on external indicator.

   5) Write preparation and standardisation of 0.1 M silver nitrate. Explain Adsorption Indicator method.

   6) Define Error, Accuracy, Precision. Explain how error can be minimised.

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

   1) Write the difference between the Mohr's method and Volhard's method. Explain assay of sodium chloride injection by Volhard's method.

   2) Define Redox titration. Explain chromophore method of Indicator.

   3) Define Neutralisation titration. Explain neutralization curve of weak base and strong acid. Write the assay of Ephedrine hydrochloride powder I.P.

   4) Write the difference between Iodimetric and iodometric titration. Explain assay of sodium thiosulphate powder.

———————

SLR-D – 15

Seat No.	

B.Pharmacy (Semester – III) Examination, 2017
(CGPA)
PATHOPHYSIOLOGY AND CLINICAL BIOCHEMISTRY – I

Day and Date : Tuesday, 16-5-2017 Total Marks : 70
Time : 3.00 p.m. to 6.00 p.m.

Instructions *: 1) Figures to* ***right*** *indicate* ***full*** *marks.*
2) Mention question and sub-question number ***compulsorily****.*
3) Appropriate charts/illustrations/algorithms may be drawn ***whenever*** *necessary.*

I. Choose most appropriate alternative for following Multiple Choice Questions. **(15×1=15)**

1) Match type of free radical in column A with number of excess electrons in column B.

A	B
i) Hydrogen Peroxide	x) 3 excess electrons
ii) Superoxide free radical	y) 2 excess electrons
iii) Hydroxyl free radical	z) 1 excess electrons

a) i = z, ii = x, iii = y b) i = z, ii = y, iii = x
c) i = y, ii = z, iii = x d) i = x, ii = y, iii = z

2) Study of blood and diseases of blood is called as _____
a) Histology b) Hematology
c) Histopathology d) Cytopathology

3) Nuclear chromatin condenses and appears dark in case of _____
a) Pyknosis b) Karyorrhexis
c) Karyolysis d) All of these

4) Normal Serum Sodium ranges from _____ mEq/Lit.
a) 136-148 b) 136-158
c) 136-168 d) 136-178

P.T.O.

5) Increased HCO_3^-, levels above 26 mEq/Lit is _____

a) Respiratory Acidosis b) Metabolic Acidosis
c) Respiratory Alkalosis d) Metabolic Alkalosis

6) Most common bacterium causing Pyelonephritis is _____

a) E.Coli b) Proteus
c) Pseudomonas d) None of these

7) Azotemia is elevated _____ in blood.

a) Uric Acid b) BUN and Creatinine
c) Bilirubin d) Glucose

8) 'Dolor' enlisted in cardinal signs of inflammation means

a) Pain b) Redness
c) Loss of Function d) Swelling

9) Bony growth at margins of articulating bones visible by X-ray in Osteoarthritis is called _____

a) Osteoma b) Osteocyte
c) Osteoblast d) Osteophyte

10) Swelling of first toe of foot seen in early Gouty Arthritis is called _____

a) Pellagra b) Podagra
c) Viagra d) Contusion

11) Most common example of Tumor Suppressor Gene involved in more than 50% of cancers is _____

a) p53 b) BCL-XL
c) HER d) mTOR

12) _____ is formation of new blood vessels within a tumor for its nutrition and sustenance.

a) Metastasis b) Invasion
c) Hemorrhage d) Angiogenesis

13) _____ and _____ are characteristic appearances of esophagus in Diffuse Esophageal Spasm and Esophageal Achalasia as observed in Barium Swallow X-Ray films.

a) Cockscrew, Bird Beak b) Butterfly, Flea Bitten
c) Tombstone, Cheesy d) Gas bubble, Glassy

14) Which of the following Hepatitis viruses is a DNA virus ?

a) HAV b) HBV

c) HCV d) HDV

15) _____ is a specific marker enzyme which is elevated in case of Acute Pancreatitis.

a) Serum Amylase b) Enterokinase

c) Serum Lipase d) Lactate Dehydrogenase

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

1) Write role of free radicals in cell injury.
2) Illustrate with a diagram and explain different body fluid compartments.
3) Define Gall Stones. Explain types of gall stones briefly.
4) Define and classify Glomerulonephritis.
5) Define Cancer. Differentiate between Benign and Malignant Tumors.
6) Define Hypernatremia, Hyponatremia, Hyperkalemia and Hypokalemia with their causes.

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

1) Derive pH of blood using Handerson Hasselbatch Equation. Briefly write about different buffer systems in human body.
2) Describe etiopathogenesis and manifestations of Gastric and Duodenal Ulcers.
3) Write etiopathogenesis and manifestations of Acute Renal Failure.
4) Write definition, causes, pathogenesis, signs and symptoms of Osteoarthritis.

SLR-D – 16

Seat No.	

B.Pharmacy (Semester – IV) Examination, 2017
(CGPA Pattern)
PHYSICAL PHARMACY – II

Day and Date : Friday, 05-05-2017 Total Marks : 70

Time : 3.00 p.m. to 6.00 p.m.

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

1) Zeta potential can be measured by _____

A) Electrosmosis B) Electrophoresis

C) Electrodyalysis D) Both A and B

2) Porous materials have _____ surface area.

A) High B) Low C) Moderate D) Zero

3) Which of the following shows positive adsorption ?

A) SLS B) Tween

C) Triethanolamine D) All of these

4) As the temperature increases, rate of decomposition is _____

A) Decreases B) Increases

C) Zero D) Not affected

5) If emulsion conducts electricity, then _____

A) Water is continuous phase

B) Oil is continuous phase

C) Both water and oil are continuous phases

D) No continuous phase is available

6) As the pressure increase, the surface tension

A) Zero B) Decreases

C) Increases D) Not affected

7) Sedimentation of particles in deflocculated suspension is _____

A) Fast B) Slow

C) Moderate D) Sometimes fast

8) In microscopy method, _____ diameter is determined.

A) Projected B) Sieve C) Stoke's D) Volume

9) The HLB range for lipophilic surfactant is _____

A) 2 to 9 B) 9 to 16 C) 16-20 D) Above 20

10) Creaming of emulsion is

A) Irreversible B) Reversible

C) Partially irreversible D) Both A and B

11) The strong force between same molecules of liquid indicates.

A) Low surface tension B) High surface tension

C) Zero surface tension D) No effect on surface tension

12) Which of the following statement is correct for molecularity of reaction ?

A) It can be zero

B) It can have fractional value

C) It is always whole number

D) It can change with pressure, temperature

13) The maximum limit for applying Stoke's law to particle is _____

A) 0.5 μm B) 5 μm

C) 10 μm D) None of these

14) Solution of protein and starch in water are the examples of the colloidal type

A) Hydrophilic B) Hydrophobic

C) Lyophilic D) Lyophobic

15) The type of flow for sedimentation is given by _____

A) Farday's number B) Poiseuille's number

C) Reynold's number D) Doppler's number

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

   a) Discuss detergency and wetting.

   b) What are the techniques for measurement of particle surface area ? Discuss in brief.

   c) Write a note on kinetic properties of colloid.

   d) Discuss spreading and derive the equation for spreading coefficient.

   e) What is complexation ? Describe one method of analysis it.

   f) How accelerated physical testing is done for emulsion ?

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

   a) Explain the DLVO theory and its pharmaceutical application. Highlight the stability of lyophobic sol.

   b) Explain the different methods for determination of order of reaction.

   c) Write notes on :

      1) Densities of powder

      2) Flow property of powder.

   d) Define surfactants and classify them in details. Add a note on HLB scale.

———————

SLR-D – 17

Seat No.	

B.Pharmacy (Semester – IV) (CGPA Pattern) Examination, 2017
MICROBIOLOGY

Day and Date : Monday, 8-5-2017 Total Marks : 70
Time : 3.00 p.m. to 6.00 p.m.

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

1) _____ is prokaryotic micro-organism.
a) Virus b) Mould c) Algae d) Bacteria

2) Following is a non-cellular micro-organism.
a) Polio Virus b) E. Coli
c) Candida albicans d) Cl. diphtheria

3) Cedar wood oil is used for _____ magnification of optical microscope.
a) 10X b) 5X c) 45X d) 100X

4) Rod shaped bacteria arranged in chains are called _____
a) Diplococci b) Staphylococci
c) Streptococci d) Streptobacilli

5) Extra nuclear genetic element of DNA present in some bacteria called as _____
a) Spore b) Ribosome
c) Mesosome d) Plasmid

6) Ethanol is used in Grams staining _____ agent.
a) Staining b) Mordant
c) Decolourizing d) Fixing

7) Exotoxins are chemically _____ in nature.
a) Protein b) Polysaccharides
c) Lipids d) Fats

8) Unicellular fungi are called as_____

a) Mould b) Yeast

c) Dimorphic fungi d) All

9) Which of the following microorganism is observed only under electron microscope ?

a) Diplococci b) Staphylococci

c) Streptococci d) Pox virus

10) Viruses are not cultivated using _____

a) Laboratory animals b) Embryonated egg

c) Tissue culture d) Nutrient Broth

11) HIV virus infects _____ type of T lymphocytes.

a) CD 8 b) CD 10 c) CD 5 d) CD 4

12) Virus _____ is developed from the host cell membrane.

a) DNA core b) Envelope

c) Capside d) Inclusion bodies

13) Gram positive bacteria retains primary colour because they contains _____

a) Low lipids in cell wall b) Mg-ribonuclease

c) Thick cell wall d) All of the above

14) Weak iodine solution (Mordant) used in gram staining for _____

a) De-stain the cell b) Staining the cells

c) Fix the primary stain d) Counterstain

15) One of the following chemical is not used for gaseous sterilization.

a) Formaldehyde b) Beta-propiolactone

c) Ethylene oxide d) Carbon di-oxide

2. Answer **any five** of the following : **(5×5=25)**
   1) Write a note on phase contrast microscope.
   2) Explain the structure of a typical bacterium.
   3) Define chemotaxis. Draw diagram of bacterial flagella. How it works ?
   4) Add note on structural symmetry in viruses.
   5) Write difference between fungi and bacteria. Write two examples of each.
   6) Define sterilization. Add a note on biological indicators with examples.

3. Answer **any 3** of the following : **(3×10=30)**
   1) Add a note on Bacterial growth requirements, medium composition with one example. Enlist various types of media.
   2) Define and classify microscopes. Give a detail note on electron microscope with its types.
   3) Write methods of viral cultivation. Add a detail note on HIV.
   4) Define sterilization, classify and explain methods of sterilization. Write RW coefficient test for evaluation of disinfectants.

———————

SLR-D – 18

Seat No.	

B.Pharmacy (Semester – IV) (CGPA) Examination, 2017
ORGANIC CHEMISTRY – III

Day and Date : Friday, 12-5-2017 Total Marks : 70
Time : 3.00 p.m. to 6.00 p.m.

1. Multiple Choice Questions (Choose **most** appropriate answer) : **(15×1=15)**

1) The stability of conformation of cyclohexane molecule depends upon.
   a) Steric strain b) Torsional strain
   c) Angel strain d) All of above

2) The conversion of hydroxamic acid into primary amine is known as
   a) Neber rearrangement b) Lossen rearrangement
   c) Schmidt rearrangement d) Fries rearrangement

3) The isomers of a substance must have _____
   a) Same molecular formula b) Same molecular weight
   c) Same functional group d) Same chemical properties

4) Substance that rotate plane polarised light to right side are called as
   a) Optically active b) Optically inactive
   c) Leavo rotatory d) Dextro

5) Willgerodt rearrangement reaction is an example of _____ rearrangement.
   a) Free radical b) Electrophilic
   c) Nucleophilic d) Aromatic

6) Stereochemical outcome of _____ reaction involves inversion of configuration.
   a) S_N1 reaction b) S_N2 reaction
   c) S_Ni reaction d) All of above

7) 2-hydroxy butanoic acid having _____ chiral carbon atom/s.
   a) 2 b) 4 c) 1 d) 3

8) Which of the following is electrophilic rearrangement reaction ?
   a) Neber b) Wittig rearrangement
   c) Favourskii rearrangement d) All of above

9) Which of the following compound shows geometrical isomerism ?
   a) $CH_2 = CCl_2$ b) $ClCH{=}CHCH_3$
   c) $CH_2{=}CHCl$ d) $CH_3CH{=}CH_2$

10) Stereoisomers which are not mirror images
   a) Tautomers b) Diastereoisomers
   c) Enantiomers d) Metamers

11) Favourskii rearrangement proceeds via _____ intermediate.
   a) Cyclopropanone b) Enamine intermediate
   c) Aziridine d) Propane

12) When the dihedral angle between two C-CH_3 bonds in n-butane is 180°, the conformation is called as
   a) Eclipsed b) Gauche
   c) Anti d) Partial Eclipsed

13) _____ reagent used in Fries rearrangement reaction.
   a) H_2SO_4 b) HNO_3 c) HCl d) $AlCl_3$

14) Which is the correct order of priority in the following substituents ?
   a) $H{>}CH_3{>}CH_3CH_2{>}Br$ b) $CH_3CH_2{>}CH_3{>}H{>}Br$
   c) $Br{>}CH_3{>}CH_3CH_2{>}H$ d) $Br{>}CH_3CH_2{>}CH_3{>}H$

15) _____ is an equimolar mixture of optically active substances.
   a) Racemic mixture b) Isobaric mixture
   c) Metameric mixture d) None of above

2. Answer **any five.** **(5×5=25)**

A) Write a note on Electro cyclic rearrangement.

B) Write a note on conformations of n-Butane.

C) Give reaction and mechanism of woolf rearrangement.

D) Write on conformation of 1-methyl cyclohexane.

E) Write a note on Decarbonylation of β-phenyl isovaleraldehyde.

F) Write a note on hydroboration of alkenes.

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

A) Discuss in detail mechanism of

1) Curtius rearrangement.
2) Wittig rearrangement.
3) Fries rearrangement.

B) Enlist different methods of resolution of racemic mixtures. Explain any four methods of it.

C) Write a note on E_1 and E_2 reaction with stereochemistry. Add a note on E_{1cb} elimination reaction.

D) Write in detail mechanism, applications and stereochemistry of Baeyer-Villiger oxidation and Favourskii rearrangement.

———————

SLR-D – 19

Seat No.	

B.Pharmacy (Semester – IV) (CGPA) Examination, 2017
PHARMACEUTICAL ANALYSIS – II

Day and Date : Monday, 15-5-2017 Total Marks : 70
Time : 3.00 p.m. to 6.00 p.m.

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

1) _____ is used as demasking agent.
   A) Trimehanolamine B) Chloral hydrate
   C) EDTA D) Hydroxylamine

2) _____ introduces impurities in the precipitate.
   A) Post precipitation B) Co-precipitation
   C) Occlusion D) All of above

3) The sample prepared by mixing the increment is called _____
   A) Sampling unit B) Increment
   C) Gross sample D) Sub-sample

4) Ethylene diamine is _____ type of solvent.
   A) Aprotic B) Protophillic
   C) Protogenic D) Amphiprotic

5) Composite sampling is used for sampling of _____
   A) Solid B) Liquid
   C) Gas D) None

6) End point detection in complexometric titrations is done by _____
   A) Use of metal indicators B) Use of acid base indicators
   C) Use of redox indicators D) All of above

7) _____ is used as primary standard for standardization of perchloric acid.
   A) Potassium hydrogen pthalate B) Sodium hydroxide
   C) Ascorbic acid D) Oxalic acid

8) The separation of element can be done by _____
   A) Precipitation B) Volatilization
   C) Electro-analytical method D) All of above

9) Digestion in the Kjeldahl's method is improved by_____
   A) Heating B) Addition of neutral salt
   C) Addition of acid D) None

10) For estimation of iodine _____ is used as absorbing liquid.
   A) 10 ml H_2O + 2 ml 1 N NaOH B) 1 ml H_2O_2 + 9 ml 1N H_2SO_4
   C) 20 ml H_2O D) 20 ml 1 N NaOH

11) Eudiometer is used for the analysis of _____
   A) Gas B) Solid
   C) Liquid D) None

12) Potassium cyanide is used for the analysis of _____
   A) Zn++ B) Cu++
   C) Cd++ D) All of above

13) ELIZA is_____ type of assay.
   A) Fluorescence B) Enzyme
   C) Both A and B D) None

14) For murexide _____ pH is maintained.
   A) 2 B) 3-4
   C) 6-7 D) 10-11

15) The filter paper no _____ are used for gelatinous and flocculent precipitate.
   A) 40 and 540 B) 42 and 542
   C) 41 and 541 D) 40 and 30

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

   1) Define : digestion, precipition, Ostwald's ripening, sampling and gravimetry.

   2) Explain in detail RIA.

   3) Discuss in detail types of EDTA titrations.

   4) Give the preparation and standardization of 0.1 N perchloric acid with its principle behind it.

   5) Write a note on gasometry.

   6) Explain in detail discrete and composite sampling.

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

   1) Give an complete account of masking and demasking.

   2) Explain in detail sampling of solid.

   3) Enlist the steps involved in gravimetry and explain in detail precipitation process.

   4) Explain in detail oxygen flask combustion method.

———————

SLR-D – 20

Seat No.	

B.Pharmacy (Semester – IV) (CGPA) Examination, 2017
PATHOPHYSIOLOGY AND CLINICAL BIOCHEMISTRY – II

Day and Date : Wednesday, 17-5-2017 Total Marks : 70

Time: 3.00 p.m. to 6.00 p.m.

Instructions : • *Figures to* ***right*** *indicate* ***appropriate*** *marks.*

• *Appropriate Flow Charts, Algorithms and Illustrations shall fetch appropriate marks.*

1. Choose **most** appropriate alternative for following Multiple Choice Questions : **(15×1=15)**

1) Systemic Venous Congestion and Peripheral Edema are features of _____ type of heart failure.

a) Right Sided b) Backward

c) Left Sided d) Forward

2) The pathologic form of Monocytes upon imbibition of Oxidized LDL within the Intima is _____

a) Langerhan's Cells b) Giant Cells

c) Adipose Cells d) Foam Cells

3) Ischemic Heart Disease is associated with Coronary Atherosclerosis of major coronary arteries with more than _____ % of luminal narrowing.

a) 45 b) 55

c) 65 d) 75

4) Emphysema occurs due to deficiency of anti-elastase called _____

a) Aminopeptidase b) αl -Trypsin

c) αl -Antitrypsin d) Fibrinolysin

5) Pathologic Legions found in Neurodegenerative Diseases like Parkinson's Disease are _____

a) Nissl Bodies
b) Lewy Bodies
c) Ketone Bodies
d) Golgi Bodies

6) Jerking movements of entire body are observed in _____ phase of Generalized Seizures.

a) Tonic
b) Clonic
c) Post-ictal
d) All of these

7) _____ is a complication of Pneumonia.

a) Renal Failure
b) Ascites
c) Empyema
d) Stroke

8) The Glycoprotein responsible for attachment of HIV with the CD4 +T Cells is _____

a) gp120
b) gp41
c) gp53
d) gp21

9) Vertical Transmission of HIV is _____

a) Transmission of HIV from an infected partner through an unprotected sexual intercourse
b) Transmission of HIV from an infected mother to her foetus
c) Transmission of HIV through transfusion of blood from an infected donor
d) Transmission of HIV through use of contaminated unsterilized needles in drug abusers

10) Antibodies mediating anaphylatic reactions are _____ type.

a) IgM b) IgG c) IgA d) IgE

11) Accumulation of edematous inflammatory fluid within the synovium in RA is called _____

a) Osteophyte
b) Pannus Formation
c) Crepitus
d) Podagra

12) The Laboratory tests useful in diagnosis of Myasthenia Gravis are _____ and _____

a) Forward Arm Abduction Time and Tensilon Test
b) X-Ray and Endoscopy
c) Biopsy and EEG
d) CBC and Urine Culture

13) A complication of Type-2 Diabetes in elderly patients with acute severe infections with plasma glucose levels above 500 mg/dl is ————————

a) Non-Ketotic Hyperosmolar Coma
b) Diabetic Ketoacidosis
c) Diabetic Nephropathy
d) Diabetic Neuropathy

14) TSH levels are _____ in Hypothyroidism.

a) Normal
b) Elevated
c) Decreased
d) Absent

15) Determination of serum bilirubin is a _____

a) Renal Function Test
b) Thyroid Function Test
c) Neurological Test
d) Liver Function Test

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

A) Define Shock. Describe Types of Shock.

B) Write definition, causes and pathogenesis of Emphysema.

C) Summarize the pathogenesis and manifestations of Parkinson's Disease.

D) Write briefly about Diagnostic and Analytical Applications of Enzymes.

E) What are Hypersensitivity Reactions ? Mention their types. Explain Type-I Hypersensitivity Reactions.

F) Define Hyperthyroidism. Mention its causes, signs and symptoms.

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

A) What is Congestive Heart Failure ? Describe causes, Pathogenesis and Clinical Manifestations of CHF.

B) Write definition and enlist types of Pneumonia. Write an account on stages of bacterial lobar pneumonia.

C) Write the meaning of 'Seizure' 'Convulsion' and 'Epilepsy'. Enumerate types of seizure. Write Pathogenesis of Epilepsy.

D) Define Hyperglycemia and Diabetes Mellitus. Write clinical features of Diabetes Mellitus. Write Pathogenesis of type-1 and type-2 Diabetes Mellitus.

SLR-D – 21

Seat No.	

B.Pharmacy (Semester – V) (New CGPA) Examination, 2017
PHARMACEUTICS – III

Day and Date : Thursday, 4-5-2017 Total Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

1. MCQs. **(1×15=15)**

1) As per I.P. % deviation allotted for 25mg tablet is _____
   a) 10 b) 5
   c) 7.5 d) None of the above

2) _____ is in process Q.C. for capsule shell.
   a) pH b) Viscosity
   c) Elasticity d) All of the above

3) _____ is process variable for FBD.
   a) Temperature b) Moisture content
   c) Velocity of air d) All of the above

4) _____ is test of granule evaluation.
   a) Flow rate b) Angle of repose
   c) Density d) All of the above

5) _____ micro encapsulation technique is suitable for liquid coating.
   a) Air suspension b) Pan coating
   c) Spray drying d) None of the above

6) Capsule shell is prepared from
   a) Gelatin
   b) Gluten
   c) Pectin
   d) Albumin

7) Dry granulation dosen't involve _____ step.
   a) Blending
   b) Wet screening
   c) Dry screening
   d) Drying

8) Enteric coated tablet release drug in _____ pH.
   a) 1 – 2
   b) 1.5 – 2
   c) 2 – 3
   d) None of the above

9) _____ used as enteric coated material.
   a) Shellac
   b) CAP
   c) PVAP
   d) All of the above

10) Physics of tablet compression is explained by _____
   a) Hakel plot
   b) Triple point
   c) Gold no.
   d) All of the above

11) Bulk density and tap density's relation is explained by _____
   a) Hausiner's ratio
   b) Angle of repose
   c) Tan θ
   d) All of the above

12) _____ improves repulsive force between particles.
   a) Binder
   b) Glident
   c) Disintegrant
   d) Colorant

13) _____ is example of chemical micro encapsulation technique.
   a) Polymerization
   b) Phase separation-coacervation
   c) Both a and b
   d) None of the above

14) _____ acts as disintegrating agent.
   a) Starch
   b) Acacia
   c) Talc
   d) Glycerin

15) _____ acts as preservative.
   a) Methyl paraben
   b) Propyl paraben
   c) Benzoic acid
   d) All of the above

2. Answer **any five**. **(5×5=25)**

   1) Give an account on additives used for tableting with example.
   2) Give any five problems in tableting with remedies.
   3) Classify tablets. Give advantages of enteric coating.
   4) Explain capsule shell manufacturing process.
   5) List out chemical methods of micro encapsulation. Explain any one in detail.
   6) Give any five objectives of layout design and draw neat labelled diagram of tablet layout design.

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

   1) List out the Q.C. for tablet. Explain in detail weight variation test for tablet as/I.P.
   2) Differentiate between hard and soft gelatin capsule. Explain in detail soft gelatin capsule manufacturing method.
   3) Give detailed account on phase separation – coacervation method of micro encapsulation technique.
   4) Write a note on sugar coating with advantages and disadvantages.

———————

SLR-D – 22

Seat No.	

B. Pharmacy (Semester – V) Examination, 2017
New CGPA Pattern
BIOPHARMACEUTICS

Day and Date : Saturday, 6-5-2017 Total Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

1. Multiple Choice Questions : **15**

1) Passive diffusion _____
   a) Means 90% of drugs get absorbed
   b) Is usually slow
   c) Requires no energy
   d) All of the above

2) The initial distribution of a drug into tissue is determined chiefly by _____
   a) Rate of blood flow to the tissue
   b) Affinity for the tissue
   c) Plasma protein binding of the drug
   d) Stomach emptying time

3) The area under the plasma level time profile curve represented the _____
   a) Amount of drug excreted in urine
   b) Amount of drug absorbed
   c) Amount of drug that is cleaned by the kidney
   d) Biological half-life of the drug

4) The volume of distribution of a drug is _____
   a) An expression of total body volume
   b) A measure of total fluid volume
   c) A relationship between the total amount of drug in the body and the concentration of the drug in the blood
   d) Proportional to bioavailability of the drug

5) The rate and extent of drug reaching the systemic circulation is called as _____

a) Absorption
b) Disposition
c) Clearance
d) Bioavailability

6) _____ drugs are easily excreted by the kidney.

a) Water soluble
b) Lipid soluble
c) Volatile
d) None of the above

7) The time required for drugs to start producing pharmacological response is known as _____

a) Duration of action
b) Onset of action
c) Onset time
d) Therapeutic index

8) If the molecular weight of drug is more than 500 Daltons it mainly excreted by _____

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

9) Which of the following is a cause of non-linearity ?

a) Drug absorption
b) Drug metabolism
c) Drug excretion
d) All of the above

10) _____ is considered as pharmacokinetics methods of measurement of bioavailability.

a) Acute pharmacological response
b) Therapeutic response
c) Urinary excretion studies
d) None of the above

11) False nutrients are absorbed by _____ mechanism of drugs absorption.

a) Passive diffusion
b) Ions pair transport
c) Carrier mediated transport
d) Endocytosis

12) Orosomucoid means _____
   a) Binding of drug to α_1-Acid Glycoprotein
   b) Binding of drug to Lipoproteins
   c) Binding of drug to Globulins
   d) Binding of drug to Blood cells

13) Gastric emptying is not affected by _____
   a) Volume of the meal
   b) Body posture
   c) Type of dosage form
   d) Emotional state

14) Danckwert's model of drug dissolution is also known as _____
   a) Film theory
   b) Limited solvation theory
   c) Surface renewal theory
   d) Interfacial barrier model

15) In IV bolus administration _____ can be neglected.
   a) Absorption
   b) Elimination
   c) Distribution
   d) All of the above

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

a) What is non-linear pharmacokinetics ? Explain in detail its causes with examples.

b) Define the term gastric emptying. Explain factors affecting it.

c) How ionic drugs are absorbed ?

d) Define :
   a) Bioavailability
   b) Bioequivalence.
   c) C_{max}.
   d) Minimum effective concentration.
   e) Therapeutic index.

e) Give the factors affecting protein-drug binding. Add a note on drug related factors.

f) Discuss briefly the influence of pharmaceutical excipients on drug absorption.

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

a) Enlist factors affecting absorption of drug. Describe the physiochemical properties of drugs affecting on it.

b) What is non-linear pharmacokinetics ? Why non-linearity is observed in absorption, distribution and elimination ?

c) Why distribution of a drug is not uniform throughout the body ? Enlist the different physiological barriers to distribution of drug. Add a note on placental barriers is not as effective as BBB.

d) What are the various non-renal routes of drug excretion ? Explain in detail biliary excretion of drugs.

———————

SLR-D – 23

Seat No.	

B.Pharm. (Semester – V) (New – CGPA) Examination, 2017
MEDICINAL CHEMISTRY – I

Day and Date : Tuesday, 9-5-2017 Total Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

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

1) Which step involved in phase I reaction ?
   A) Oxidation B) Reduction
   C) Hydrolysis D) All of above

2) In small concentration surfactant has ability to increase _____
   A) Solubility B) Lipophilicity
   C) Both a and b D) None of these

3) Diloxanide furoate is used in the treatment of amoebiasis caused by
   A) Entamoeba histolytica B) Plasmodium ovale
   C) Plasmodium vivax D) M.Tuberculosis

4) Niclosamide is used in the treatment of
   A) Cestode disease B) Trematode disease
   C) Nematode disease D) All of above

5) _____ is the best agent in type II diabetic patient.
   A) Atorvostatin B) Glipzide
   C) Sulindac D) Furesamide

6) One of the following drug belonging to Biguanides class
   A) Phenformin B) Tolbutamide
   C) Acarbose D) Glibenclamide

7) Nitroimidazole derivatives are
   A) Metronidazole B) Mebendazole
   C) Albendazole D) All of above

P.T.O.

8) Penicillin on acid degradation it gives

A) Penicillamine B) Penilloic acid

C) Penicillo-aldehyde D) All of above

9) The heterocyclic ring in furosemide is

A) Furan B) Thiophene

C) Pyrole D) Indole

10) Antibiotic when interact with calcium ion its chelates

A) Erythromycin B) Streptomycin

C) Tetracyclin D) Ampicillin

11) Glibenclamide belongs to the class

A) Sulfonyl Ureas B) Thiozolidinediones

C) Benzoic acid D) Biguanides

12) B-lactum antibiotic inhibit the synthesis by inhibiting

A) Peptoglycon B) Peptidoglycon

C) Polypeptide D) Peptidase

13) Mechanism of action of furosemide is

A) Inhibits carbonic anhydrase B) Osmotic diuretics

C) Inhibits Na-K-2Cl transporter D) Aldosterone antagonist

14) One of the following belongs to biguanides class

A) Phenformin B) Tolbutamide

C) Acarbose D) Glibenclamide

15) One of the following is glycopeptides antibiotics

A) Bleomycin B) Actinomycin D

C) Methramycin D) Pyrazinamide

2. Answer **any five** of the following questions. **(5×5=25)**
   1) Write a note on Drug Receptor interaction.
   2) What happen when Tetracycline undergo epimerization, chelation, strong acid and strong base.
   3) Draw structure, chemical name, metabolism and synthesis of Metronidazole.
   4) Write MOA and SAR of Penicillin.
   5) Describe factors affecting drug metabolism.
   6) Write in details of protein binding.

3. Answer **any three** of the following questions. **(3×10=30)**
   1) What is Metabolism ? Write a note on Phase I reaction.
   2) Write a note on Solubility and Hydrogen Bonding.
   3) Write uses and synthesis of Mebendazole and Chlorpropamide.
   4) Write MOA, SAR of carbonic acid anhydrase inhibitors with eg.

———————

SLR-D – 24

Seat No.	

B.Pharmacy (Semester – V) Examination, 2017
(New CGPA)
PHARMACEUTICAL ANALYSIS – III

Day and Date : Saturday, 13-5-2017 Total Marks : 70

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

1. Multiple Choice Questions/Objective Type Questions. **(15 ×1=15)**

1) Which of the following is Sensitive to Hydrogen bonding ?

a) $\pi - \pi^*$ b) $\sigma - \sigma^*$

c) $n - \pi^*$ d) $n - \sigma^*$

2) Hydrogen deuterium discharge lamp is used in _____

a) I.R. Spectrophotometer b) UV Spectrophotometer

c) Polarometer d) GLC detector

3) When electrons from the Metastable excited state come to lower energy level the released energy with a definite frequency is analyzed in the form of _____

a) Absorption spectrum b) Emission spectrum

c) Radiation spectrum d) I.R. Spectrum

4) Vierdot's method is popularly known as _____ Method.

a) Simultaenous Eqn. b) Q-ratio

c) Absorption ratio d) Geometric correction

5) Shifting of absorption maxima towards a longer wavelength is known as _____ shift.

a) Bathochromic b) Hypsochromic

c) Hypochromic d) Hyperchromic

6) Which one is not used as oxidant in FES ?
   a) Air b) Nitrous oxide
   c) Hydrogen d) Oxygen

7) K band is _____
   a) $\pi - \pi^*$ b) $\sigma - \sigma^*$
   c) $n - \pi^*$ d) $n - \sigma^*$

8) Maximum energy is required for _____
   a) Translation b) Vibrational
   c) Rotational d) Electronic Excitation

9) The main advantage of fluorescence over UV-Visible spectroscopy is
   a) Its sensitivity
   b) Its compatibility with separation techniques
   c) Its compatibility with most analyts
   d) None of the above

10) In flame photometry, the flame temperature is attained by
   a) Acetylene b) Hydrogen
   c) Propane d) All

11) A UV Spectrophotometer does not contains _____
   a) Monochromator and detector
   b) Amplifier and recording device
   c) Thermocouple
   d) Source of light and filter

12) Excited triplet state is observed in _____
   a) Fluorescence b) Phosphorescence
   c) Flame photometry d) U.V.

13) Which is used for dispersing the incident radiation in UV spectroscopy ?
   a) Nicol Prism b) Diffraction grating
   c) Both of these d) None of these

14) Re-emission of previously absorbed radiation is phenomenon of _____

a) Scattering
b) Atomic absorption Spectrophotometer
c) Luminescence
d) Absorbance

15) Hallow Cathode lamp is a radiation source used in

a) U. V. Spectroscopy
b) Atomic absorption Spectrophotometer
c) Fluorescence Spectroscopy
d) None of the above

2. Answer **any five** : **(5×5=25)**

1) Explain the term atomic spectra, molecular spectra and electromagnetic radiation.
2) Explain in short various transition in UV.
3) Explain the Beers Lamberts Law.
4) Write the difference between AAS and FES and explain their limitation.
5) Give the application of Flame photometry.
6) Explain calibration curve method and single point and double point standardization method.

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

1) Explain in detail Wood Word-Fischer rule with its application in structural analysis of compound.
2) Draw neat labeled diagram of a double beam UV Spectrophotometer. Explain the detector and sources used in UV Spectrophotometer.
3) Write the function of flame in flame photometry and explain the burner used in flame photometry.
4) Give the principal involved in AAS. Explain advantages of AAS over FES.

_____

SLR-D – 25

Seat No.	

B.Pharmacy (Semester – V) Examination, 2017
(New CGPA)
PHARMACOLOGY – I

Day and Date : Tuesday, 16-5-2017 Total Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

Instructions : *1) Figures to **right** indicate **full** marks.*
*2) Mention question and sub-question number **compulsorily**.*
*3) Appropriate charts/illustrations/algorithms may be drawn **whenever** necessary.*

I. Choose **most** appropriate alternative for following MCQs. **(15×1=15)**

1) The route of choice used for administration of bulk volume preparations is _____

a) Oral b) Topical
c) Intravenous d) Intra-arterial

2) _____ route should be avoided in shock due to local vasoconstriction and delayed absorption.

a) Intrathecal b) Intravenous
c) Subcutaneous d) Oral

3) Which of the following drug acts by virtue of its Osmotic Activity ?

a) Magnesium Sulfate b) Mannitol
c) Lactulose d) All of these

4) When two concurrently administered drugs produce their effects in same direction and total effect produced is summation of effects of individual drugs, it is termed as _____

a) Additive Effect b) Synergism
c) Tachyphylaxis d) Antagonism

P.T.O.

5) Downregulation of receptors can occur as a consequence of _____
   a) Continuous use of agonists
   b) Continuous use of antagonists
   c) Denervation
   d) Continuous use of CNS depressant

6) A teratogenic action is _____
   a) Toxic action on liver
   b) Toxic action on fetus
   c) Toxic action on blood
   d) Toxic action on kidneys

7) _____ of the following is a prostaglandin analogue used in treatment of peptic ulcer disease.
   a) Anakinra
   b) Montelukast
   c) Misoprostol
   d) Pirenzepine

8) 'GPCRs are composed of transmembrane α-Helices traversing the membrane _____ times.
   a) 4 b) 5 c) 6 d) 7

9) Which of the following possess intra-cellular or nuclear receptors ?
   a) Catecholamines
   b) Prostaglandins
   c) Steroid Hormones
   d) Kinins

10) Mast cell degranulation and histamine release takes place by _____ interaction on their surface.
   a) IgA + Antigen
   b) IgE + Antigen
   c) IgG + Antigen
   d) IgM + Antigen

11) An alpha blocker useful in benign prostate hyperplasia and associated urine retention is _____
   a) Prazosin
   b) Phenoxybenzamine
   c) Phentolamine
   d) Tamsulosin

12) A typical side effect of Atropine like drugs is _____
   a) Salivation
   b) Dryness of Mouth
   c) Hearing impairment
   d) Myelosuppression

13) Carbamates like _____ are irreversible inhibitors of acetylcholine esterase.
   a) Neostigmine
   b) Galantamine
   c) OPC Insecticides
   d) Tacrine

14) Cardiac arrhythmias and arrest can occur especially with concurrent use of _____ and _____

a) Adrenaline and Lidocaine

b) Succinylcholine and Digitalis

c) Salbutamol and Ambroxol

d) Chlorpheniramine and Phenylehrine

15) _____ is an example of anti-5-HT antiemetic drug blocking 5-HT3, receptors.

a) Methylsergide b) Ondansetron

c) Metoclopramide d) Promethazine

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

1) Which is the route of choice for administering drugs in children ? Justify with advantages.

2) Define Ganglionic Blockers. Classify them with appropriate examples.

3) Define and explain hypersensitivity and Idiosyncrasy.

4) Write clinical applications of prostaglandin analogues.

5) Define Agonist, Antagonist, Partial Agonist and Inverse Agonist on the basis of two-state receptor hypothesis.

6) Classify Acetylcholine Esterase Inhibitors. Explain the utility of Acetylcholine Esterase Inhibitors in Myasthenia Gravis.

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

1) What are Anticholinergic drugs ? Classify them with examples. Elaborate pharmacology of Atropine in brief.

2) Define antihistaminic drugs. Enlist their classes with examples. Write pharmacological account of antihistaminic drugs.

3) Define 'Drug Receptors'. Summarize Families and second messenger mechanisms of G Protein Coupled Receptors.

4) Enumerate alpha blockers in a classified manner. Write pharmacological actions, adverse effects and uses of alpha blockers.

———————

SLR-D – 26

Seat No.	

B.Pharmacy (Semester – V) (New-CGPA) Examination, 2017
BIOTECHNOLOGY

Day and Date : Thursday, 18-5-2017 Total Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

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

1) For cryopreservation of germ plasma liquid _____ is used.
   a) Hydrogen b) Nitrogen
   c) Oxygen d) Carbondioxide

2) _____ blotting technique is useful specific conformation of DNA.
   a) Northern b) Southern
   c) Eastern d) Western

3) _____ is an example of auxin.
   a) IAA b) Kinetin c) Zeatin d) a and c

4) Protoplast viability can be determined by using _____ dye.
   a) Safranin b) Fluorescein diacetate
   c) Congo red d) Crystal violet

5) Following enzyme joins two DNA strands.
   a) Endonucleases b) Ligases
   c) Kinase d) Protease

6) _____ shows blue color with DNA.
   a) Bardford reagent b) Biles reagent
   c) DPA d) Benedict's reagent

7) Which of the following microorganism used in the production of penicillin ?
   a) e.coli b) Nocordia
   c) P.chrysogenum d) S.aureus

P.T.O.

8) Conversion of cortisone to prednisone in presence of corynebacterium simplex is called as _____ reaction.
   a) Epoxidation b) Hydrolysis
   c) Esterification d) Dehydrogenation

9) DNA polymerase used in PCR is
   a) RNA polymerase b) Taq polymerase
   c) Human polymerase d) Isomerase

10) Aseptic ratio of fermenter is
   a) Height/diameter b) Height/length
   c) Height/width d) None of the above

11) PCR is useful in diagnosis of
   a) Cancer b) AIDS
   c) Diabetes d) a and b

12) BCG vaccine is effective against
   a) Cancer b) Hepatitis
   c) TB d) Pneumonia

13) _____ is optimum pH maintained for production of streptokinase production.
   a) 7-8 b) 5-6 c) 1-4 d) 8-9

14) Benzyl penicillin is converted to 6 APA in presence of penicillin acylase is an example of _____
   a) Oxidation b) Hydrolysis
   c) Reduction d) Nitration

15) The purification of crude product in DSP is done by _____
   a) Chromatography b) Crystallization
   c) Centrifugation d) a and b

2. Answer **any five** of the following : **(5×5=25)**
   1) Define Biotechnology. Write its pharmaceutical applications.
   2) Explain production of bacterial vaccine.
   3) Add a note on Dextran.
   4) Enlist different culture media. Explain protoplast culture.
   5) Discuss in brief fermentation monitoring.
   6) Write a role of serum in animal cell culture.
3. Answer **any three** of the following : **(3×10=30)**
   1) Explain production of penicillin by Fermentation.
   2) Explain PCR. Give its various applications.
   3) Enlist different blotting techniques. Explain southern blotting in detail.
   4) Discuss cryopreservation and trypsinization in detail.

———————

SLR-D – 27

Seat No.	

B.Pharmacy (Semester – V) (Old) Examination, 2017
SOLID DOSAGE FORMS

Day and Date : Thursday, 4-5-2017 Total Marks : 80

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

1. MCQs. **16**

1) Durability of a tablet to combined effects of shock and abrasion is evaluated by using _____

a) Hardness tester b) Disintegration test apparatus

c) Friabilator d) Screw gauge

2) Sealing of capsule is achieved by

a) $100^{\circ}C$ b) $20^{\circ}C$

c) $37-40^{\circ}C$ d) $70-80^{\circ}C$

3) Enteric coated tablet is disintegrated in

a) Stomach b) Mouth c) Intestine d) Liver

4) Which of the following materials offers moisture barrier properties ?

a) Aclar b) Cellophane

c) Polyester d) All of the above

5) Unequal distribution of color on a tablet refers to

a) Capping b) Mottling c) Picking d) Sticking

6) The first and most widely used diluent in tablet formulation is

a) Dextrose b) Lactose

c) MCC d) Starch

P.T.O.

7) Which of the following is a water soluble lubricant ?
   a) Stearic acid b) Mineral oil
   c) PEG d) Magnesium stearate

8) Enteric coated tablet disintegrate in _____ hr. in simulated intestinal fluid.
   a) 1 b) 2 c) 3 d) 4

9) Friabilator is operated at _____
   a) 100 rpm b) 75 rpm c) 50 rpm d) 25 rpm

10) In tablet coating process, inadequate spreading of coating solution before drying causes _____
   a) Orange peel effect b) Sticking effect
   c) Blistering effect d) Picking effect

11) Objective of tablet layout design is _____
   a) Avoid theft b) Minimise contamination
   c) Minimise process coast d) All of the above

12) _____ is physical method of microencapsulation.
   a) Polymerization b) Air suspension techniques
   c) Both a and b d) None of the above

13) _____ method of microencapsulation is suitable for solid alone.
   a) Pan coating b) Solvent evaporation
   c) Spray drying and spray congealing d) All of the above

14) _____ water soluble coating material.
   a) Gelatin b) Starch
   c) Hydroxy ethyl cellulose d) All of the above

15) _____ material is used in pharmaceutical packaging.
   a) Glass b) Plastic
   c) Metal d) All of the above

16) Major disadvantages of glass as packaging agent _____
   a) Fragility b) Weight
   c) Both a and b d) None

2. Answer **any four** : **(4×4=16)**

   1) Classify microencapsulation technique with example.
   2) Give an account on in process quality control test for capsule shell.
   3) Enlist 4 objective of layout of tablet manufacturing section.
   4) Write a note on film formers
   5) Which type of drugs are suitable for direct compression.
   6) Give an account on evaluation of granules.

3. Answer **any two** : **(2×8=16)**

   1) Write a note on wet granulation.
   2) Give detailed account on capsule manufacturing by rotary die process.
   3) Write a note on phase separation-coacervation technique. Give advantages and disadvantages of the same.

4. Answer **any four** : **(4×4=16)**

   1) Give an account on disintegrants used in tablets.
   2) Give four advantages of sugar coating.
   3) Write a note on process of manufacturing gelatin used in capsules.
   4) Explain disintegration test for hard gelatin capsule.
   5) Write a note on air suspension microencapsulation process.
   6) Enlist chemical microencapsulation technique explain any one in detail.

5. Answer **any 2** : **(2×8=16)**

   1) Write a note on sugar coating.
   2) Explain weight variation test for uncoated tablets.
   3) Enlist quality control test for capsules and explain any one official test in detail.

———————

SLR-D – 28

Seat No.	

B.Pharmacy (Semester – V) (Old) Examination, 2017
PHARMACOLOGY – I

Day and Date : Saturday, 6-5-2017 Total Marks : 80

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

Instructions *: 1) Figures to right indicate full marks.*
2) Mention main question and sub-question number ***correctly*** *for* ***each*** *of the answers.*
3) Algorithms/charts may be drawn ***wherever*** *necessary.*

1. Choose the **most** appropriate alternative for following multiple choice questions . **(16×1=16)**

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

2) An antagonist has
   a) Intrinsic activity and no affinity
   b) Only intrinsic activity and no affinity
   c) No intrinsic activity and no affinity
   d) Affinity same as agonist and devoid of intrinsic activity

3) Drugs interact with their receptors sites by forming
   a) Ionic bonds b) Hydrogen bonds
   c) Van der Waals bond d) All the above

4) Ocuserts are
   a) Placed under the eyelid b) Intrauterine contraceptives
   c) Monoclonal antibodies d) None of the above

5) Nitro-glycerine is given in angina pectoris by sublingual route because
   a) Liver is by-passed b) Can be spat after desired effect
   c) Rapid absorption d) All the above

P.T.O.

6) The movement of drug molecules across the cell membrane is by
   a) Diffusion through the lipid
   b) Diffusing through aqueous pores that traverse the lipid
   c) Combination with a carrier molecule which acts as a catalyst
   d) All the above

7) The cardiac muscarinic receptors
   a) Are of the M_1 subtype
   b) Are of the M_2 subtype
   c) Are selectively blocked by pirenzepine
   d) Function through the $PIP_2 \rightarrow IP_3$/DAG pathway

8) Yohimbine is an antagonist of _____ receptors.
   a) α_1 b) α_2
   c) both a and b d) None of the above

9) Centrally acting skeletal muscle relaxant is
   a) Carisoprodol b) Dantrolene c) Gallamine d) Succinylcholine

10) Muscarinic receptors are G-protein coupled receptors, causing
   a) Inactivation of phospholipase C
   b) Activation of adenylyl cyclase
   c) Activation of potassium or inhibition of calcium channels
   d) All of the above

11) β_1 receptors are present in
   a) Liver b) Kidney
   c) Brain d) None of the above

12) Following is a naturally occurring tertiary amine anti-cholinesterase
   a) Edrophonium b) Neostigmine
   c) Pyridostigmine d) Physostigmine

13) The site of action of d-tubocurarine is
   a) Spinal internuncial neurone
   b) Motor nerve ending
   c) Muscle end-plate
   d) Sodium channels in the muscle fibre

14) Two drugs binding to the same receptors is

a) Chemical antagonism b) Pharmacokinetic antagonism

c) Competitive antagonism d) Non-competitive antagonism

15) Bio-transformation of the drugs is to render them

a) Less lipid soluble b) More protein bound

c) Less ionized d) Less protein bound

16) High plasma protein binding

a) Increases the volume of distribution of the drug

b) Facilities glomerular filtration of the drug

c) Minimizes drug interactions

d) Generally makes the drug long acting

2. Answer **any four** : **(4×4=16)**

a) Define agonist, antagonist, inverse agonist and competitive antagonist.

b) Write a note on excretion of drug.

c) What are the limitations of oral route of drug administration ?

d) Discuss pharmacology of Adrenergic Drugs.

e) Describe the structure and function of biological membrane with the help of an illustrative diagram.

f) What is first pass metabolism ? Explain with example.

3. Answer the following **(any two)** : **(2×8=16)**

a) Discuss in detail the factor modifying drug absorption.

b) Define the term Receptor. Enlist receptor types. Explain in detail G-protein coupled receptor.

c) Classify with examples the sympathomimetic (adrenergic drugs). Write a note on pharmacological actions of adrenaline and noradrenaline.

4. Answer **any four** : **(4×4=16)**

a) Classify skeletal muscle relaxants and give their uses.

b) Give classification of cholinergic drugs with examples.

c) Give the mechanism of action and adverse effects of d-tubocurarine.

d) Give the muscarinic action of acetylcholine on heart and various smooth muscles.

e) Write a note on Synergism and Antagonism

f) Discuss in brief drug toxicity in man.

5. Answer **any two** : **(2×8=16)**

a) Classify Adrenolytics. Name the different adrenergic receptor and their distribution.

b) Discuss the pharmacological actions and toxicity of Atropine.

c) Discuss in detail dose response relationship and therapeutic Index.

———————

SLR-D – 29

Seat No.	

B.Pharmacy (Semester – VI) (New CGPA) Examination, 2017
PHARMACEUTICS – IV

Day and Date : Friday, 5-5-2017 Total Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

1. MCQs. **(15×1=15)**

1) Most widely used hydrocarbon in semisolid dosage forms
   a) Petrolatum b) Mineral oil
   c) Both d) None

2) _____ Hydrocarbon wax is used in manufacturing of creams and ointments.
   a) Paraffin wax b) Ceresin
   c) Both d) None

3) The stability of suspension can be evaluated by
   a) Sedimentation volume b) Degree of flocculation
   c) Re-dispersibility d) All of the above

4) HLB value is developed by
   a) Griffin b) Stock
   c) Dalla Valla d) None

5) _____ equipment can be used for emulsification.
   a) Homogenizer b) Mechanical stirrer
   c) Ultrasonifier d) All of the above

6) In _____ concentration phenol acts as preservative.
   a) 0.2 – 0.5 b) 0.5 – 0.8
   c) 0.05 – 0.1 d) None

P.T.O.

7) Water soluble bases also known as _____
   a) Greasy ointment base
   b) Greaseless ointment base
   c) Both a and b
   d) None

8) _____ base is used in vanishing cream.
   a) Absorption
   b) Water removable
   c) Hydrocarbon
   d) None

9) _____ base used in cold cream.
   a) Absorption
   b) Water removable
   c) Hydrocarbon
   d) None

10) _____ packing material is used in packaging of ointments.
   a) Glass
   b) Plastic
   c) Metal
   d) All of the above

11) Department of Transport Test (DOT) is performed for _____
   a) Aerosols
   b) Ointment
   c) Emulsion
   d) None

12) The dip tube in an aerosol container is made from _____
   a) Polypropylene
   b) Glass
   c) Al
   d) Stainless steel

13) _____ is used to adjust isotonicity.
   a) Dextrose
   b) Boric acid
   c) NaCl
   d) All of the above

14) _____ ointment base is water soluble.
   a) Hydrocarbon gel
   b) Lipogels
   c) Silica gels
   d) Macrogol gel

15) _____ color do not migrate in melt and pour soap.
   a) Lakes
   b) Dyes
   c) Both a and b
   d) None

2. Solve **any five**. **(5×5=25)**
   1) Classify cosmetics based on purpose of application with example.
   2) Write a note on selection criteria for ointment base.
   3) Classify pastes with example.
   4) Explain any 2 test for identification of type of emulsion.
   5) Write a note on gelling agent.
   6) Give pharmaceutical application of aerosols.

3. Solve **any three**. **(3×10=30)**
   1) Give detailed account on evaluation methods of aerosols.
   2) Write a note on stability of emulsion and suspension.
   3) Discuss factors affecting drug permeability.
   4) Write a note on formulation, evaluation and packaging of lipstick.

SLR-D – 30

Seat No.	

B.Pharmacy (Semester – VI) (New CGPA Pattern) Examination, 2017
PHARMACOGNOSY – II

Day and Date : Monday, 8-5-2017 Total Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

1. Multiple Choice Questions (MCQ)/Objective Type Questions. **(15×1=15)**

1) Stomata are present in all parts of the plant except _____
   a) Roots b) Fruits
   c) Seeds d) Leaves

2) Pyrethrum belonging to _____ family.
   a) Moraceae b) Meliaceae
   c) Compositae d) Lauraceae

3) Average number of stomata per square mm of the leaf surface is known as _____
   a) Paliside Ratio b) Stomatal Number
   c) Stomatal Index d) Veinlet Termination Number

4) Identify the drug containing lignin.
   a) Cotton b) Silk
   c) Gunny d) Cotton and silk

5) Japanese Isinglass is synonym of _____
   a) Indian gum b) Indian saffron
   c) Indian psyllium d) Vegetable gelatin

6) Schizogenous oil glands are present in _____
   a) Clove b) Fennel
   c) Ginger d) Cassia

7) *Triticum aestivum* belonging to _____ family.
   a) Solanaceae b) Gelidaceae
   c) Graminae d) Leguminosae

8) _____ is an expanded flower without corolla.
   a) Exhausted clove b) Mother clove
   c) Blown clove d) Iris clove

9) Resins are _____ in nature.
   a) Solid b) Semisolid
   c) Liquid d) Solid and Semisolid

10) Tetraterpenoids contains _____ number of isoprene units.
   a) 4 b) 8
   c) 12 d) 16

11) _____ belonging to zingiberaceae family.
   a) Ginger b) Turmeric
   c) Cardamom d) All of these

12) Identify semidrying oil.
   a) Olive oil b) Almond oil
   c) Linseed oil d) Ricinus oil

13) Identify an example of phlobatannin
   a) Pale catechu b) Black Catechu
   c) Hirda d) Both a and b

14) _____ are not suitable for internal consumption.
   a) Fixed oils b) Fats
   c) Waxes d) Both a and b

15) When aqueous extract of catechu is treated with lead acetate solution, it produces _____ precipitate.
   a) Yellow b) Green
   c) White d) Brown

2. Answer **any five** of the following questions. **(5×5=25)**
   1) Write properties of resins.
   2) Define fibres. Classify with suitable examples.
   3) Write identification tests used for confirmation of Indian gum.
   4) Write biological source and draw a neat labeled histological diagram of Cassia bark.
   5) Write a note on *mentha piperita*.
   6) Draw the structures of :
      a) Nicotine.
      b) Anethol.
      c) Cineole.
      d) Curcumin.
      e) Gingirone.

3. Answer **any three** of the following questions. **(3×10=30)**
   1) Describe pharmacognostic scheme of clove flower bud.
   2) Define tannins. Classify with examples. Write a note on pale catechu.
   3) Enlist leaf constants. Explain any two in detail.
   4) Write biological source, active constituent with their structure and uses of any one crude drug of the following classes :
      a) As anticancer property.
      b) As narcotic.
      c) Used in rickets condition.
      d) Used in preparation of confectionary items.
      e) Used in formulation of Triphala churna.

SLR-D – 31

Seat No.	

B.Pharm. (Semester – VI) (New-CGPA) Examination, 2017
MEDICINAL CHEMISTRY – II

Day and Date : Friday, 12-5-2017 Total Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

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

1) The intermediate acting sulphonamide is
   A) Sulphamethoxazole B) Sulphisaxazole
   C) Sulphamethizole D) Sulphadimethoxine

2) 5-flurouracil showing major antineoplastic activity due to presence of _____ group.
   A) 2-fluro B) 3-fluro
   C) 5-fluro D) Uracil

3) _____ is used as Quinoline antibacterial agent.
   A) Amantidine B) Chloroquine
   C) Lamivudine D) Ciprofloxacin

4) Isoniazide is generally synthesized by using
   A) 4-methyl pyridine B) 3-methyl pyridine
   C) 2-methyl pyridine D) None of above

5) Procarbazine shows antineoplastic action by which process
   A) Acetylating DNA B) Alkylation of DNA
   C) Amination of DNA D) Brominating DNA

6) _____ drug inhibits DNA gyrase enzyme.
   A) Norfloxacine B) Ethionamide
   C) Sulphamoxol D) Quinacrine

7) Which of the following ring is present in Sulphaguanidine ?

A) Guanidine B) Furan

C) Pyrimide D) Thiazole

8) _____ used in U.T.I.

A) Aspirin B) Mebendazole

C) Paracetamol D) Trimethoprim

9) _____ drug is metabolised by process “Sulphur stripping”.

A) Busalphan B) Sulphapyridine

C) Chlorambucil D) Nitrogen mustard

10) Chloroquine inhibits which type of enzyme.

A) DNA-polymerase B) DNA-hydrase

C) DNA-lygase D) DNA-isomerase

11) _____ drug is giving good results in HIV patient.

A) Acyclovir B) Amantidine

C) Zidovudine D) Vidarabin

12) A free radical alkylating drug is

A) Carmustine B) Thiotepa

C) Procarbazine D) Altretamine

13) _____ is 9-amioacridine derivative used as antimalarial.

A) Quinacrine B) Chloroquine

C) Primaquine D) Mefloquine

14) The heterocyclic ring present in vinca alkaloids

A) Pyrrol B) Pyrazole

C) Quinazoline D) Indole

15) _____ is mitotic spindle poison used as antifungal agent.

A) Clotrimazole B) Econazole

C) Butacanazole D) Griseofulvin

2. Answer **any five** of the following questions. **(5×5=25)**
   1) Discuss on combination therapy used in treatment of tuberculosis.
   2) Explain in details of life cycle of cancer.
   3) Describe SAR and MOA of sulphonamides.
   4) Justify "Azole derivatives as potent antifungal agents with suitable example".
   5) Describe in detail life cycle of malarial parasite.
   6) Write a note on reverse transcriptase inhibitors, classify with e.g.

3. Answer the following questions. **(3×10=30)**
   1) Write MOA and SAR of quinoline antibacterial agent draw the structure of norfloxacine and nalidixic acid.
   2) Outline synthesis and uses of methotrexate, chloroquine, ethambutol, acyclovir.
   3) Discuss various steps involved in viral replication and name the drugs acting at different steps.

———————

SLR-D – 32

Seat No.	

B.Pharmacy (Semester – VI) Examination, 2017
(New CGPA)
PHARMACEUTICAL ANALYSIS – IV

Day and Date : Monday, 15-5-2017 Total Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

1. Multiple Choice Questions/Objective type questions. **(15×1=15)**

1) The unit of conductance is _____
   a) Ohm b) Mhos
   c) Ampere d) Volts

2) _____ solution is used for calibration of conductometer.
   a) 0.1 M KOH b) 1 M HCl
   c) 0.1 M KCl d) 0.1 M KBr

3) Ohms Law States that _____
   a) I = V/R b) R = I/V
   c) RV = I d) None

4) Polarimetry is based on principle of _____
   a) Optical rotation b) Translational motion
   c) Gyration d) Vibrational motion

5) Specific refraction is independent of _____
   a) Temperature b) Pressure
   c) Both a and b d) None

6) _____ electrode contains mercuric chloride.
   a) Glass b) Saturated calomel
   c) Silver-silver chloride d) Both b and c

7) Nujol is used in which of the following IR sampling _____
   a) Pressed pellet technique
   b) Mull technique
   c) Solid film technique
   d) Gases sampling technique

8) In _____ thermogravimetry sample is heated to a constant weight at each of series of increasing temperatures.
   a) Isothermal
   b) Quasistatic
   c) Dynamic
   d) Static

9) In _____ TG sample weight is recorded as a function of time at constant temperature.
   a) Isothermal
   b) Quasistatic
   c) Dynamic
   d) All of the above

10) Most useful IR rang for analytical purpose _____
   a) 0.76 – 2.1
   b) 2.5 – 50
   c) 2.5 – 15
   d) 15 – 200

11) X rays have _____
   a) Short wavelength
   b) High frequency
   c) Longest wavelength
   d) Both a and b

12) If fast moving electron rapidly decelerate, than rays produced are _____
   a) Alpha rays
   b) Beta rays
   c) Gamma rays
   d) X rays

13) Solvent that cannot be used in IR is _____
   a) Water
   b) Alcohol
   c) Acetone
   d) Cyclohexane

14) A combined glass electrode does not contain _____
   a) AgCl
   b) Hg_2Cl_2
   c) HCl
   d) Both a and b

15) Which of the following is not a reference electrode _____
   a) Saturated calomel
   b) Silver-silver chloride
   c) Normal hydrogen electrode
   d) Platinum

2. Answer **any five**. **(5×5=25)**

   1) Write a note on light sources used in IR spectrophotometer.

   2) Write theory and application of X-ray diffraction.

   3) Define Ohms law, conductance, specific conductance, equivalent conductance, refractive index.

   4) Explain construction and working of saturated calomel electrode.

   5) Explain conductometric titrations of strong acid with strong base and weak acid with strong base.

   6) Enlist various types of detectors of IR and explain the working of thermocouple.

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

   1) Explain principle technique of polarimetry. Write in detail instrumentation of polarimetry with a neat labeled diagram.

   2) Define thermogravimetry. Explain in detail factors affecting thermogravimetry.

   3) Explain principle of IR spectroscopy. Write a note on finger print region of IR spectroscopy and discuss factors affecting vibrational frequency.

   4) Explain with neat labeled diagram construction, working and theory of Abbe's refractometer.

SLR-D – 33

Seat No.	

B.Pharmacy (Semester – VI) (New-CGPA) Examination, 2017
PHARMACOLOGY – II

Day and Date : Wednesday, 17-05-2017 Total Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

***Instructions** : 1) Figures to **right** indicate **full** marks.*
*2) Mention main question and sub-question number **correctly** for **each** of the answers.*
*3) Algorithms/charts may be drawn **wherever** necessary.*

1. Choose the **most** appropriate alternative for following multiple choice questions. **(15×1=15)**

1) The mechanism of action of Digitalis is
   a) Decreases intracellular Na^+ concentration
   b) Inhibits Na^+K^+ ATPase enzyme
   c) Activated adenylyl cyclase which produces cAMP
   d) Decreased release of calcium from sarcoplasmic reticulum

2) Megaloblastic anaemia occurs in
   a) Vitamin B_{12} but not folic acid deficiency
   b) Folic acid but not Vitamin B_{12} deficiency
   c) Either Vitamin B_{12} or folic acid deficiency
   d) Only combined Vitamin B_{12} + folic acid deficiency

3) Vitamin K does not includes _____
   a) K_1 b) K_4
   c) K_2 d) K_3

4) Choose the most potent and most efficacious LDL cholesterol lowering HMG-CoA reductase inhibitor
   a) Lovastatin
   b) Simvastatin
   c) Pravastatin
   d) Atorvastatin

5) Potassium sparing diuretics is _____
   a) Mannitol
   b) Spironolactone
   c) Ammonium chloride
   d) None of the above

6) The principal action of Noscapine is
   a) Analgesic
   b) Antiemetic
   c) Antitussive
   d) Antihistaminic

7) In peptic ulcer, antacids are now primarily used for
   a) Prompt pain relief
   b) Ulcer healing
   c) Preventing ulcer relapse
   d) Control of bleeding from the ulcer

8) _____ is the Anti-H pylori drug.
   a) Amoxicillin
   b) Rabeprazole
   c) Cimetidine
   d) All of the above

9) The specific antidote for organophosphorus poisoning is
   a) BAL
   b) Pralidoxime
   c) EDTA
   d) All of the above

10) Apart from diarrhoea, oral rehydration solution has been employed in
   a) Severe vomiting
   b) Burn cases
   c) Heat stroke
   d) Both b and c

11) Simvastatin belongs to _____
   a) HMG-CoA reductase inhibitor type of antilipidemic agents
   b) HMG-CoA reductase inhibitor type of anticoagulants agents
   c) Fibrate type of anticoagulant agents
   d) Fibrate type of antilipidemic agents

12) Example of the heavy metals _____
   a) Arsenic
   b) Mercury
   c) Lead
   d) All of the above

13) The drugs used in treatment of Congestive heart failure
   a) Digitalis
   b) Both a and b
   c) Lanatoside
   d) None of the above

14) Losartan is a
   a) Selective AT_1 receptor antagonist
   b) Selective AT_2 receptor antagonist
   c) Nonselective $AT_1 + AT_2$ receptor antagonist
   d) AT_1 receptor partial agonist

15) Kitotifen is
   a) Mast cell stabilizer
   b) Leukotrine antagonist
   c) Bronchodilator
   d) None of the above

2. Answer **any five** from the following : **(5×5=25)**
   1) Define and classify diuretics with example.
   2) Discuss thrombolytic agents. Classify Anti-platelet agents with examples.
   3) Define and classify Anti-hyperlipidemics with example.
   4) Write a note on Emetics and Anti-emetics.
   5) Define Cough. Enumerate drugs used in treatment of cough.
   6) Define Diarrhoea and anti-diarrhoeal drugs. Classify anti-diarrhoeal drugs with example.

3. Answer **any three** from the following : **(3×10=30)**
   1) Define and classify H_1-antihistaminic drugs with example. Add a note on their adverse effect and uses.
   2) Write a note on drug therapy in Ulcerative Colitis and Crohn's disease.
   3) Discuss Pharmacotherapy of Bronchial Asthma.
   4) Define poison. Enlist types of poisoning. Write in detail heavy metal poisoning.

_____

SLR-D – 34

Seat No.	

B.Pharmacy (Semester – VI) Examination, 2017
CLINICAL PHARMACOLOGY
(New CGPA)

Day and Date : Friday, 19-5-2017 Total Marks : 70

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

1. MCQ/Objective Type Questions : **(15 ×1=15)**

1) The main objective of clinical pharmacology is _____ drug therapy.
   a) Optimize b) Minimise
   c) Non optimise d) Maximise

2) Clinical pharmacokinetic can be applied in daily practice for drugs with _____ therapeutics index.
   a) Low b) Moderate c) High d) Very high

3) Experimental therapeutic study in normal healthy volunteers help to determine the _____
   a) Safety b) Tolerability
   c) Pharmacokinetics d) All of the above

4) If sufficiently high doses of the drugs are administered is called as _____ of drfugs.
   a) Side effects b) Adverse drug reactions
   c) Toxic effects d) Intolerance

5) It is advisable to _____ mixing drugs in infusion solutions.
   a) Avoid b) Make
   c) Practice d) None of the above

6) The primary goal of the case study is to develop the _____
   a) Self learning b) Critical thinking
   c) Decision making d) All of the above

P.T.O.

7) Differences in the rate of drug absorption in the neonate may be due to _____

a) Relative achlorhydria
b) Longer gastric emptying time
c) High levels of intestinal beta-glucuronidase activity
d) All of the above

8) The credit for initiating and establishing clinical pharmacology in India goes to _____

a) Harry Gold
b) Prof. U.K. Sheth
c) Clinician
d) None of the above

9) By knowing the half-life of a drug, one may estimate _____ to reach a steady state.

a) Time to maximal response
b) Loading dose
c) Dosage alteration
d) Choosing a formulation

10) _____ trials are aimed to ensure that the treatment is safe to humans.

a) Preclinical
b) Clinical
c) Animal studies
d) None of the above

11) _____ is the last phase of clinical trial.

a) Post licensing
b) Therapeutic confirmation
c) Therapeutic exploration
d) Human pharmacology

12) _____ macromolecule can act as complete antigens.

a) Proteins
b) Peptides
c) Dextrans
d) All of the above

13) _____ may also be implicated in drug interactions.

a) Non prescribing drugs
b) Food
c) Both a and b
d) None of the above

14) _____ is major reason for the increased vulnerability of old people to drugs.
   a) Reduced homeostatic control
   b) Loss of reserve capacity
   c) Impaired manual dexterity
   d) All of the above

15) Recommended pediatric doses generally stated as _____
   a) Milligrams/Kg
   b) Micrograms/Kg
   c) Nanograms/Kg
   d) None of the above

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

   A) Enlist the role of Clinical Pharmacologist.

   B) What is 'Individualization of Drug Therapy' ? Comment on the factors affecting it.

   C) Write a note on Informed consent.

   D) Explain shortly the allergy in response to drug.

   E) Give the uses of drug interaction information.

   F) How the pediatric doses can be calculated ? Give the importance of drug therapy in neonates.

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

   A) Discuss in detail chronic pharmacology, add a note on dosing of drugs in hepatic disease.

   B) Describe in detail pharmacovigilance and safety data reporting.

   C) What is COPD ? Present case study including different signs and symptoms, importance of non-pharmacological therapy, importance of smoking cessation and educate patients etc.

   D) Define Adverse Drug Reaction. Describe any three adverse drug reaction with suitable example.

SLR-D – 35

Seat No.	

B.Pharmacy (Semester – VI) (Old) Examination, 2017
SEMI SOLID DOSAGE FORMS

Day and Date : Friday, 5-5-2017 Total Marks : 80
Time : 10.30 a.m.to 1.30 p.m.

1. MCQs : **(16×1=16)**

1) Which of the following is not antioxidant ?
   a) BHT b) BHA
   c) Tocopherol d) Theobroma oil

2) Lanolin is _____ type of base.
   a) Hydro carbon b) Absorption
   c) Both a and b d) None

3) Jellies are generally _____
   a) Water-soluble b) Water-insoluble
   c) Both a and b d) None

4) Which of the following is not semisolid dosage form
   a) Paste b) Creams
   c) Ointments d) Suspensions

5) _____ is not vegetable oil.
   a) Peanut oil b) Almond oil
   c) Olive oil d) Petrolatum

6) _____ fatty acid in water removable cream as emulsifier.
   a) Stearic acid b) Palmitic acid
   c) Both a and b d) None

P.T.O.

7) _____ polyols used as humectants in cream.

a) Glycerine
b) Propylene glycol
c) Sorbitol 70%
d) All of the above

8) Insoluble powder substance concentration in paste is _____ %.

a) 20 – 50
b) 50 – 100
c) 50 – 75
d) None

9) Choice of humectants is based on _____

a) Rate of moisture exchange
b) Viscosity and texture of preparation
c) Both a and b
d) None

10) _____ can morph when exposed to high pH.

a) Dyes
b) Lakes
c) Micas
d) All of above

11) _____ color(s) are recognized as natural.

a) Ultramarines
b) Dyes
c) Both a and b
d) None

12) Lip liner applied _____

a) Before lipstick
b) After lipstick
c) Once the full make up has been completed
d) After the lip gloss

13) Eye shadow _____ cosmetic.

a) Skin
b) Nail
c) Eye
d) Lip

14) _____ cosmetic is used to define the eyes.

a) Eye liner
b) Eye shadow
c) Mascara
d) Lipstick

15) _____ pH of skin.

a) 5.5 b) 2.3 c) 7.4 d) 9.2

16) _____ cream leaves invisible film of stearic acid on the skin.

a) Cold cream b) Vanishing cream

c) Both a and b d) None

2. Answer **any four** : **(4×4=16)**

1) Classify ointment base with example.
2) Enlist different gland in skin and give function of glands.
3) Classify semisolid dosage forms with example.
4) Give any 4 factors governing drug releasing from ointments.
5) Classify creams with example.
6) Write a note on packaging of ointments.

3. Answer **any two** : **(2×8=16)**

1) Give detailed account on factors affecting drug permeability.
2) Write a note on instability of creams.
3) Define cream and explain evaluation test for cream.

4. Answer **any four** : **(4×4=16)**

1) Classify gelling agent with example.
2) Give evaluation test for paste.
3) Classify cosmetics based on site of application with examples.
4) Give use and site of application of eye shadow and mascara.
5) What is difference in paste and jellies.
6) Write a note cold cream.

5. Answer **any two** : **(2×8=16)**

1) Write a note on formulation and evaluation test for lipstick.
2) Give detailed account on types of paste with example.
3) Give quality control test for paste, gels and jellies.

_____

SLR-D – 36

Seat No.	

B.Pharmacy (Semester – VII) Examination, 2017
STERILE DOSAGE FORMS

Day and Date : Thursday, 4-5-2017 Total Marks : 80
Time : 3.00 p.m. to 6.00 p.m.

Instructions : • ***All*** *questions are* ***compulsory****.*
• *Figures to* ***right*** *indicate* ***full*** *marks.*

1. Choose the appropriate option. **(16×1=16)**

1) Cryoscopic method of calculation of isotonic concentration is based on _____
   a) Freezing point depression b) Molar concentration
   c) Sodium chloride equivalent method d) None of the above

2) USP prescribes _____ test for parenteral plastic containers.
   a) In-vivo biological reactivity test b) In-vitro biological reactivity test
   c) Both a and b d) None of the above

3) Self-sealability test is applicable to _____ type of container or closure.
   a) Glass containers b) Plastic containers
   c) Rubber closures d) All

4) As per cGMP, permitted limit for solid content in Water for injection is _____
   a) 0.1 ppm b) 10 ppm
   c) 100 ppm d) 1000 ppm

5) Co-solvent used in the preparation of parenteral product is _____
   a) Benzyl alcohol b) Methyl alcohol
   c) Dimethyl acetamide d) Phenol

P.T.O.

6) D-value in sterilization is defined as _____
   a) Time in which 90% of total microorganisms are killed
   b) One log cycle decrease in Z-value
   c) One log cycle decrease in F-value
   d) None of the above

7) Globule size used in parenteral emulsions is _____
   a) 0.1-0.5 μm
   b) 0.5-5 μm
   c) 5-10 μm
   d) None of the above

8) Injection by IV route can be given as _____
   a) Bolus
   b) Drip
   c) Both a and b
   d) None of the above

9) Type-I glass contain _____ % of boric acid.
   a) 13
   b) 80
   c) 5
   d) 70

10) _____ is the tonicity adjuster used in sterile preparations.
   a) Sodium chloride
   b) Boric acid
   c) Dextrose
   d) All of the above

11) RGP contact lenses means _____
   a) Rapid gas partition
   b) Rigid glass partition
   c) Rigid gas permeable
   d) Rivers gas permeable

12) To avoid leaching, rubber closures can be laminated with _____
   a) PVC
   b) Silicon Oil
   c) Teflon
   d) All the above

13) The instruction “NOT FOR USE IN NEWBORNS” is applicable for label of _____
   a) Sterile water for injection
   b) Water for injection
   c) Bacteriostatic water for injection
   d) All of the above

14) Which of the following strength of Dextrose injection is isotonic ?
   a) 2.5 % w/v
   b) 09 % w/v
   c) 5% w/v
   d) 1.9 % w/v

15) Laminar air flow is used for _____

a) Aseptic techniques b) Incubation

c) Fermentation d) All of the above

16) In TPN _____ % of dextrose is used.

a) 5-10% b) 30-40%

c) 60-70% d) 2%

2. Answer **any four**. **(4×4=16)**

1) Write a note on artificial tears.
2) How is the validation of HEPA filter done ?
3) Define sterilization. Explain dry heat and moist heat sterilization.
4) Write a note on master document record.
5) Write a note on occusert.

3. Answer **any four**. **(4×4=16)**

1) Give a neatly labeled plant layout of parenteral unit.
2) Write the procedure involved in Bacterial Endotoxin Test and give its advantages.
3) Explain types of contact lenses.
4) Write general considerations for ophthalmic preparations.
5) Highlight the need for total Parenteral Nutrition. Give its composition.

4. Answer **any two**. **(2×8=16)**

1) Explain in detail quality control tests for parenterals.
2) Explain in detail scale up techniques used for pharma products.
3) What is Blow Fill Seal technique ? Explain in detail.

5. Answer **any two**. **(2×8=16)**

1) What are the advantages of glass over other materials of containers ? Explain any two Q.C. tests for glass.
2) Explain the types gowning material used in sterile manufacturing area. Explain clean room entry and exit procedure.
3) Define ophthalmic solutions. Explain the Q.C. tests for ophthalmic preparations.

_____

SLR-D – 37

Seat No.	

B.Pharmacy (Semester – VII) Examination, 2017
PHARMACEUTICAL JURISPRUDENCE

Day and Date : Saturday, 6-5-2017 Total Marks : 80
Time : 3.00 p.m. to 6.00 p.m.

MCQ/Objective Type Questions.

I. Choose the **correct** alternative. **(16×1=16)**

1) Spurious drugs means
   a) Imitations b) Substitutes
   c) Similar drugs d) All of these

2) Names from the register of pharmacists can removed only by an order of the
   a) PCI
   b) Registration tribunal
   c) Executive committee of the state PCI
   d) Director of Health Services

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

4) The records for the drugs having date of expiry should be preserved for a period of at least
   a) 5 years b) 2 years
   c) 4 years d) 6 years

5) The name of the pharmacist may be removed from the register of pharmacists, if it has been entered due to
   a) Error b) Misrepresentation
   c) Both a and b d) None of above

P.T.O.

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

7) Example of schedule X drug is
   a) Ciprofloxacin b) Emetine
   c) Quinidine d) Diazepam

8) Government analyst is appointed by central or state government under Section _____
   a) 19 b) 20 c) 21 d) 22

9) The records of wholesale of schedule C and C_1 drugs are required to be preserved for,
   a) 5 years b) 3 years
   c) 4 years d) 6 years

10) Drugs consultative committee advises _____
   a) Central Govt. b) State Govt.
   c) DTAB d) All of these

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

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

13) The chairman of D.T.A.B. is
   a) President, PCI b) Drug Controller of India
   c) Registered Pharmacist d) Director, General Health Services

14) Govt. opium factory is situated at :
   a) Delhi b) Mumbai
   c) Hyderabad d) Neemuch

15) DPCO Act came into force in the year
   a) 1970 b) 1987 c) 1955 d) 1960

16) Digitalis belongs to schedule
   a) E b) X c) G d) P

II. Answer **any four**. **(4×4=16)**

1) Write the constitution and functions of joint State Pharmacy Council as per Pharmacy Act.
2) Write in detail about education regulation 1991 under Pharmacy Act 1948.
3) Write a note on the qualifications, duties of Government analyst.
4) Discuss in detail about Schedule N.
5) Explain objectives and the salient features of Drugs Prices Control Order.

III. Answer **any four**. **(4×4=16)**

1) Give an account of offences and penalties under Pharmacy Act.
2) Define the term "drugs". What classes of drugs are prohibited to be imported ?
3) What are the objectionable advertisements as per the drugs and magic remedies (objectionable advertisements) Act ? How are they controlled ?
4) Write the constitution of Central Committee for Food Standards.
5) Define the term Adulterated food article as per the prevention of food Adulteration Act.

IV. Answer **any two**. **(8×2=16)**

1) What are the objectives of Drugs and Magic Remedies Act 1955 ? Discuss the classes of advertisements that are exempted from its provisions.
2) Give the objectives of D and C Act 1940 and explain qualifications and duties of drug Inspectors.
3) Define coca derivatives as per the Narcotic Drugs and Psychotropic Substances Act 1985 and explain in detail Illicit Traffic.

V. Answer **any two**. **(8×2=16)**

1) Describe the labeling conditions specified in the Drugs and Cosmetics rule and explain labeling procedure for schedule H drugs preparations.
2) What are the qualification, duties and responsibilities of a public analyst ?
3) What are the objectives of Drugs Price Control Order ? How the maximum price of bulk drugs and formulations is calculated ?

———————

SLR-D – 38

Seat No.	

B.Pharmacy (Semester – VII) Examination, 2017
MEDICINAL CHEMISTRY – III

Day and Date : Tuesday, 9-5-2017 Total Marks : 80
Time : 3.00 p.m. to 6.00 p.m.

1. Multiple Choice Question : **(16×1=16)**

1) Piroxicam contain _____ nucleus.
   a) Purine b) 1, 2 benzothiazine
   c) Pyrazolidine d) Indole

2) _____ is an xanthine alkaloid.
   a) Papaverine b) Caffeine
   c) Morphine d) All of above

3) _____ not a proton pump inhibitor.
   a) Omeprazole b) Lansoprazole
   c) Domperidone d) Ranitidine

4) Estrogen, testosterone and progestin contain _____ carbon in steroidal nucleus.
   a) 18, 19, 21 b) 19, 18, 21
   c) 21, 19, 18 d) 19, 21, 18

5) Some adrenocorticoids are referred to as Δ corticoids because of _____
   a) Additional double bond in ring
   b) High amount of unsaturation in the molecule
   c) Presence of one double bond in each ring
   d) Absence of double bond in ring

6) Which of the following is mainly an anxiolytic drug ?
   a) Chlorpromazine b) Lithium
   c) Phenelzine d) Diazepam

7) Barbiturate is derivative of _____
   a) Urea b) Alcohol
   c) Opium d) None of above

8) Prednisone and prednisolone are the _____ of cortisone and hydrocortisone.
   a) 1-dehydro derivative b) 3-hydroxy derivative
   c) 2-hydroxy derivative d) All of above

9) One of the following is an ester _____
   a) Morphine b) Nalorphine
   c) Heroin d) Methadone

10) _____ long acting barbiturate.
   a) Phenobarbital b) Probarbital
   c) Hexobarbital d) Thiopentane

11) _____ MAO inhibitor.
   a) Phenelzine b) Amitriptyline
   c) Imipramine d) Nortriptyline

12) Phenylbutazone is an derivative of _____
   a) Pyrazolidinedione b) N-arylanthranilic acid
   c) Acetic acid derivative d) Aniline

13) _____ xanthine oxidase inhibitor drugs.
   a) Allopurinol b) Nimusulide
   c) Indomethacin d) None of above

14) _____ is an anabolic steroid.
   a) Estrone b) Lynesterol
   c) Prednisolone d) Oxymestrone

15) Phenytoin is synthesized from _____
   a) Urea b) Benzil
   c) a & b d) None of above

16) _____ not a morphine antagonist.
   a) Nalorphine b) Naloxone
   c) Naltrexone d) Levorphanol

2. Answer **any four** : **(4×4=16)**
   1) Write synthesis of Pentobarbitol and Phenytoin.
   2) Classify NSAID with example.
   3) Explain modification on Morphine nucleus.
   4) Note on oral contraceptive.
   5) Explain COX-2 inhibitors drugs with examples.

3. Answer **any four** : **(4×4=16)**
   1) Explain in detail Adrenal cortex hormones.
   2) Add a note on drug used in gout disease.
   3) Write structure, uses, chemical name of long acting barbiturate drug.
   4) Explain drug used as CNS stimulant drug.
   5) Note on TCA drug.

4. Answer **any two** : **(2×8=16)**
   1) Explain how acid secreted in body and explain the development of cimetidine as H2 antagonist.
   2) Note on steroid and explain MOA and discuss nomenclature, numbering and stereochemistry of it.
   3) Classify hypnotic and sedative drug and write SAR of benzodiazepine.

5. Answer **any two** : **(2×8=16)**
   1) Classify antihistaminic drug and explain SAR of H1 antagonistic drugs.
   2) Classify anticonvulsant drug and explain SAR of barbiturates.
   3) How inflammation produce in body and explain SAR of salisylic acid and aryl acetic derivative ?

———————

SLR-D – 39

Seat No.	

B.Pharmacy (Semester – VII) Examination, 2017
PHARMACEUTICAL ANALYSIS – V

Day and Date : Saturday, 13-5-2017 Total Marks : 80
Time : 3.00 p.m. to 6.00 p.m.

1. Multiple Choice Questions : **(16×1=16)**

1) _____ analysis where separation of sample mixture is done by continuous addition of mobile phase.
   A) Elution B) Displacement
   C) Frontal D) None of these

2) Non-polar stationary phase is used in _____ phase chromatography.
   A) Reverse B) Normal
   C) Isocratic D) All of these

3) _____ is an example of paper used in paper chromatography.
   A) Schull B) Edrol
   C) Whatman D) All of the above

4) Mechanism of separation involved in TLC where silica gel G is used as stationary phase and any organic solvent as mobile phase.
   A) Adsorption B) Partition
   C) Ion exchange reaction D) Molecular sieving

5) _____ is used as a stationary phase in ion exchange chromatography.
   A) Zeolite B) Amberlite
   C) Clay D) All of these

6) _____ water is prepared by ion exchange chromatography.
   A) Soft B) Deionised
   C) Hard D) A and B

7) Which of the following _____ is not used as stationary phase in gel chromatography.
   A) Agarose B) Sephadex
   C) Bio-gel D) Amberlite

8) _____ elution where varying composition of mobile phase is used.
A) Gradient B) Displacement
C) Isocratic D) A and B

9) Pore size of the stationary phase helps to separate sample mixtures in _____ chromatography.
A) Adsorption B) Gel
C) Ion exchange D) HPLC

10) _____ is not a component of HPLC instrument.
A) Pump B) Solvent reservoir
C) Carrier gas D) Analytical column

11) _____ detector is a solvent property detector used in HPLC.
A) Refractive index B) Infra red
C) Fluorescence D) UV-visible

12) _____ ions are involved in ion exchange reaction in ion exchange chromatography.
A) Fixed B) Counter
C) Mobile D) All of these

13) HETP = _____ is a Van deemter equation.
A) A+B/u+Cu B) Au+B/u+Cu
C) A+B+Cu D) A+Bu+Cu

14) _____ is an example of stationary phase used gas liquid chromatography.
A) Polydimethyl siloxane B) Polyethylene glycol
C) A and B D) None of these

15) _____ cannot be separated by gel chromatography.
A) Isomers B) Enantiomers
C) A and B D) None of these

16) Which of the following HPLC detector is highly temperature sensitive ?
A) I.R. B) Refractive index
C) ELSD D) None of these

2. Answer **any four** of the following questions. **(4×4=16)**
   1) Write on Height Equivalent to theoretical plate.
   2) Write on ion exchange resins used in ion exchange chromatography.
   3) Define the terms retention time and retention volume.
   4) Draw a neat labeled diagram of gas chromatography. Give its advantages and limitations.
   5) Differentiate between TLC and HPTLC.

3. Answer **any four** of the following questions. **(4×4=16)**
   1) Give principle of ion exchange chromatography.
   2) Write on different papers used in paper chromatography.
   3) Write on different methods of column packing used in adsorption column chromatography.
   4) What is gel chromatography ? Give its principle.
   5) Write a note on gas solid chromatography.

4. Answer **any two** of the following questions. **(2×8=16)**
   1) Write on columns and pumps used in HPLC.
   2) Explain with suitable diagram any two detectors used in Gas Chromatography.
   3) Explain various adsorbents used in adsorption column chromatography. Give application of ion exchange chromatography.

5. Answer **any two** of the following questions. **(2×8=16)**
   1) Draw a neat labeled diagram of HPLC. Explain any two solute property detector used in HPLC.
   2) Write in detail on different development techniques used in paper and thin layer chromatography.
   3) Explain carrier gas and sample injection system used in Gas chromatography. Give applications of it.

———————

SLR-D – 40

Seat No.	

B.Pharmacy (Semester – VII) Examination, 2017
PHARMACOLOGY – III

Day and Date : Tuesday, 16-5-2017 Total Marks : 80
Time : 3.00 p.m. to 6.00 p.m.

Instructions *: 1) Solve **all** questions.*
*2) Marks of **each** questions are given on the **right side** in the bracket.*

1. Multiple Choice Questions : **(16×1=16)**

1) Ethosuximide **1**
A) By direct blockade of activated state of sodium channel
B) By indirect action of prolongation of inactivated state of sodium channel
C) By reducing low threshold T-type Ca^{2+} channel
D) By direct blockade of activated sodium and calcium channel

2) Picrotoxin is **1**
A) $GABA_A$ antagonist B) Benzodiazepine antagonist
C) Dopamine D_2 antagonist D) Barbiturate antagonist

3) Constipation and respiratory depression produced by morphine is mediated by **1**
A) Kappa receptor B) μ 1 receptor
C) Delta receptor D) μ 2 receptor

4) Chimeric anti-TNF-α monoclonal antibody **1**
A) Dalcizumab B) Infliximab
C) Muromonab-CD3 D) Adaliximab

5) Interleukin inhibits the activation of cytokine production by TH_1 cells. **1**
A) IL-2 B) IL-4
C) IL-6 D) IL-10

6) The NSAID used to treat primary dysammenorrhea. **1**
A) Sulindac B) Ketoprofen
C) Tolmetin D) Meclofenamic acid

P.T.O.

7) The drug binds to mammalian Target of Rapamycin (mTOR). **1**
   A) Mycophenolate mofotil B) Leflunomide
   C) Sirolimus D) Sulindac

8) Antiseizure drug used to treat Lennox-Gastaut syndrome. **1**
   A) Tiagabine B) Primidone
   C) Lamotrigine D) Carbamazepine

9) COMT-inhibitor **1**
   A) Phenelzine B) Tolcapone
   C) Selegiline D) Ropinirole

10) Narcotic analgesic used to treat diarrhea **1**
   A) Meperidine B) Pentazocine
   C) Loperamide D) Tremadol

11) Antipsychotic drug used to treat short term insomnia. **1**
   A) Loxapine B) Pimozide
   C) Clozapine D) Zolpidem

12) Concentration of nitrous oxide required to produce “analgesia”. **1**
   A) 60% B) 20%
   C) 80% D) 30%

13) The drug inhibits the enzyme “aldehyde dehydrogenase”. **1**
   A) Tolcapone B) Allopurinol
   C) Disulfiram D) Selegiline

14) The drug acts by activation of PPAR-γ **1**
   A) Eparlestat B) Miglitol
   C) Rosiglitazone D) Exenatide

15) The drug of choice to treat “Graves disease”. **1**
   A) Radio active iodine B) Propylthiouracil
   C) Methimazole D) Potassium perchlorate

16) The drug is used to treat paracetamol poisoning. **1**
   A) Naltrexone B) N-acetyl cystine
   C) Theophylline D) Flummazenil

2. Answer **any two** questions out of **three**. **(2×8=16)**

   1) i) Classify oral hypoglycaemic agents with examples.
      ii) Write mechanism of action, adverse effects and therapeutic uses of "sulphonyl urea".

   2) i) Write on various depressive disorders.
      ii) Classify antidepressants with examples.
      iii) Write mechanism of action of SNRI.

   3) i) Define sedatives and hypnotics.
      ii) Classify sedative and hypnotic with examples.
      iii) Write mechanism of action of barbiturates.

3. Answer **any two** questions out of **three**. **(2×8=16)**

   1) i) Classify narcotic analgesics with examples.
      ii) Write pharmacological effects of morphine on a) CNS b) CVS and c) respiration.
      iii) Write adverse effects of morphine.

   2) i) Write on thyroid hormone biosynthesis.
      ii) Classify antithyroid agents with examples.
      iii) Write mechanism of action, merits and demerits of "radioactive iodine".

   3) i) Describe Parkinson's disease.
      ii) Classify drugs used to treat Parkinson disease.
      iii) Write on Levo-Dopa-Carbidopa combination.

4. Answer **any four** questions **out** of five. **(4×4=16)**

   1) What is balanced anesthesia ? Describe various stages of anesthesia.

   2) Write mechanism of action, adverse effects and therapeutic uses of Disulfiram.

   3) Describe innate and adaptive immune system.

4) Write on immunosuppressive action and therapeutic uses of "Calcineurin inhibitor".

5) a) Explain drug interactions :
   i) TCA + MAO inhibitor.
   ii) Barbiturate + Vitamin K.

   b) Explain the reasonings :
   i) Why nitrous oxide is not used as a sole agent as a general anaesthetic ?
   ii) Why Salicylate is avoided in third trimester of pregnancy ?

5. Answer **any four** questions **out** of five. **(4×4=16)**

1) What is cognitive enhancer ? Write pharmacology of "Piracetam".

2) Explain role of PTH and Vitamin D in calcium regulation.

3) Write on Allopurinol, its mechanism, adverse effects and therapeutic uses.

4) Describe the mechanism of action of Benzodiazepines and explain why benzodiazepines is not used as a true general anesthetics ?

5) Write on Insulin receptor and its function in controlling glucose level.

SLR-D – 41

Seat No.	

B.Pharmacy (Semester – VII) Examination, 2017
PHARMACOGNOSY – III

Day and Date : Thursday, 18-5-2017 Total Marks : 80
Time : 3.00 p.m. to 6.00 p.m.

1. Multiple Choice Questions (MCQ)/Objective Type Questions. **(16×1=16)**

1) Which is not the biological source of Cinchona ?
   a) Cinchona calisaya b) Cinchona officinalis
   c) Cinchona succirubra d) Cinchona indica

2) Which ergot alkaloid is water-soluble ?
   a) Ergotamine b) Ergosine
   c) Ergocristine d) Ergometrine

3) Identify the drug, which is not belonging to glycoside class ?
   a) Digitalis b) Senna
   c) Nux vomica d) Cascara

4) Lignified trichomes is characteristic of drug :
   a) Catharanthus b) Cassia angustifolia
   c) Strychnous nux vomica d) Digitalis purpurea

5) The opium alkaloids are present in plant as salt of :
   a) Benzoic acid b) Tartaric acid
   c) Meconic acid d) Acetic acid

6) Identify crude Drug contain cyanogenetic glycoside :
   a) Digitalis b) Thevetia
   c) Indian squill d) Bitter almond

7) Alcoholic extract of aloe under UV light gives colour
   a) Blue b) Red
   c) Deep brown d) Pink

8) 1-α-D- arabinofuronosylcystosine is chemical name of :
   a) Aplysistatin
   b) Ara - C
   c) Napthea
   d) Crassin acetate

9) *Glycine max* is the botanical source of
   a) Green tea
   b) Citrus peel
   c) Soya bean
   d) Ginkgo leaf

10) Urokinase enzyme is produced by
   a) Livers
   b) Lungs
   c) Kidney
   d) Heart

11) Wagner's test is used for detection of
   a) Alkaloid
   b) Tannin
   c) Glycoside
   d) Mucilages

12) Alkaloids are _____ type of substances.
   a) Acidic
   b) Neutral
   c) Inert
   d) Basic

13) Digitalis leaves should be dried at temperature below
   a) 20°C
   b) 60°C
   c) 30°C
   d) 40°C

14) Cocca leaf belongs to the family
   a) Erythroxylaceae
   b) Rubiaceae
   c) Loganiaceae
   d) Rutaceae

15) Alkaloids of Cinchona bark are detected by :
   a) Iodine test
   b) Vitali-Morin test
   c) Thalleoquin test
   d) Baljet's test

16) 'Bugula neritina' contains an anticancer constituent
   a) Aplisidine
   b) Ara-C
   c) Bryostatin
   d) Xenia

2. Answer **any four**. **(4×4=16)**
   1) Give biological source and uses of
      i) Lobelia
      ii) Catharanthus
   2) Explain any two chemical tests for Cardiac glycosides.
   3) Write biosynthetic pathway leading to formation of Ephedra alkaloids.
   4) Give the method of preparation and uses of Bromelin.
   5) Give the biological source, chemical constituents and uses of Mustard.

3. Answer **any four**. **(4×4=16)**
   1) Write a note on general methods of extraction of alkaloids.
   2) Explain chemical test for Aloe.
   3) Write a note on medicinal importance of
      i) Green tea
      ii) Ginkgo leaves
   4) Write a note on anticancer agents from Marine origin.
   5) Explain
      i) Van Urk's test.
      ii) Modified Borntrager's test.

4. Answer **any two**. **(2×8=16)**
   1) What are Quinoline alkaloids ? Discuss Cinchona under the Pharmacognostical scheme.
   2) What are Anthraquinone glycosides ? Give examples. Discuss Pharmacognosy of Senna.
   3) Give the biological source, method of preparation and uses of
      i) Urokinase.
      ii) Serratiopeptidase.

5. Answer **any two**. **(2×8=16)**
   1) Write detailed note on Bioflavonoids.
   2) Write Pharmacognosy of Opium.
   3) Give the source and pharmacological activity of newer Anti-inflammatory agents from Marine origin.

———————

SLR-D – 42

Seat No.	

B.Pharmacy (Semester – VIII) Examination, 2017
NOVEL DRUG DELIVERY SYSTEMS

Day and Date : Friday, 5-5-2017 Total Marks : 80
Time: 3.00 p.m. to 6.00 p.m.

Instructions *:* • ***All*** *questions are* ***compulsory****.*
• *Figures to* ***right*** *indicate* ***full*** *marks.*

I. Choose the **appropriate** answer from the following choices : **(16×1=16)**

1) Soluble erodible polymer membranes follow _____ principle of drug release.

a) Dissolution b) Osmosis
c) Diffusion d) Diffusion and dissolution

2) Powder aerosol is an example of _____ phase system.

a) Three b) Two
c) One d) Four

3) Small intestine is the potential site for drug absorption because of _____

a) Microvili b) Acid secretion
c) More viscous contents d) Less surface area

4) _____ aerosols systems contain lowest amount of water.

a) Two phase b) Three phase
c) One phase d) All

5) Soft, flexible and hydrophilic contact lenses contain _____

a) Polymethylmethacrylate b) Hydroxyethyl methacrylate
c) Silicone derivatives d) All of above

6) _____ belong (s) to the class of non-biodegradable polymers.

a) Hydroxypropyl methyl cellulose b) Polyethylene glycol
c) Polyvinyl pyrrolidone d) None of these

7) Enteric coated tablets are examples of _____ release systems.

a) Immediate b) Slow and continuous
c) Sustained d) Delayed

8) Total pressure of an aerosol system can be determined by _____

a) Rault's Law b) Dalton's Law
c) Avagadro's Law d) None of the above

9) BCS class-II drugs posses _____ permeability and _____ solubility.

a) High, low b) Low, low
c) High, high d) Low, high

10) Bioadhesive drug delivery is an example of _____

a) Delayed transit and continuous release
b) Slow and continuous release
c) Delayed release
d) Conventional release

11) Space spray contains _____ % of propellant.

a) Up to 30 b) 80-98
c) Up to 10 d) Up to 5

12) Peyer's patches are used as carriers for drug release in _____

a) Stomach b) Buccal
c) Colon d) Intestine

13) _____ excipient (s) are permitted to be used in DPIs.

a) Lactose b) Calcium stearate
c) Magnesium stearate d) All of these

14) Size based drug delivery systems are designed to release the drug in _____

a) Oral cavity
b) Colon
c) Stomach
d) Small intestine

15) The maintenance dose in an oral CRDDS depends upon _____

a) Bioavailability
b) Clearance
c) Plasma concentration
d) All of these

16) The numerical designation for propellant Difluoroethane is

a) 125
b) 152a
c) 25b
d) 512

II. Answer **any four** : **16**

1) Explain the role of tortuosity and porosity in a matrix system.
2) Write a note on three phase aerosol systems.
3) Write a note on intra-uterine devices.
4) Give the design of a metering valve.
5) Discuss in brief approaches to design Floating Drug Delivery System.

III. Answer **any four** : **16**

1) Define and classify modified release drug delivery systems.
2) Describe metal as container material used for pharmaceutical aerosols.
3) Write a note on Colon-Specific Drug Delivery System.
4) Discuss different classes of polymers used in the design of oral CRDDS.
5) Describe the general method of numbering the propellants.

IV. Answer **any two** : **16**

1) Describe the problems associated with bioadhesive systems.

2) Give an exhaustive review of dry powder inhalers.

3) Describe different techniques to achieve modified release in design of oral CRDDS.

V. Answer **any two** : **16**

1) Describe the in-vitro tests to evaluate drug release of modified release drug delivery systems.

2) Explain in detail the design of a metered-dose pharmaceutical aerosol.

3) Discuss the principle and design of Osmotically controlled devices.

SLR-D – 43

Seat No.	

B.Pharmacy (Semester – VIII) Examination, 2017
PHARMACEUTICAL BUSINESS MANAGEMENT

Day and Date : Monday, 8-5-2017 Total Marks : 80
Time : 3.00 p.m. to 6.00 p.m.

MCQs/Objective Type Questions. **(16×1=16)**

I. Choose the **correct** alternative.

1) Coordinating peoples and human resources to accomplish organizational goals is the process of _____
   a) Planning b) Directing c) Management d) Leadership

2) The form of business organization that has the largest sales volume is the _____
   a) Partnership b) Corporation c) Cooperative d) Multinational

3) The simplest form of business ownership is a _____
   a) Proprietorship b) Partnership c) Cooperative d) Cooperation's

4) _____ provide information about content, taste, durability, quality, price and performance.
   a) Brand personalities b) Brand names
   c) Brand positioning d) Brand equity

5) One of the features of marketing research is _____
   a) It is multi-tasking b) It is multi-purpose
   c) It is multi-natured d) It is multi-disciplinary

6) The primary functions of market representative are _____
   a) Market research b) Distribution working
   c) Availability of product d) All of the above

7) Before beginning the market segmentation process, a firm should
   a) Identify bases for segmenting markets
   b) Forecast total market potential
   c) Forecast market share
   d) Select target market segments

8) Which techniques is used to collect data has been previously collected for a purpose other than the current research situations ?
   a) Secondary research b) Primary research
   c) Desk researches d) None of these

9) The process that creates changes in behavior is called _____
   a) Selective adaptation b) Learning
   c) Involvement d) Attitude adjustment

10) _____ refers to the process of identifying and attracting job seekers so as to build a pool of qualities job applicants.
   a) Selection b) Training c) Recruitments d) None of these

11) What does quantitative research measures ?
   a) Feelings and opinions b) Numbers and figures
   c) Numbers and feeling d) None of these

12) For which stage of the product life cycle is the size of the decision making unit typically large ?
   a) Introduction b) Growth
   c) Maturity d) Decline

13) The maximum number of partners allowed in case of a banking firm is _____
   a) 20 b) 10
   c) 30 d) 50

14) Mail order business is _____
   a) Wholesale trade b) Direct selling trade
   c) Retail trade d) Retail trade by post

15) Assignment of work to a subordinate means
   a) Delegation b) Promotion
   c) a and b d) None of these

16) When at least 51% shares of a business of organization are in the hands of governments it is called _____
   a) Public corporation b) Govt. company
   c) Public company d) Departmental organizations

II. Answer **any four** : **(4×4=16)**

1) Define the terms marketing mix and explains four variables.
2) Writes qualities of good leaders.
3) Describe the process of planning functions in the managements.
4) Write the salient features of delegation of authority.
5) Discuss in detail marketing of generic drugs.

III. Answer **any four** : **(4×4=16)**

1) Explain the distribution channels of pharmaceuticals.
2) Write a brief note of pharmaceutical industry in India.
3) Discuss in a short about Joint Hindu Family Business.
4) What is branding ? Discuss the various brands.
5) Write a brief note on consumer behavior.

IV. Answer **any two** : **(2×8=16)**

1) Describe the different methods of sale promotions with suitable examples.
2) Draw the product life cycles and explain the phase's. What is its importance.
3) Explain the term leadership. Write its salient features and its importance.

V. Answer **any two** : **(2×8=16)**

1) Explain the term business and discuss the main features of various business organizations.
2) What are the different methods of recruitment of pharmacists ?
3) Define and explain the importance of :
   a) Marketing research
   b) Market segmentations

———————

SLR-D – 44

Seat No.	

B.Pharm. (Semester – VIII) Examination, 2017
MEDICINAL CHEMISTRY – IV

Day and Date : Friday, 12-5-2017 Total Marks : 80

Time : 3.00 p.m. to 6.00 p.m.

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

I. Choose the appropriate option. **(16×1=16)**

1) Clofibrate is chemically
   a) Ethyl 2-(4-chlorophenoxy)-2-methyl propionate
   b) Ethyl 2-(3-chlorophenoxy)-2-methyl propionate
   c) Ethyl 2-(2-chlorophenoxy)-2-methyl propionate
   d) None of these

2) Procainamide is chemically
   a) 4-amino-N(2-diethylaminoethyl) benzamide
   b) 4-amino-N(4-diethylaminoethyl) benzamide
   c) 4-amino-N(3-diethylaminoethyl) benzamide
   d) None of these

3) The drug which inhibits ACE is
   a) Verapamil b) Captopril c) Atenolol d) Reserpine

4) Gitoxigenin is present in lanatoside
   a) A b) B c) C d) D

5) Isosorbide dinitrate is used as
   a) Antianginal and Vasodilator b) Antiarrhythmic agent
   c) Antihyperlipidemic d) None of these

6) The NO formed by organic nitrate increases _____ in cell
   a) CGMP b) CAMP
   c) Intracellular calcium influx d) None of these

P.T.O.

7) Gemfibrozil is used as _____ agent.
   a) Antihypertensive b) Adrenergic blocker
   c) Antihyperlipidemic d) Antianginal

8) Dihydropyridine nucleus is present in
   a) Nifedipine and Amlodipine b) Losartan
   c) Ciprofibrate and clofibrate d) None of these

9) _____ is cholinesterase reversible inhibitor.
   a) Atropine b) Cyclopentolate
   c) Neostigmine d) Pilocarpine

10) The following IA class antiarrhythmic agent contains quinoline nucleus
   a) Procainamide b) Losartan
   c) Amylnitrate d) Quinidine

11) 2-Acetyloxy ethyl (trimethyl) azanium is IUPAC name of _____
   a) Carbachol b) Bethanechol
   c) Acetylcholine d) None of these

12) Metyrosine affects the biosynthesis of _____
   a) Acetylcholine b) Catecholamine
   c) Atropine d) None of these

13) Atorvastatin, Simvastatin, Pravastatin are examples of _____
   a) Sequestering agent b) HMG CoA reductase Inhibitors
   c) Fibrates d) None of these

14) The catecholamine nucleus is present in
   a) Ephedrine b) Amphetamine
   c) Methamphetamine d) Nor epinephrine

15) Minoxidil contains _____ nucleus in it.
   a) Piperdino pyrimidine b) Purine
   c) Xanthine d) None of these

16) _____ is Neuromuscular blocking agent.
   a) Acetyl choline b) Succinyl choline chloride
   c) Terbutaline d) Clofibrate

II. Answer **any four** of the following : **(4×4=16)**

1) Explain types of prodrugs with examples.
2) Explain the chemistry and MOA of cardiac glycosides.
3) Add a note on anticholinergic agents.
4) Classify antianginal agents and write the MOA of organic nitrates.
5) Write the nomenclature, synthesis and uses of procainamide.

III. Answer **any two** of the following : **(2×8=16)**

1) Write the biosynthesis and metabolism of catecholamines.
2) Define and classify antiarrhythmic drugs and write the synthesis of procainamide.
3) Write the QSAR parameter and explain in detail steric and electronic parameter QSAR.

IV. Answer **any four** of the following : **(4×4=16)**

1) Write IUPAC name, synthesis and uses of Propranolol.
2) Add a note on calcium antagonists with examples.
3) Add a note on Neuromuscular Blocking agents.
4) Explain Irreversible cholinesterase inhibitors with examples.
5) Write the nomenclature, structure and synthesis and uses of Nifedipine

V. Answer **any two** of the following : **(2×8=16)**

1) Define and classify Antihyperlipidemic agents and write MOA of atorvastatin and cholestyramine.
2) Classify antihypertensive agents and explain MOA of ACE inhibitors.
3) Explain biosynthesis of Acetylcholine and explain SAR and MOA of Acetylcholine.

———————

SLR-D – 45

Seat No.	

B.Pharmacy (Semester – VIII) Examination, 2017
PHARMACEUTICAL ANALYSIS – VI

Day and Date : Monday, 15-5-2017 Total Marks : 80
Time : 3.00 p.m. to 6.00 p.m.

1. Multiple Choice Questions. **(16×1=16)**

1) The nuclei having spin quantum number greater than _____ show NMR phenomenon.

A) 1 B) 2
C) 3 D) 0

2) _____ is a component of mass instrument.

A) Detector B) Mass analyzer
C) A and B D) Radio frequency transmitter

3) _____ peak has mass to charge ratio more than the molecular ion peak.

A) Isotopic B) Fragment ion
C) Metastable ion D) All of these

4) Grammage test is carried out on _____ packaging material.

A) Corrugated box B) Paper
C) Aluminium foil D) All of these

5) _____ is a validation parameter used for analytical method by UV method.

A) Accuracy B) Precision
C) A and B D) Roughness

6) No. of signals in NMR spectrum for 1, 3, 5-trimethyl benzene molecule _____

A) Two B) Five
C) Six D) One

P.T.O.

7) _____ is not a ion source used in mass spectrometer.
   A) Electron impact B) Magnet
   C) Fast atom bombardment D) Field desorption

8) The chemical shift value in the NMR spectrum is denoted by _____
   A) β B) α
   C) μ D) δ

9) _____ study verifies that the response is linearly proportional to the analyte concentration in the concentration range of sample solution.
   A) Selectivity B) Linearity
   C) Sensitivity D) None of these

10) The most intense peak in the mass spectrum is called as _____
   A) Base peak B) Rearrangement ion peak
   C) Isotope ion peak D) Molecular ion peak

11) _____ is the sum total of organized arrangement made with the objective of insuring that medicines are of the desired quality.
   A) Process validation B) Equipment validation
   C) Quality assurance D) Quality control

12) _____ is not a type of process validation.
   A) Revalidation B) Current validation
   C) Prospective validation D) Concurrent validation

13) The arithmetic mean for the given values such as 15, 25, 35 and 45 is _____
   A) 20 B) 30 C) 25 D) 15

14) Coupling constant for cis protons is _____
   A) 0-5 Hz B) 11-18 Hz
   C) 6-15 Hz D) 6 Hz

15) Which of the following test are carried out for pharmaceutical packaging material ?
   A) Hydrolytic resistance B) Grammage
   C) Tensile strength D) All of these

16) _____ ion peak gives information about molecular mass of the analyte.
   A) Molecular B) Fragment
   C) Isotope D) Metastable

2. Answer **any four** of the following questions. **(4×4=16)**
   1) Draw a neat labeled diagram of NMR spectrometer. Why TMS is used as internal standard ?
   2) Give principle involved in mass spectroscopy.
   3) Distinguish between quality assurance and quality control.
   4) Write on quality control test carried on glass as packaging material.
   5) Write in short on process validation.

3. Answer **any four** of the following questions : **(4×4=16)**
   1) Write on types of ions produced in mass spectrometry.
   2) Write in short on Quality Assurance.
   3) Write a note on applications of NMR spectroscopy.
   4) Explain with suitable examples standard deviations and median.
   5) Write on bursting strength and carton drop test of packaging material.

4. Answer **any two** of the following questions : **(2×8=16)**
   1) Explain in detail on chemical shift.
   2) Explain with suitable diagram quadrupole mass analyzer. Write on quality management system.
   3) Write on t-test. Write on quality control test carried on rubber closure.

5. Answer **any two** of the following questions : **(2×8=16)**
   1) Explain with suitable diagram any two ion sources used in mass spectrometry.
   2) Explain with suitable examples spin-spin coupling.
   3) Write on validation of analytical method by UV method.

———————

SLR-D – 46

Seat No.	

B.Pharmacy (Semester – VIII) Examination, 2017
PHARMACOLOGY – IV

Day and Date : Wednesday, 17-5-2017 Total Marks : 80
Time : 3.00 p.m. to 6.00 p.m.

1. Multiple Choice Questions. **(16×1=16)**

   Select **one** answer out of four.

   1) "Ototoxicity" is the common adverse effect of following drug
      a) Tetracycline b) Streptomycin
      c) Erythromycin d) Chloamphenicol

   2) Anthelminic drug "Praziquantal" is used as the drug of choice to treat
      a) Ochocerchiasis b) Ascariasis
      c) Schistosomiasis d) Filariasis

   3) The drug act by inhibition of the enzyme "dihydropteroate synthase".
      a) Sulfamethoxazole b) Mafenide
      c) Cotrimazole d) Trimethoprim

   4) Phenoxy methyl penicillin is
      a) Antipseudomonal penicillin b) Acid resistant penicillin
      c) Penicillinase resistant penicillin d) Broad spectrum penicillin

   5) Cephalosporin used to treat infection due to gm +ve microorganism
      a) Cefaclor b) Cefibuten
      c) Cefepime d) Cefazolin

   6) _____ is a systemic retinoid.
      a) Adapelene b) Isotretinoin
      c) Azelaic acid d) Tretinoin

   7) Benign Tertian (BT) malaria is caused by
      a) Plasmodium falciparum b) Plasmodium ovale
      c) Plasmodium malariae d) Plasmodium vivax

8) Antimalarial drug used to treat severe form of chloroquine resistant *Plasmodium Falciparum* infection.
   a) Mefloquine
   b) Atovaquone
   c) Artemissinins
   d) Proguanil

9) Leprosy exhibiting "Skin lesions with nodules, plaques with thick symmetrical patches".
   a) Borderline lepromatous leprosy
   b) Borderline leprosy
   c) Borderline tuberculoid leprosy
   d) None of these

10) Antitubercular agent used to treat Isoniazid resistant patients
   a) Pyrazinamide
   b) Rifabutin
   c) Ethionamide
   d) Ethambutal

11) Anthelmintic action of "Ivermectin" is by
   a) Enhancing Ca^{2+} permeability via generating reactive oxygen species
   b) Binding to the glutamate sensitive Cl^- channel with consequent increase in Cl^- conductance
   c) Binding to β-tubulin inhibits polymerisation of microtubule
   d) Opening nonselective cation channel and activating persistently nicotine acetylcholine receptor

12) Antineoplastic action of "Paclitaxel" is at the specific phase of the cell cycle
   a) S Phase
   b) G1-S Phase
   c) M Phase
   d) G2-M Phase

13) Antiviral agent used to treat hepatitis C viral infection
   a) Foscarnet
   b) Interferon-α-2B
   c) Lamiuvidine
   d) Indinavir

14) Gentamicin action is by
   a) Binding to 30S ribosomal subunit, prevent addition of growing peptide chain
   b) Inhibiting terminal stage of bacterial cell wall synthesis, "Transpeptidation"
   c) Binding to 30 S ribosomal subunit, incorporate incorrect amino acids into growing peptide chain
   d) Binding to 50 S ribosomal subunit, interfere with aminoacyl translocation ; prevent addition of amino acid to the nascent polypeptide chain

15) Tetracycline used in the treatment of meningococcal infection

a) Minocycline b) Oxytetracycline

c) Chlortetracycline d) Doxycycline

16) Anti-glaucoma drug "Latanoprost" acts by

a) Inhibition of carbonic anhydrase thereby reduces formation of bicarbonate ions

b) Decreasing production of aqueous humor thereby reducing intraocular pressure

c) Facilitating aqueous humor outflow through the accessory uveoscleral tract

d) Constriction of Iris sphincter and contraction of ciliary muscle thereby facilitating outflow of aqueous humor through canal of schlemm

2. Solve **any four** questions. **(4×4=16)**

1) Write mechanism, of action, adverse effects and therapeutic uses of macrolide antibiotics.

2) Write on Psoriasis and describe photochemotherapy used to treat Psoriasis.

3) Classify penicillin with examples and explain following drug interaction.

i) Penicillin + Probenecid

4) Write mechanism of action and adverse effects of "Ciprofloxacin" and explain.

i) Why Cilastatin is added in combination therapy with Imipenem for the treatment of Urinary Tract Infection ?

5) Classify antiviral drugs with examples.

3. Solve **any four** questions. **(4×4=16)**

1) Write on Insulin bioassay.

2) Write mechanism of action of "Isoniazid" and explain Why pyridoxine is added in combination therapy of tuberculosis consisting of Isoniazid.

3) Classify antineoplastic drugs with examples.

4) Write notes on i) Zidouvidine ii) Cyclophosphamide

5) Write mechanism of action and adverse effects of "aminoglycoside antibiotics".

4. Solve **any two** questions. **(2×8=16)**

   1) Describe various general principles of chemotherapy and add a note on Antimicrobial resistance.

   2) Classify antifungal agents with examples and write mechanism of action, adverse effects and therapeutic uses of “Amphotericin-B”.

   3) Describe heparin bioassay and add a note on principles of bioassay.

5. Solve **any two** questions. **(2×8=16)**

   1) Classify tetracyclines with examples. Write mechanism of action, adverse effects and therapeutic uses of *Tetracyclines*.

   2) What is Acne ? Write on drugs used to treat Acne and describe in detail any two topical *retinoids*.

   3) Write mechanism of action, adverse effects and therapeutic uses of Co-trimazole and explain why sulphonamide is avoided in pregnant woman.

———————

SLR-D – 47

Seat No.	

B.Pharmacy (Semester – VIII) Examination, 2017
HERBAL TECHNOLOGY

Day and Date : Friday, 19-5-2017 Total Marks : 80
Time : 3.00 p.m. to 6.00 p.m.

1. Multiple Choice Questions (**MCQ**)/Objective Type Questions. **(16×1=16)**

1) *Acacia concinna* (Shikakai) is used in the preparation of shampoo for its
   a) Antioxidant property
   b) Detergent and conditioning property
   c) Antiseptic property
   d) Antifoaming property

2) _____are pellets of powered herbs in a cocoa butter base designed for rectal absorption.
   a) Liniments b) Salves
   c) Suppositories d) Fomentations

3) Spurious drugs are grouped in section _____
   a) 33EH b) 33EEA
   c) 33EEB d) 33HT

4) _____ is used in preparation of Asava to initiate fermentation process.
   a) *Woodfordia fruticosa* leaves b) *Woodfordia fruticosa* flowers
   c) *Santalum album* d) *Zingiber officinale*

5) Ideal time for collection of leaves and herbs are
   a) At the end of the vegetation period
   b) At the beginning of vegetation period
   c) At the flowering stage
   d) In the spring

6) Quality control of Avaleha can be done by one of the following determinations
   a) Friability test
   b) Acid value
   c) Total sugar and Reducing sugar
   d) Viscosity

7) _____ are preparations used for removal of facial make up, surface grime, oil, water and oil soluble soil efficiently from the face and throat.
   a) Cleansing creams
   b) Vanishing creams
   c) Night creams
   d) Foundation creams

8) Disintegration time and weight variation are the tests in quality control of _____
   a) Bhasma
   b) Vati
   c) Taila
   d) Pishti

9) Total ash value in case of crude drug signifies
   a) Woody matters present in the drug
   b) Organic content of the drug
   c) Mineral matter in the drug
   d) Addition of extraneous matter such as sand, stone etc.

10) If Sarpagandha root extract is incorporated as an active ingredient while manufacturing suitable dosage form with the aid of excipients, then it is called as
   a) Monoherbal preparation
   b) Polyherbal preparation
   c) Multiherbal preparation
   d) Avaleha

11) _____ is the powdered form of the substances, obtained by calcination of metals minerals or animal products.
   a) Taila
   b) Bhasma
   c) Pishti
   d) Vati

12) Natural common herb used in cosmetics as hair conditioner and growth promoter
   a) Neem
   b) Sandal wood
   c) Ginkoba
   d) Henna

13) _____ are the category of herbal medicines used for a long time and are documented with their special theories and concepts and accepted by the countries.
   a) Indigenous herbal medicines
   b) Herbal medicines in systems
   c) Modified herbal medicines
   d) Imported products with a herbal medicine base

14) Non recommended packaging options for drugs that are woody in nature-Root, stem, wood, woody bark etc. is
   a) Gunny bags
   b) Jute bags
   c) Woven sacks
   d) Polythene covers

15) In the quality control of Hair dyes, Net content, Ash value, pH and effect on hard water are considered as
   a) Physiological parameters
   b) Physico-chemical parameters
   c) Performance parameters
   d) Phytochemical parameters

16) Instrumental analyses not employed for heavy metals determination is
   a) Atomic Absorption Spectrophotometry (AAS)
   b) Inductively Coupled Plasma (ICP)
   c) Neutron Activation Analysis (NAA)
   d) UV spectrophotometry

2. Answer **any four**. **(4×4=16)**
   1) Define Herbal Technology and describe the scope of Herbal Technology in Pharmaceutical Industry.
   2) Suggest 4 quality control tests for standardization of Churna and describe any 2 in detail.
   3) What are Pesticidal residues ? Write its effects in crude drugs.
   4) Write note on Herbal Drug regulations in India.
   5) Describe the classification of herbal drugs under 4 categories.

3. Answer **any four**. **(4×4=16)**

   1) Classify hair care cosmetics, write the ideal characteristics of hair colorants.
   2) Write 4 merits and demerits of Monoherbal Formulations.
   3) Define phytopharmaceuticals, name 4 plant derived pharmaceutical products their source, drug and indications.
   4) Classify Ayurvedic formulations with suitable examples.
   5) Define processing and describe any 2 processing methods for herbs.

4. Answer **any two**. **(2×8=16)**

   1) Suggest 4 important Physical and Chemical parameters each for quality assessment of Herbal drugs as recommended by WHO, describe methods in detail.
   2) a) For a given sample of Ashokarista, suggest 4 specific parameters for its Quality control and describe methods in detail.
      b) Import and export of herbal drugs.
   3) a) Merits and demerits of Polyherbal formulations.
      b) Describe the process of preparation of Asava.

5. Answer **any two**. **(2×8=16)**

   1) Describe the method of preparation of Avaleha with suitable example and how do you standardize the same.
   2) Classify herbal skin care cosmetics and describe the methods for Quality control of Herbal creams.
   3) Write note on :
      a) Packaging and storage of Herbal Drugs.
      b) Safety considerations for Herbal Drugs.

———————