SLR-TH – 1

Seat No.	

Set P

B.Pharmacy (Semester – I) (New CBCS) Examination, 2017
HUMAN ANATOMY AND PHYSIOLOGY – I

Day and Date : Tuesday, 28-11-2017 Max. Marks : 75
Time : 10.30 a.m. to 1.30 p.m.

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

1) Back flowing of Lymph is prevented by _____
   A) Blood pressure
   B) Suction from contracting lymph node
   C) One way valves
   D) Cilia lining of Thoracic duct

2) White pulp contains mostly _____
   A) Lymphocyte B) Macrophages
   C) Red blood cells D) Osteoblast

3) T lymphocyte matures in the _____
   A) Thymus B) Spleen
   C) Bone marrow D) Lymph node through the body

4) _____ is the largest antibody.
   A) IgG B) IgM C) IgA D) IgE

5) Centrosome is found in _____
   A) Cytoplasm B) Nucleus
   C) Chromosome D) Nucleolus

6) Centrioles are associated with _____
   A) DNA synthesis B) Reproduction
   C) Respiration D) Spindle formation

7) Desmosomes are associated with _____ junctions.
   A) Adherens B) Tight C) Anchoring D) Gap

8) Synaptic signaling involves _____
   A) Endocrine B) Paracrine
   C) Autocrine D) Neurotransmitters

9) The eccrine glands secrete _____
   A) Sebum B) Sweat C) Hormone D) Melanin

10) The heart lies specifically in the _____ space.
   A) Thoracic cavity B) Medial sternum
   C) Abdominal cavity D) Pleural cavity

11) Histamine secreting cells are found in _____
   A) Connective tissue B) Lungs
   C) Muscular tissue D) Nervous tissue

12) The Joint between atlas and axis is called _____
   A) Gliding joint B) Hinge joint
   C) Pivot joint D) Saddle joint

13) Skeletal muscles are controlled by _____
   A) Somatic nerve B) Sympathetic nerve
   C) Parasympathetic nerve D) Autonomic nerve

14) Life span of RBC is _____
   A) 130 days B) 120 days
   C) 140 days D) 118 days

15) The cell membrane of a muscle fiber is called _____
   A) Plasma lemma B) Sarcolemma
   C) Myolemma D) Sarcomere

16) The focal length of eye lens is controlled by _____
   A) Pupil B) Iris muscle C) Cornea D) Ciliary body

17) The Tympanic membrane is connected to _____
   A) Stapes B) Incus C) Malleus D) Cornea

18) Nasal cavity is lined with _____
   A) Mucous membrane B) Basilar membrane
   C) Corneous D) Tympanic

19) _____ is the network of nerve centers in the autonomic nervous system.

A) Axon B) Ranvier C) Ganglia D) Cyton

20) The T wave of an electrocardiogram represents _____ event.

A) Ventricular depolarization B) Atrial repolarization

C) Ventricular repolarization D) Atrial depolarization

2. Solve **any two** : **(2×10=20)**

A) Explain the anatomical features with neat labeled diagram of ear.

B) What is peripheral nervous system ? Classify it and explain distribution and function of each division.

C) Describe cardiac cycle in detail. Correlate cardiac cycle with electrocardiogram.

3. Solve **any seven** : **(7×5=35)**

A) Define Anatomy and physiology. Give scope of anatomy and physiology.

B) Write a note on epithelial and muscular tissues.

C) Give different functions of bones. Explain axial and appendicular skeletal system in short.

D) Write a note on types of joints movements and its articulation.

E) Explain different stages of hemopoiesis and formation of hemoglobin.

F) Draw a neat labeled diagram of lymph node.

G) Differentiate between sympathetic and parasympathetic nervous system.

H) Give the structure and functions of artery and vein.

I) Describe homeostasis.

_____

SLR-TH – 2

Seat No.	

Set P

B.Pharm. (Semester – I) (New CBCS) Examination, 2017
PHARMACEUTICAL ANALYSIS – I

Day and Date : Thursday, 30-11-2017 Max. Marks : 75
Time : 10.30 a.m. to 1.30 p.m.

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

1) % w/v express
   A) No. of ml of solute in 100 gm of product
   B) No. of ml of solute in 100 ml of product
   C) No. of gram of solute in 100 ml of product
   D) None of these

2) Following are the type of systematic error except
   A) Method error
   B) Personal error
   C) Instrumental error
   D) Random error

3) Amphiprotic solvents are both _____ and _____ character.
   A) Aprotic, protophilic B) Protophilic, protogenic
   C) Protogenic, aprotic D) None of these

4) _____ is defined as the –log of hydroxyl ion concentration.
   A) P^{H} B) P^{Ka} C) P^{OH} D) P^{Kb}

5) According to _____ acid base indicator is a weak organic acid/base which ionizes in aq. solution to give different colour.
   A) Ostwald theory B) Quinonoid theory
   C) Litmus theory D) Resonance theory

6) Which method is used in water analysis ?
   A) Fajan's method B) Mohr's method
   C) Volhard's method D) None of these

P.T.O.

7) Estimation of Calcium gluconate is done by using _____ Titration.

A) Complexometric B) Precipitation

C) Acid base D) Non aquous

8) Ceric ammonium sulphate is an _____ Agent.

A) Oxidising B) Reducing

C) Precipitating D) Complexometric

9) _____ is process involving the transfer of electrons from one element/ ion to another.

A) Precipitation reaction

B) Redox reaction

C) Complexing reaction

D) Gravimetric reaction

10) SI unit of conductance is

A) Mho B) Siemens

C) Volt D) None of these

11) Equivalent conductance is _____ related with concentration.

A) Inversly B) Directly

C) Not D) Logarithmically

12) Conductometry is an _____ method of analysis.

A) Electroanalytical B) Thermal

C) Electrogravimetry D) Spectroscopic

13) Ammonium chloride is a salt of

A) Strong acid and strong base B) Strong acid and weak base

C) Weak acid and weak base D) Weak acid and strong base

14) Hydrogen electrode can be used as

A) Reference B) Indicator

C) Both of A and B D) None of these

15) Polarograph is

A) Current Vs volt B) DME

C) Instrument D) None of these

16) Quinonoid theory indicates that color change of indicator is due to

A) Change of conc. B) Change of ionic bond

C) Structural change D) All of above

17) Which is not an complexometric titration ?

A) Mordant black II B) Murexide

C) Xylenol orange D) Methyl orange

18) Dichrometry refers to

A) Titration involving Pot. Bromate

B) Titration involving Pot. Dichromate

C) Titration involving Pot. Chlorate

D) Titration involving Pot. Permanganate

19) According to _____ rate of chemical reaction is proportional to the active masses of reactive substance.

A) Common ion effect B) Law of mass action

C) Arrhenius D) Lewis

20) _____ is one that contains one mole of solute per liter of solution.

A) Molal solution B) Formal solution

C) Molar solution D) Normal solution

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

1) Explain different theories of acid base indicators.

2) Explain the principle of Volhard's method. Give its advantages over Mohr's method.

3) Write a brief note on reference electrode (SHE & SCE) used in potentiometric titration.

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

   1) Define primary and secondary standard with example. Write about standardization of 1 M NaOH.
   2) Describe accuracy and precision and explain in brief about significant figure.
   3) Write different types of solvents used in non aqueous titration along with example.
   4) Write a note on masking and demasking phenomenon.
   5) Discuss various indicators used in redox titration.
   6) What do you mean by co-precipitation ? Give the types of co-precipitation.
   7) Write factor affecting conductance and give details of conductivity cell.
   8) Define primary and secondary standard with example. Write about standardization of 1 M NaOH.
   9) Write a note on Limit test for Iron.

———————

SLR-TH – 3

Seat No.	

Set P

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

Day and Date : Monday, 4-12-2017 Max. Marks : 75

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

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

1) "Primo mane" means
   a) In the morning b) Every morning
   c) Early in the morning d) Every night

2) In prescription R_x means
   a) You take b) Recipe
   c) Sign of Jupiter d) All of the above

3) An extra response of a drug which is different from its Pharmacological action is
   a) Tachyphylaxis b) Antagonism
   c) Idiosyncrasy d) Tolerance

4) To calculate the dose for 8 months old infant _____ formula is used.
   a) Dilling's formula b) Fried's formula
   c) Young's formula d) None

5) Simple Syrup contains _____% of W/V of Sucrose.
   a) 66.46 b) 66.87 c) 66.52 d) 66.67

6) Aqueous Iodine solution is also known as
   a) Mandl's paint b) Lugol's solution
   c) Both a) and b) d) None

7) Displacement value is calculated for
   a) Emulsion b) Elixir c) Suppository d) Tablet

8) Which of the following is Monophasic liquid dosage form ?
   a) Syrup b) Lotion c) Cream d) Suspension

9) Which of the following is electrolyte-replenisher ?
   a) ORS powder b) Piperzine citrate elixir
   c) Dusting powder d) Sulphur ointment

10) The minimum qualification for dispensing Pharmacist in India is
   a) D.Pharm. b) M.Sc. c) B.Sc. d) M.B.B.S.

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

12) Jellies are
   a) Transparent b) Translucent c) Non greasy d) All of the above

13) Immiscibility and insolubility are the examples for _____ type of incompatibility.
   a) Physical b) Chemical c) Therapeutic d) None of the above

14) Find the term which is not fit in the given series.
   a) Spatulation b) Trituration c) Tumbling d) Granulation

15) Dusting powders are dispensed in _____ containers.
   a) Wide mouth b) Narrow mouth
   c) Sifter top d) Collapsible tube

16) True solution is _____ dosage form.
   a) Monophasic b) Biphasic c) Triphasic d) None of the above

17) Rate of sedimentation of particles is slow in
   a) Flocculated suspension b) Deflocculated suspension
   c) o/w emulsion d) w/o emulsion

18) Oil in water emulsion is remain stable after dilution with
   a) Oil b) Water
   c) Emulsifying agent d) Suspending agent

19) As compared to ointment the paste preparations are
   a) More greasy b) Soft c) Thick and stiff d) All of the above

20) The bases which melt or dissolve in body cavity fluids are suitable for preparation of
   a) Ointment b) Paste c) Suppositories d) All of the above

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

1) Define Emulsion. Explain different methods of preparations and identification tests.
2) Define prescription. Explain the significance of parts of prescription.
3) What are Suppositories ? Explain different bases of suppositories.

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

1) Briefly explain IP, BP and USP.
2) Calculate the volume of each of 80%, 60%, 40% and water are required to produce 500 ml of 50% alcohol.
3) Define and classify incompatibilities. Add a note on Physical incompatibility.
4) Define the following :
   a) Elixir
   b) Capsule
   c) Linctus
   d) Pessaries
   e) Tablet
5) Mention advantages and disadvantages of powders. Briefly explain geometric dilution.
6) Calculate the dose for 3 years old child by Young's formula and the adult dose the drug is 500 mg.
7) Explain different mechanisms of dermal penetration of drugs.
8) Add a note eutectic mixtures and effervescent granules.
9) Explain different signs of instability of emulsion.

———————

SLR-TH – 4

Seat No.	

Set P

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

Day and Date : Wednesday, 6-12-2017 Max. Marks : 75
Time : 10.30 a.m. to 1.30 p.m.

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

1) In limit test of chlorides the precipitate comes due to formation of _____
   a) Silver Chloride b) Silver Nitrate c) Silver Oxide d) Silver Bromide

2) In limit test of iron citric acid does not allow precipitation of iron with _____
   a) Ammonia b) Alcohol c) Barium oxide d) Barium sulphate

3) Impurities in pharmaceutical preparation may be due to following sources
   a) Raw material b) Manufacturing process
   c) Chemical instability d) All of these

4) The standard and test solution used for limit test are prepared in _____
   a) Nessler cylinder b) Cooper cylinder
   c) Wet cylinder d) All of these

5) In Bronsted-Lowry concept acid is _____
   a) Proton donor b) Electron donor
   c) Proton accepter d) Electron accepter

6) Fluoride inhibits caries formation via _____
   a) Decrease acid solubility of enamel
   b) Bacterial inhibition
   c) Both a) and b)
   d) Increases acid solubility of enamel

7) Sodium acetate is known as _____ buffer.
   a) Acidic b) Basic c) Neutral d) All of these

8) The pH value of urine is _____
   a) 7.4 to 7.5 b) 5.4 to 7.5 c) 4.5 to 8.0 d) 2.0 to 4.0

9) Sodium hydroxide is _____ base.
   a) Weaker b) Weak c) Very weak d) Stronger

10) In external pharmaceutical preparation following buffer is used
   a) Borate b) Silicate c) Chlorate d) None of these

11) Boric acid is generally prepared from _____
   a) Borax b) Alum c) Hematite d) Resins

12) Sodium thiosulphate is generally used for _____ purpose.
   a) Protective b) Antidote c) Antibacterial d) None of these

13) Sodium bicarbonate is titrated with _____
   a) 0.5 N H_2SO_4 b) 0.5 M H_2SO_4 c) 0.1 N H_2SO_4 d) 0.1 M H_2SO_4

14) $KMnO_4$ solutions are used for
   a) antibacterial b) antifungal
   c) both the above d) none of these

15) ZnO is used as
   a) protective b) astringent c) both a) and b) d) antidote

16) Protective agents are those, which are applied to skin to protect certain areas from _____
   a) Irritation b) Itching
   c) Both a) and b) d) None of these

17) Identify mol. wt. of $KMnO_4$.
   a) 158 b) 200 c) 100 d) 140

18) Sodium fluoride is prepared from double decomposition of calcium fluoride and _____
   a) Sodium fluoride b) Sodium iodide
   c) Sodium carbonate d) Sodium hydroxide

19) Silver nitrate is titrated with _____
   a) Sodium fluoride b) Sodium iodide
   c) Sodium thiocyanate d) Sodium hydroxide

20) Sodium chloride is titrated with _____ solution.
   a) Sodium fluoride b) Sodium iodide
   c) Silver nitrate d) Sodium hydroxide

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

   1) Explain importance of radiopharmaceuticals and describe the role of radio isotopes along with suitable example.

   2) Describe various sources and type of impurities in pharmaceuticals. Discuss the limit test of chlorides and sulphate.

   3) Explain method of preparation and assay of Sodium thiosulphate. Enlist properties and uses of it.

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

   1) How isotonicity of buffer is calculated ? Suggest method of it.

   2) Discuss the term ORS.

   3) Define the term radioactivity and explain how it is measured.

   4) Describe the haematinics with example.

   5) Give mechanism and assay of hydrogen peroxide.

   6) Explain dental caries and give various inorganic compound used to treat it

   7) Give preparation, assay and uses of calcium gluconate.

   8) Give method of preparation and assay for sodium thiosulphate.

   9) What is buffer equation ? Highlight the term buffer capacity.

———————

SLR-TH – 5

Seat No.	

Set P

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

Day and Date : Tuesday, 28-11-2017 Max. Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

1. MCQ. **(1×15=15)**

1) _____ is not the component of blood protein.
   a) Albumin b) Proconvertin
   c) Globulin d) Fibrinogen

2) Erythroblastosis fetalis is a
   a) Hemolytic disease of the new born
   b) Type of anemia
   c) Disease related to bone marrow
   d) Decrease in white blood cell count

3) Which one of the following is not one of the steps of homeostasis ?
   a) Coagulation b) Vasoconstriction
   c) Platelet plug formation d) Hemophilia

4) What would happen to red blood cells if the heam. group were removed from hemoglobin ?
   a) Red blood cells would not be able to bind oxygen
   b) Red blood cells would not be able to reproduce
   c) White blood cells would not be able to reproduce
   d) Blood clot formation would be inhibited

5) Valve which prevent blood backflow to right atrium from right ventricle is classified as
   a) Bicuspid atria b) Tricuspid valve
   c) Bicuspid valve d) Tricuspid atria

6) Oxygenated blood is brought to left atrium from lungs through
   a) Pulmonary vein
   b) Pericardial vein
   c) Pericardium veins
   d) Semi lunar vein

7) The exchange of gases between inhaled air and blood is referred as
   a) Cellular respiration
   b) External respiration
   c) Internal respiration
   d) Circulatory respiration

8) The maximum volume of air that can be released from the lungs by forceful expiration after deepest inspiration is called as
   a) Total lung capacity
   b) Vital capacity
   c) Tidal volume
   d) Ventilation rate

9) During prolonged fasting, in what sequence are the following organic component used up by the body ?
   a) First carbohydrates, next protein and lastly lipid
   b) First carbohydrates, next fats and lastly protein
   c) First fats, next carbohydrates and lastly protein
   d) First protein, next lipid and lastly carbohydrates

10) Gastric juice contains
   a) Pepsin HCl
   b) Pepsin, trypsin
   c) Pepsin, renin
   d) None of above

11) Which one of the following pairs of food component in human reaches the stomach totally undigested ?
   a) Starch and cellulose
   b) Protein and starch
   c) Starch and fat
   d) Fat and cellulose

12) Respiratory center is located in the
   a) Pneumataxic center
   b) Medulla oblongata
   c) Alveoli
   d) None of above

13) Amount of air in the lungs that remains after deep breathing is called
   a) Dead space
   b) Residual volume
   c) Vital capacity
   d) Ventilation force

14) _____ lies in front of esophagus.

a) Trachea b) Glottis

c) Epiglottis d) Larynx

15) Left lymphatic duct is also called as

a) Thoracic duct b) Mediastinal duct

c) Jugular trunk d) Sunclavian duct

2. Answer **any five**. **(5×5=25)**

a) Draw a labeled diagram of stomach and give its function.

b) Explain in detail composition and function of lymph.

c) Give the anatomy and function of Bronchial tree.

d) Give composition and function of Hemoglobin, explain factor affecting Hb count.

e) Define Hemopoiesis, Diapedesis, bradycardia, haemostasis and chemotaxis.

f) Explain briefly Erythroblastosis fetalis and ABO blood group system.

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

a) Enlist different organ involved in respiration; explain mechanism of breathing and exchange of gases at lungs and tissue level.

b) Define blood pressure, discuss factor affecting BP and add note on regulation of BP.

c) Describe in detail anatomy and function of small and large intestine.

d) Enlist different coagulation factor and describe in detail mechanism involved in blood coagulation process.

_____

SLR-TH – 6

Seat No.	

Set P

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

Day and Date : Thursday, 30-11-2017 Max. Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

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

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

1) Phloem is _____ conducting tissue.
   a) Water b) Food c) Protein d) Salt

2) Individual member of corolla is called as
   a) Sepal b) Petal c) Carpel d) Pistil

3) The term aromatherapy was coined by chemist
   a) Seydler b) Gantle Fosse
   c) Hahnemann d) Hippocrates

4) A group of plants of a species which have identical morphological characters but differ in their chemical nature is called as
   a) Hybrids b) Chemodemes
   c) Diploids d) Transgenic plant

5) Identify the organized crude drug.
   a) Colophony b) Benzoin c) Myrrh d) Isapgol

6) Acid insoluble ash is an example of _____ evaluation.
   a) Microscopical b) Biological c) Chemical d) physical

7) Identify the parameter useful to confirm the mucilage content present in the crude drug ?
   a) FOM b) RI c) Swelling factor d) Optical Rotation

8) Following is not microscopical evaluation used for the authentication of leaf.
   a) Extractive value b) Palisade ratio
   c) Stomatal index d) Stomatal number

9) Soil containing 30 to 50% of clay is known as _____ soil.
   a) Sandy b) Loamy c) Clay d) Calcarious

10) Identify the crude drug having anti-malarial action.
   a) Cinchona b) Rauwolfia c) Podophyllum d) Vinca

11) New extraction process for alkaloids was developed by _____ in 1852.
   a) Posselt and Reimann b) Stass and Otto
   c) Neumann d) G. Mendel

12) Identify the drug packed in kerosene tin.
   a) Aloe b) Asafoetida c) Colophony d) Ergot

13) Moisture content is determined by heating the crued drugs at
   a) 90 °C b) 105 °C c) 125 °C d) 135 °C

14) Identify non-insect pests.
   a) Spider b) Mites c) Larvae d) Deer

15) Who was classified the plants and introduce the binomial system ?
   a) Linnaeus b) Galen c) Mendel d) Aristotle

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

1) Define any four leaf constants with suitable examples.
2) Brief account on History of Pharmacognosy.
3) Discuss asexual method of propagation with their merits and demerits.
4) Explain different methods of drying of crude drugs.
5) Write a note on marine sources of crude drugs.
6) Explain aromatherapy system of medicine.

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

1) Explain in detail Homeopathy system of medicine.
2) Define Adulteration. How it is to be carried out ?
3) Describe the various factors affecting cultivation of medicinal plants.
4) Write the general characteristics of bark.

_____

SLR-TH – 7

Seat No.	

Set P

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

Day and Date : Monday, 4-12-2017 Max. Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

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

1) The ability of substance to absorb moisture from atmosphere and get converted in liquid form is called as _____
   a) Hygroscopicity b) Polymorphism
   c) Microscopy d) Crysallinity

2) Aromatic waters are _____ clear solution of volatile oil or volatile substances.
   a) Saturated aqueous b) Unsaturated aqueous
   c) Saturated non-aqueous d) None of the above

3) Third edition of I.P. was published in year _____
   a) 1955 b) 1966
   c) 1975 d) 1985

4) One tea spoonful equals to _____ ml.
   a) 4 b) 8
   c) 15 d) 30

5) One pound (Lb) = _____ kg.
   a) 0.450 b) 2.2
   c) 1 d) 15

6) The direction “shake well before use” is given for _____
   a) Emulsion b) Suspension
   c) liniments d) All of the above

7) _____ is example of non-aqueous solution.
   a) Spirit b) Syrup
   c) Aromatic water d) None of the above

P.T.O.

8) First edition of IP was reconstituted under the chairmanship of _____
   a) Nityanand b) B. Mukharji
   c) R. N. Chopra d) B. N. Ghosh

9) The pharmacopoeia of India uses _____ system in formulae.
   a) Apothecaries b) Avoirdupois
   c) Both a) and b) d) Metric

10) Second edition of NF of India was constituted under the chairmanship of Dr. _____
   a) B. N. Ghosh b) B. Mukharji
   c) R. N. Chopra d) B. B. Yodh

11) Solvent like ethanol interacts with _____ and _____ encounter.
   a) Lactose, chelating b) Starch, solvate
   c) Acacia, precipitation d) Acaciam, chelating

12) International pharmacopoeia published by _____
   a) IPC b) WHO
   c) BPC d) None of above

13) Lozenges are _____ dosage forms meant for slow dissolution in the mouth.
   a) Liquid b) Solid
   c) Semisolid d) None of the above

14) Kilogram is the standard units for weight in _____ system.
   a) Avoirdupois b) Apothecaries
   c) Metric d) All of the above

15) One fluid ounce equal to _____ ml.
   a) 500 b) 30
   c) 160 d) 20

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

1) Define solutions and explain method of preparation of solutions with example.
2) Discuss different methods of preparation of aromatic waters with example.
3) Write a note on solid dosage form.
4) Explain principle, procedure and formula for concentrated Dill water I. P.
5) Give definition, storage condition, container, labelling requirements of liniment.
6) Write importance of polymorphism and solubility study in preformulation.

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

1) Write in detail about Indian pharmacopoeia.
2) What do you mean by pharmaceutical additives ? And add a note on commonly used additives in semisolid.
3) Discuss in detail scope of pharmaceutics.
4) Discuss development of pharmacy profession and Pharmaceutical industries in India.

———————

SLR-TH – 8

Seat No.	

Set P

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

Day and Date : Wednesday, 6-12-2017 Max. Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

1. MCQ. **15**

1) The principle use of alum is
   a) Cathartics b) Asringent
   c) Antidote d) None of the above

2) The limit test for chloride based upon chemical reaction between soluble chloride ion with
   a) HNO_2 b) $NaHCO_3$ c) $AgNO_3$ d) $CuSO_4$

3) Arsine gas when passed over mercuric chloride test paper produces _____ stain.
   a) Yellow b) Blue c) Pink d) Brown

4) A sterile isotonic solution of sodium chloride in water for injection contains percent of NaCl.
   a) 0.9% w/v b) 6.0% w/v c) 1.2% w/v d) 1.9% w/v

5) Mechanical antidote preventing _____ of poison.
   a) Distribution b) Excretion c) Absorption d) Metabolism

6) _____ is not used as an antacid.
   a) Aluminium hydroxide gel b) Silver nitrite
   c) Calcium carbonate d) Magnesium carbonate

7) The major extracellular anion is
   a) Cl^- b) HCO_3^- c) SO_4^- d) Phoshate

8) Sodium fluoride powder is soluble in
   a) Water b) Both a and b
   c) Alcohol d) None of the above

9) The cylinder of carbon dioxide is painted by _____ colour.
   a) White b) Blue c) Grey d) Yellow

10) Interaction of ammonia gas with hydrochloric acid gives
   a) NH_4Cl b) NH_4OH
   c) HNO_3 d) None of the above

11) _____ is component of ORS.
   a) Potassium acetate b) Sodium bicarbonate
   c) Sodium chloride d) Ammonium chloride

12) Nutrition deficiency of calcium leads to
   a) Hypocalcemia b) Hyponaturemia
   c) Hypokalemia d) Hypercalcemia

13) Potassium iodide used as
   a) Antiseptic b) Expectorant
   c) Astringent d) None of the above

14) The official monograph does not include limit test for
   a) Sulphate b) Chloride c) Phosphate d) Arsenic

15) Cool denotes temperature
   a) 2 – 8°C b) Above 40°C c) 8 – 25°C d) 0 – 2°C

2. Answer **any five** of the following questions : **(5×5=25)**
   1) Write properties and uses of ammonium chloride as a expectorant and emetic.
   2) What are antacids ? Add a note magnesium containing antacids.
   3) Define antidotes. How cyanide poisoning is treated ?
   4) Write the principle involved in limit test for arsenic.
   5) Explain in detail electrolyte replacement therapy.
   6) Enlist contents of monograph and write in detail about solubility and storage condition.

3. Answer **any three** of the following questions : **(10×3=30)**
   1) What is achlorhydria ? How will you treat it ? Give properties and uses of dilute hydrochloric acid.
   2) Explain in detail sources of impurities in pharmaceuticals.
   3) Explain in detail major intracellular and extracellular ions.
   4) What are antidotes ? Give preparation, properties and uses of sodium nitrate and sodium thiosulphate.

_____

SLR-TH – 9

Seat No.	

Set P

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

Day and Date : Friday, 8-12-2017 Max. Marks : 70

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

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

1) Iodine solution produces no colour with
A) Cellulose B) Dextrin C) Starch D) Glycogen

2) The epimers of glucose
A) Fructose B) Ribose C) Galactose D) Deoxyribose

3) The distinguishing test between monosaccharides and disaccharides is
A) Barfoed's test B) Bial's test
C) Seliwanoff's test D) Hydrolysis test

4) The non carbohydrate moiety found in glycoside is known as
A) Glycon B) Cofactor C) Aglycon D) Coenzyme

5) Ribose and deoxyribose differ in structure around a single carbon, namely
A) C_2 B) C_3 C) C_1 D) C_4

6) During cell fractionation rough ER is disrupted to form small vesicles called
A) Cristae B) Mitosol C) Microsomes D) Chromosomes

7) The transport for which ATP (metabolic energy) is required
A) Active B) Facilitated C) Passive D) Osmotic

8) The β-oxidation proper of fatty acid takes place in
A) Cytosol B) Nucleus
C) Mitochondrial matrix D) Golgi body

9) Waxes contain higher alcohol named as
A) Cetyl B) Ethyl C) Acetyl D) Phytyl

10) Lieberman-burchard reaction is performed to detect
A) Glycerol B) Sterol C) Cholesterol D) Fatty acid

11) Linolenic and arachidonic acid are formed from
A) Linoleic acid B) Stearic acid C) Palmitic acid D) None of above

12) The number of _____ of iodine absorbed by 100 grams of fat is called as iodine number.
A) Kilograms B) Milligrams C) Grams D) Micrograms

13) The no. of ATP produced when 2 molecule of acetyl-CoA is oxidized through TCA cycle
A) 24 B) 38 C) 12 D) 36

14) Rancidity of fat is prevented by addition of
A) Vitamin A B) Vitamin D C) Vitamin E D) Vitamin K

15) α-D-glucose and β-D-glucose are
A) Anomers B) Optical isomers
C) Epimers D) None of above

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

1) Give structure and function of mitochondria and golgi apparatus.

2) Explain the significance of Osazone test and Fehling's test.

3) Define terms uniport, symport and antiport. Differentiate between active and passive transport.

4) Explain structure and biosynthesis of cholesterol.

5) Why sucrose is called as non reducing sugar ? Explain with structure. Add note on inversion of sucrose.

6) Describe β-oxidation of fatty acid.

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

1) Define carbohydrates. Give detail classification.

2) Explain the term biological oxidation. Explain in detail respiration chain.

3) Explain in detail classification of phospholipids with structures.

4) Explain in detail glycogenesis and glycogenolysis. Add note on its significance.

_____

SLR-TH – 10

Seat No.	

Set **P**

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

Day and Date : Wednesday, 29-11-2017 Max. 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 : **(1×15=15)**

1) Facia lata is used as/for _____
A) Heavy suture B) Hernia repair C) Urethral sling D) All of these

2) _____ bandage is example of lead based adhesive bandage.
A) Crepe B) Diachylon
C) Triangular calico D) Zinc paste and Icthammol

3) For reducing size of fibrous material _____ mill is used.
A) Ball B) Fluid energy C) Cutter D) Roller

4) _____ is the role of carboxy methyl cellulose sodium (Sodium CMC) in dry syrup.
A) Glident B) Viscosity enhancer
C) Preservative D) Adherent

5) For immiscible liquids _____ mixing equipment is used.
A) Silverson homogenizer B) Air jet mixer
C) Planetary mixer D) None of these

6) Absorbable synthetic suture get absorbed by _____
A) Proteolytic enzyme B) Oxidation
C) Hydrolysis D) Reduction

7) _____ factor influencing the rate of filtration.
A) Pressure B) Viscosity C) Particle size D) All of these

8) Moh's scale is used for expressing _____ of the size reducing material.
A) Stickness B) Hardness C) Slipperiness D) Moisture content

9) For low viscosity fluids (less than 10 paise) _____ mixing mechanism play important role.
A) Molecular diffusion B) Laminar
C) Turbulent D) Bulk transport

P.T.O.

10) _____ is suitable for use as defoamer in non-aqueous systems.
A) Ethylene Bis Stearamide (EBS)
B) Alkyl poly acrylates
C) Poly dimethyl siloxane
D) All of these

11) Sodium Lauryl Sulphate (SLS) have _____ role in tooth powder.
A) Foaming agent B) Cleansing agent
C) Polishing agent D) Both A) and B)

12) _____ is composition of perlite filter aid.
A) Silica B) Alumino silicate C) Carbon D) Both A) and B)

13) Pastes and ointments are examples of _____ type mixtures.
A) Negative B) Positive C) Neutral D) None of these

14) _____ is stream line filter.
A) Cartridge filter B) Leaf filter C) Filter press D) Hydroextractor

15) Label printing is done by _____ method.
A) Letterpress B) Flexographic C) Letterset D) All of these

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

1) What is foam ? Explain prevention of foam and aeration.
2) Elaborate in detail formulation and evaluation of tooth powder.
3) Describe in detail planetary mixer.
4) Give principle, construction, working and use of cutter mill.
5) Enlist liquid manufacturing equipment. Explain bottle washing machine.
6) Describe principle, construction, working and use of hydro extractor.

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

1) Describe in detail principle, construction, working uses and cake discharge system of rotary drum filter.
2) What are different factors influencing size reduction ? Explain about fluid energy mill.
3) Give ideal properties of surgical dressings. Explain fabric as dressing material.
4) What are advantages and disadvantages of granules ? Explain in detail method of granulation.

_____

SLR-TH – 11

Seat No.	

Set P

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

Day and Date : Saturday, 2-12-2017 Max. Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

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

1) The symbol Rx means
   a) Symbol of Jupiter b) Symbol of moon
   c) Symbol of Saturn d) None of these

2) An auxiliary label for suspension is
   a) Shake well before use b) Take with food
   c) Do not shake d) Unit dose container

3) In the prescription signatura means
   a) Signature of physician b) Initials of pharmacist
   c) Direction to the patient d) Instruction to pharmacist

4) ABC analysis is
   a) Around bed control b) Always better control
   c) Always better cost d) Always better correlation

5) The number pharmacist required for a hospital having 100 bed is
   a) 5 b) 3 c) 10 d) 8

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

7) Which formula is based on age ?
   a) Young's b) Dilling's c) Fried's d) All of the above

8) The solutions which are not having same osmotic pressure is known as
   a) Hypotonic b) Hypertonic c) Paratonic d) Isotonic

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

10) PTC consists of
   a) Physician b) Pharmacist c) Nurse d) All of these

11) Iodosulphite of quinine is also called as
   a) Herapathite b) Hepatite c) Magnatite d) Iodonitrite

P.T.O.

12) DIB means
   a) Drug Information Bulletin
   b) Drug Information Board
   c) Drug Information block
   d) Drug Information Bank

13) VED means
   a) Vital Essential Desirable
   b) Very Economic Data
   c) Very Effective Drug
   d) All of the above

14) OTC means
   a) Over the Counter
   b) Over the Checking
   c) Over the Cost
   d) Over the Consumption

15) 1 drop is equal to
   a) 0.06 ml b) 0.08ml c) 0.09 ml d) 0.07 ml

2. Solve **any five** : **(5×5=25)**

1) Convert the following English term into Latin.
   a) drop
   b) send
   c) when necessary
   d) powder
   e) twice in a day.

2) Write the one formula for calculating dose for children by considering the following factor
   a) age b) weight c) body surface area.
   Calculate the dose for a child having body surface area 0.59 m^2 and adult dose is 500 mg.

3) Define hospital pharmacy. Give its functions and objectives.

4) Define PTC. Give construction and functions of PTC.

5) Write a note on handling of prescription.

6) Write a short note on drug information services.

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

1) Define and classify incompatibility. Describe in detail physical incompatibility.

2) Write the requirement and responsibilities of the hospital pharmacist.

3) Define prescription. Explain different parts of prescription in detail.

4) Explain in detail the factors affecting on dose.

———————

SLR-TH – 12

Seat No.	

Set P

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

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

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

1) Homolytic fission of covalent bond between carbon atom will produce
   a) Two carbanion ions
   b) Two molecules
   c) Free radicals
   d) None of these

2) Alkyl halides undergo
   a) Electrophilic substitution
   b) Electrophilic addition
   c) Nucleophilic substitution
   d) Nucleophilic addition

3) Molecular formula of 1, 3, 4, trimethyl hexane
   a) $C_9 H_{20}$ b) $C_9 H_{21}$ c) $C_{20} H_9$ d) $C_8 H_{22}$

4) Select the order of stability of carbonium ion is
   a) Primary > Secondary > Tertiary
   b) Secondary > Tertiary > Primary
   c) Tertiary > Primary > Secondary
   d) Tertiary > Secondary > Primary

5) Which of the following is correct name ?
   a) 4-hexene
   b) 3-propyl-3-pentene
   c) 2-methyl-1-hexene
   d) 2-methyl-3-bromo-1-pentene

6) Predict the product of the reaction of 1-pentyne and excess HBr
   a) 1, 1-dibromopentane
   b) 1, 2-dibromopentane
   c) 2, 2-dibromopentane
   d) 2-bromo-1-pentene

7) Lucas catalyst is
   a) $LiAlH_4$ b) $Pd/BaSO_4$ in quinoline
   c) NH_2NH_2 d) $HCl/ZnCl_2$

8) Saytzeff rule states that _____ is formed most readily.
   a) least substituted alkane
   b) most substituted alkene
   c) least substituted alkene
   d) most substituted alkane

9) S_N1 reactions are
   a) non molecular b) unimolecular
   c) bimolecular d) tetramolecular

10) The loss of a hydroxyl group (an alcohol) to generate an alkene is known as
   a) Dehydrohalogenation b) Dehydration
   c) Reduction d) Oxidation

11) The conversion of alkyne to alkane is an example of
   a) Oxidation b) Hydrogenation
   c) Chlorination d) Dehydration

12) What is IUPAC name for allyl chlories ?
   a) 3-chloropropene b) 1-chloropropene
   c) 2-chloropropene d) bromoethane

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

14) Divalent intermediate of carbon compounds are
   a) Carbocation b) Carbanion
   c) Carbon free radical d) Carbene

15) Pyrolysis of alkanes is carried out at _____ °C.
   a) 0-200 b) 200-400
   c) 500-700 d) 900-1000

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

1) Write a note on types of bonds with suitable example.
2) Write in detail Markovnikov and anti Markovnikov's reaction with suitable example.
3) Write a reaction of alkyl halides.
4) How will you prepare Alcohols ?
5) Write a note on Steric effect and Electronegativity.
6) Explain methods of preparations and reaction of alkenes.

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

1) Write a methods of generation, structure, stability and reactions of carbanion ion.
2) Write a note on E1 and E2 reaction.
3) Methods of preparation and reaction of alkynes.
4) Methods of preparation of ether and reactions of ether.

———————

SLR-TH – 13

Seat No.	

Set P

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

Day and Date : Thursday, 7-12-2017 Max. Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

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

1) Which one of the Vitamin A functions as steroid hormone ?
   a) Retinal b) Beta carotene c) Retinol d) Provitamin A

2) Deficiency of Vitamin D causes _____
   a) Rickets b) Beri-beri
   c) Night blindness d) Pellagra

3) All the following are aromatic amino acids found in proteins except _____
   a) Phenylalanine b) Tyrosine
   c) Methionine d) Tryptophan

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

5) Which one of the following is semiessential amino acid for humans ?
   a) Histidine b) Valine c) Lysine d) Tyrosine

6) The following enzyme of urea cycle is present in cytosol _____
   a) Argininosuccinic acid synthetase b) Argininosuccinase
   c) Arginase d) All of these

7) In case of ureotelic, ammonia is liberated in the form of _____
   a) uric acid b) urea c) ammonia d) NH_4

8) An example of group transferring coenzyme is _____
   a) ATP b) FMN c) FAD d) NADP+

9) Induced fit theory of enzyme action was given by _____
   a) Fischer b) Koshland c) Buchner d) Kuhne

P.T.O.

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

11) DNA rich in C-G pairs have _____
   a) 1 Hydrogen bond
   b) 2 Hydrogen bonds
   c) 3 Hydrogen bonds
   d) 4 Hydrogen bonds

12) Anticodons are present in _____
   a) Template strand of DNA
   b) mRNA
   c) tRNA
   d) rRNA

13) In the feedback regulation, the end product binds at _____
   a) Allosteric site b) ES complex c) Active site d) All of these

14) The backbone of nucleic acid structure is constructed by _____
   a) Peptide bond
   b) Glycosidic bond
   c) Phosphodiaster bridge
   d) All of these

15) What is name of Vitamin B1 _____ ?
   a) Thimine b) Pyridoxine c) Niacin d) Biotin

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

1) Write in short about types of RNA.
2) Explain lock and key theory and induced fit theory.
3) Explain Zwitter ions and isoelectric precipitation.
4) Give oxidative and non-oxidative deamination reactions of amino acids.
5) Define co-enzymes. Classify with suitable examples. Write allosteric enzymes.
6) Give in details about Replication of DNA.

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

1) What is genetic code ? Give its characteristics. Explain the process of translation of mRNA.
2) Write in details about inhibitors of enzymatic action.
3) Explain urea cycle in detail.
4) Give the complete account of fat soluble Vitamins.

_____

SLR-TH – 14

Seat No.	

Set P

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

Day & Date : Saturday, 9-12-2017 Max. Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

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

1) Each Kidney extends from 12^{th} thoracic vertebra up to _____ lumbar vertebra.

A) First B) Second C) Third D) Fifth

2) Sarcoplasm fluid contains large quantities of K^+, Mg^{++}, PO_4^- with multiple _____ enzymes.

A) carbohydrates B) protein C) lipid D) vitamins

3) Nerve signals are transmitted by

A) Action B) Potential

C) Both A and B D) None of these

4) Melanocyte is secreted by _____ lobe of pituitary gland.

A) Anterior B) Middle C) Posterior D) Both A and B

5) The semen is slightly

A) acidic B) alkaline C) neutral D) strong acidic

6) _____ is the external organ of the male reproductive system.

A) Scrotum B) Vas deferens C) Prostate gland D) Urethra

7) The greatest growth of the fetus during the _____of pregnancy.

A) First trimester B) Mid trimester

C) Last trimester D) Other than A, B and C

8) _____ is a causative agent of measles.

A) varcells zoster virus B) herpes virus

C) Rubeola virus D) Paramyxovirus

9) Important masses of grey matter includes

A) Basal ganglis B) Thalamus

C) Hypothalamus D) All of above

10) In female _____ stimulates the corpus luteum of ovary to produce progesterone.

A) Luteinizing hormone B) Lactogenic hormone

C) Growth hormone D) Thyrotrophic hormone

11) _____ is essential to a normal pregnancy.

A) Human Chorionic gonadotropin

B) Oestrogen, Progesterone

C) Human Chorionic Somatomammotropin

D) All of above

12) _____ phase ends with ovulation.

A) Proliferative B) Secretary

C) Menstrual D) Other than A, B and C

13) Each kidney is surrounded by a delicate covering called

A) pyramids B) medulla C) cortex D) capsule

14) Composition of cerebro spinal fluid includes

A) glucose B) urea C) few leukocytes D) All of above

15) _____ separates the external acoustic meatus from the middle ear.

A) Tympanic membrane B) Ear lobule

C) Stapes D) Temporal bone

2. Solve **any five**. **(5×5=25)**

   A) Define and mention the role of juxtra glomerular apparatus. Explain acid base balance of urinary system in short.

   B) Explain physiology of muscle contraction.

   C) Give structure and functions of cerebellum.

   D) Draw and brief the functions of thyroid gland hormones.

   E) Draw a neat labeled diagram of skin.

   F) Describe spermatogenesis.

3. Solve **any three**. **(10×3=30)**

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

   B) Uterus in detail. Add note on ovulation.

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

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

———————

SLR-TH – 15

Seat No.	

Set P

B.Pharmacy (Semester – III) (New CBCS Pattern) Examination, 2017
PHYSICAL PHARMACY – I

Day and Date : Tuesday, 28-11-2017 Total Marks : 70

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

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

1) Maximum Temperature at which two phases exists in mixture of two partially liquids is known as

A) UCT B) LCT

C) Kraft point D) Critical Temperature

2) The equation $E=MC^2$ represent the equation for

A) First law of thermodynamics B) Second law of thermodynamics

C) Third law of thermodynamics D) None

3) 1 Joule = _____ calories.

A) 0.2390 B) 4.184 C) 10^7 D) 10^{-7}

4) Triple point of water corresponds to _____ pressure and _____ temperature.

A) 600 N/m^2, 0.0075°C B) 610 N/m^2, 0.0075°C

C) 605 N/m^2, 0.0075°C D) 610 N/m^2, 0.0070°C

5) Cathode is which type of electrode.

A) Positive B) Negative C) Neutral D) None

6) The process of sublimation for solid occurs

A) At the melting point

B) At a temperature below its melting point

C) At a temperature above its melting point

D) None

7) If Dissolution of solid in liquid involves positive heat of solution (endothermic), then rise in temperature leads to _____ in solubility.
   A) Increases B) Decreases
   C) Stops D) Remain constant

8) Terms and conditions of Nernst's law
   A) Constant Temperature B) Dilute solution
   C) Non-miscible solvents D) All

9) Bingham bodies means _____ material.
   A) Pseudoplastic B) Dilatant
   C) Plastic D) All

10) Which type of viscometer shows Plug flow ?
   A) Cone and Plate B) Brookfield
   C) Cup and Bob D) All

11) Blood is isotonic with
   A) 0.16 NaCl solution B) 0.31 NaCl solution
   C) 0.40 NaCl solution D) 0.80 NaCl solution

12) Gibb's Helmholtz equation applicable to
   A) All Chemical process in closed system
   B) All Physical or Chemical process
   C) All Physical or Chemical process but in closed system
   D) All Physical process in closed system

13) 30% Zinc oxide in water show which type of flow
   A) Plastic B) Pseudoplastic
   C) Dilatant D) All

14) In Nematic crystals, molecules are mobile in how many dimensions.
   A) One B) Two C) Three D) Zero

15) Debye Huckel theory is also called as
   A) Oldest theory of strong electrolyte
   B) Theory of gases
   C) Modern theory of strong electrolyte
   D) Theory of solids

2. Solve **any five** : **(5×5=25)**

   1) Add a note on eutectic mixture with its dispensing method.

   2) Justify, why S=0 when T = 0K.

   3) State explain and derive equilibrium law.

   4) Why some solution obey Raoults law and some deviate from it ? Write in detail.

   5) Define Viscosity and fluidity. Prove that $F = \eta G$.

   6) Comment on Thixotropy with its applications.

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

   1) Write the various attempts for intense cooling of gases.

   2) Define Osmosis and Osmotic pressure. Give principles behind osmosis through semi permeable membrane.

   3) Give applications of polymorphism. State Bragg's law and derive Bragg's equation.

   4) Explain in detail Rheological behaviour of various systems.

———————

SLR-TH – 16

Seat No.	

Set P

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

Day and Date : Thursday, 30-11-2017 Max. Marks : 70

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

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

1) Which material is used for the construction of jacket in evaporating pan ?
   a) Iron b) Copper
   c) Stainless steel d) Aluminum

2) Which piston pump requires a minimum of two valves ?
   a) Double acting b) Triple acting c) Single acting d) None of the above

3) If a non-condensed gas is not removed from evaporator
   a) Reduce the film coefficient
   b) Decreases the efficiency of evaporators
   c) Both a) and b)
   d) None of the above

4) In which process the direct change of solid into vapour without conversion to a liquid phase ?
   a) Condensation b) Sublimation c) Evaporation d) None of the above

5) Which distillation is used for the separation of high-boiling substances from non-volatile impurities ?
   a) Steam distillation b) Simple distillation
   c) Rectification d) None of the above

6) In steam jacketed kettle, 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

7) The mass and the velocity of the fluid particles trying to diffuse the fluid particles are due to
   a) Drying forces b) Inertial forces
   c) Viscous forces d) Turbulent forces

8) In which evaporator, heat transfer takes place through the tubes and the liquid outside the tubes get heated
   a) Evaporating pan b) Vertical tube
   c) Horizontal tube d) None of the above

9) Flash distillation is also known as
   a) Rectification b) Equilibrium c) Dry d) Differential

10) What is the flow rate of materials in a bucket conveyor dependent on ?
   a) Shape of the buckets b) Spacing of the buckets
   c) Speed of the conveyor d) All of the mentioned

11) The rate of evaporation inversely proportional to the
   a) Surface area b) Temperature c) Both a) and b) d) Concentration

12) A pump in which a diffusion casing equipped with vanes is known as
   a) Single stage pump b) Multi stage pump
   c) Turbine pump d) Volute pump

13) In which phenomenon air is continuously passed over the solid containing moisture less than EMC, then solid absorbs water continuously till EMC is reached
   a) Sorption b) Bound c) Desorption d) Unbound

14) Which conveyors are used for in the strip and blister packaging of tablets and capsules ?
   a) Chain b) Pneumatic c) Screw d) Belt

15) In which evaporator the preheated feed enters
   a) Evaporating pan b) Falling film
   c) Rising film d) Horizontal tube

2. Answer **any five**. **(5×5=25)**

1) Define Rectification. Give a short note on fractionating column.
2) What is manometer ? Explain in detail simple manometer.
3) Enlist the different conveyors used for handling of solid materials. Explain the principle, working and application of belt conveyors.
4) Define and classify Pump. Explain in detail centrifugal pump.
5) What is evaporation ? Describe in detail factor affecting evaporation.
6) Discuss the principle, construction, working of Orifice Meter.

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

1) Elaborate the concept of Multiple Effect Evaporators. Discuss the principle, working and operation of Triple Effect Evaporators.

2) Give the principle involved in steam distillation. Describe construction and working and application of steam distillation with neat labelled diagram.

3) Enlist the different dryer used in pharmaceutical industry. Explain principle, construction and working of Fluidised Bed Dryer with neat labeled diagram.

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

———————

SLR-TH – 17

Seat No.	

Set P

B.Pharm. (Semester – III) (New-CBCS) Examination, 2017
ORGANIC CHEMISTRY – II

Day and Date : Monday, 4-12-2007 Max. Marks : 70
Time : 3.00 p.m. to 6.00 p.m.

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

1) Carbonyl carbon of analdehyde yields addition products easily because of _____ factors.
   a) Electronic b) Steric c) Both d) Neither

2) A five membered heterocycle with two nitrogens at 1 and 3 position in the ring is called
   a) Pyrazole b) Indole c) Imidazole d) Diazine

3) Least acidic among the following :
   a) RCOOH b) $Cl - CH_2 - COOH$
   c) $ClCH_2CH_2COOH$ d) O_2NCH_2COOH

4) Nucleophilic substitution reaction is seen with
   a) Aldehydes b) Benzene c) Ketones d) None

5) Common approach used for increasing solubility of aromatic carboxylic acids
   a) Esterification b) Salt formation
   c) Oxidation d) Amide formation

6) Thermodynamically controlled reactions yield products at _____ temperature.
   a) Any b) Low c) Room temp. d) High

7) Trialkyl amine on treatment with a base yields _____
   a) Amine b) Alcohol c) Alkene d) None

8) Resonance energy of Naphthalene is _____ than/to Benzene.
   a) Higher b) Equal c) Lesser d) None

9) Dicobaltocta carbonyl is a reagent used in preparing
   a) Phenols b) Aldehydes c) Amines d) None

10) A phenol is highly acidic. Its pKa value would be _____
   a) >9 b) >15 c) <9 d) <3

P.T.O.

11) Chemoselective reducing agent of aldehydes to alcohols is
a) $NaBH_4$ b) H_2/Pd c) $LiAlH_4$ d) None

12) Choose correct reagent and condition for completing the following reaction.

C_6H_6+ ---- ⟹ $C_6H_5NO_2$

a) HNO_3, H_2SO_4 b) HNO_3, H_2SO_4, reflux
c) HNO_3, H_2SO_4, O°C d) None

13) Halogenation of pyrrole with Br_2/AcOH yields _____ pyrrole.
a) Mono-substituted b) Di-substituted
c) Un-substituted d) Tetra-substituted

14) In Ar–COOH, –COOH group directs the incoming group to _____ position.
a) Ortho b) Meta
c) Ortho and para d) Para

15) Diazotization reaction is more useful in preparing _____ derivatives of aryl compounds.
a) –F b) –Cl c) $-NO_2$ d) –R

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

1) Write the laboratory methods of preparation of phenanthrene.
2) Discuss the chemical properties of amines.
3) Discuss five important reactions of aldehydes.
4) Write five preparation methods of phenols.
5) Compare the electrophilic substitution reactions of indole and pyrrole.
6) Describe how existence of "resonance" in Benzene proved.

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

1) Explain in detail : **(5+5)**
   1) Haloform reaction
   2) Mannich reaction.
2) Describe how the phenomenon of aromaticity was established in benzene.
3) Write the methods of preparation of : **(5+5)**
   a) Pyrimidine
   b) Oxazole.
4) a) Reactions of thiazole. **5**
   b) How are amines separated by Hinsberg method ? Explain. **5**

_____

SLR-TH – 18

Seat No.	

Set P

B.Pharm. (Semester – III) (New CBCS) Examination, 2017
PHARMACEUTICAL ANALYSIS – I

Day and Date : Wednesday, 6-12-2017 Max. Marks : 70
Time : 3.00 p.m. to 6.00 p.m.

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

1) Determination of optical rotation of a compound is measured by
   A) Refractometry B) Polarimetry
   C) Turbidometry D) Nephlometry

2) Methyl red shows red-yellow color change when pH is
   A) 2.8 – 4.6 B) 4.2 – 6.3 C) 6.8 – 8.4 D) 8.3 – 10.0

3) In argentometric titrations, _____ is used as titrant.
   A) Silver nitrate B) Sodium chloride
   C) Both A and B D) Sodium nitrite

4) Calibration of instruments and apparatus minimizes _____ error.
   A) Instrumental B) Operational C) Method D) Personal

5) _____ is used as primary standard in acid-base titrations.
   A) H_2SO_4 B) HCl C) NaOH D) Na_2CO_3

6) In cerriometry _____ is used as an indicator.
   A) Ferric ion B) Ferroin solution
   C) Ferric sulphate D) Ferrous sulphate

7) 0.85 ml of conc. HCl in 10 ml water gives _____ M HCl.
   A) 1 B) 0.1 C) 0.01 D) 0.001

8) Back and blank titration is performed in _____ experiment.
   A) Volhard's method B) Assay of aspirin
   C) Both A and B D) Not a single

9) Assay of sodium chloride injection is based on _____ method.
   A) Mohr's B) Volhard's C) Fajan's D) Gay-Lussac

10) No. of moles of a solute present in 1000 gm of solution is called as
   A) Normality B) Molarity C) Molality D) Formality

P.T.O.

11) Indeterminate error is also called as _____ error.
A) Accidental B) Random C) Asymmetric D) All of above

12) The color change Red-yellow is for
A) Methyl red B) Methyl orange
C) Thymol blue D) All of above

13) Assay of isoniazid is done by
A) Permangnometry B) Bromatometry
C) Iodometry D) Cerriometry

14) The substance which gets titrated is known as
A) Titrand B) Titrant
C) Secondary standard D) Primary standard

15) Combination of two ionic species to form insoluble product is
A) Solubilisation B) Precipitation
C) Oxidation D) Reduction

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

1) Define : Equivalent weight, normality, error, accuracy and titration.

2) Write a note on significant figure.

3) Compare and contrast back titration and blank titration.

4) Give the preparation and standardization of 1 M NaOH with its principle behind it.

5) Define error. Explain its classification in detail.

6) Explain in detail iodometry.

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

1) Explain in detail neutralization curve for 0.1 M NaOH and 0.1 M CH_3COOH.

2) Explain in detail permangnometry.

3) How the errors can be minimized ?

4) Explain in detail Mohr's method and Fajan's method.

_____

SLR-TH – 19

Seat No.	

Set P

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

Day and Date : Friday, 8-12-2017 Max. Marks : 70

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

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

1) _____ is the person affected by disease.

A) Patient B) Physician

C) Pathologist D) Pharmacist

2) Common mechanism of hypoxic cell injury is by

A) Reduced supply of blood

B) Ageing

C) Drugs

D) Immunity

3) In the extra cellular fluid _____ is the predominant cation.

A) Potassium B) Magnesium

C) Sodium D) Bicarbonate

4) _____ is not a physical agent which is a cause of inflammation.

A) Trauma B) Heat C) Radiation D) Bacteria

5) Rarely peptic ulcers may occur in the

A) Cardiac end of oesophagus B) Ileum

C) Bile duct D) Pancreatic duct

6) The urinary tract prevents the growth and multiplication of organism by _____ factor.

A) High rate of urine flow

B) Mucosal defense activity

C) Bladder emptying

D) All of above

P.T.O.

7) _____ has a normal nucleus.
   A) Benign tumour B) Malignant tumour
   C) Both A) and B) D) Other than A), B) and C)

8) _____ is a non-specific test used as a screening test for anaemia.
   A) Haemoglobin estimation B) ESR
   C) Bone marrow examination D) Leukocyte count

9) Carl Landsteiner was considered as
   A) Father of Histology
   B) Father of Clinical Pathology
   C) Father of Blood Transfusion
   D) None of the above

10) _____ first time introduced the term 'milieu interieur'.
   A) Sir William Osler
   B) Cornelius Celsus
   C) Galen
   D) Claude Bernarde

11) The predominant cation in the intra cellular fluid is
   A) Sodium B) Potassium
   C) Phosphate D) Bicarbonate

12) Water is eliminated from the body via
   A) Kidney B) Skin C) Lungs D) All of above

13) Pain may be due to _____ of tissues.
   A) Stretching B) Distortion C) Edema D) All of above

14) _____ is a infective cause of inflammation.
   A) Radiation B) Parasites
   C) Bacterial toxins D) Chemical agent

15) _____ most common cause of duodenal ulcer.
   A) Acid hyper secretion and Helicobacter pylori infection
   B) Decreased bicarbonate production
   C) Endocrinal dysfunction
   D) Liver disorder

2. Solve **any five** : **(5×5=25)**

A) Write a note on megaloblastic anemia.

B) Define cellular apoptosis. Write cause and pathogenesis.

C) Short note on hyper natremia and hyper calcaemia.

D) What is pain ? Give different types of pain and its management.

E) Differentiate between gastric ulcer and duodenal ulcer.

F) Write a note on acute renal failure.

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

A) Describe shock in detail.

B) What is rheumatoid arthritis ? Discuss its pathophysiology. Give its causes, abnormality and management.

C) Discuss pathogenesis, symptoms and preventive measures of liver cirrhosis in detail.

D) Define and classify glomerulonephritis. Comment on nephritic syndrome.

———————

SLR-TH – 20

Seat No.	

Set P

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

Day and Date : Wednesday, 29-11-2017 Max. Marks : 70
Time : 3.00 p.m. to 6.00 p.m.

1. Multiple Choice Questions : **15**

1) The energy required to break the attraction between the unlike molecules is known as
   A) Work of cohesion B) Work of adhesion
   C) Surface free energy D) None of above

2) As the surface tension decreases with _____ the Temperature.
   A) Remain constant B) Increases
   C) Decreases D) First increases and then decreases

3) Wetting ability of Vehicle can be determined by observing the
   A) Critical Angle B) Angle of Repose
   C) Interfacial Angle D) Contact Angle

4) Which of the following is a multi-dentate ligand ?
   A) Ethylene diamine tetra acetic acid B) Ammonia
   C) Dimethyl glyoxime D) Povidone Iodine

5) The Spreading agents usually have an HLB value in the Ranges
   A) 6 – 9 B) 9 – 12 C) 7 – 9 D) 8 – 18

6) The property of drug molecules that is usually modified by Complexation is
   A) Particle size B) Particle shape
   C) Solubility D) All of the above

7) The Supernatant liquid in a deflocculated suspension is
   A) Clear B) Transparent
   C) Turbid D) Yellow

8) For good flow properties, Angle of Repose should be
   A) 0° B) Less than 30°
   C) 30° – 40° D) Greater than 40°

9) The average Particle size of Powder Sample can be determined by
   A) Anderson's Equation B) Stocke's Equation
   C) Edmondson's Equation D) Hatch-Choate Equation

10) Emulsion is thermodynamically
   A) Unstable B) Stable
   C) Both A) and B) D) None of these

11) Anti-foaming agents HLB Values in between
   A) 16 – 18 B) 7 – 9 C) 1 – 3 D) 13 – 16

12) The diameter of the sphere having the same surface area as that of the asymmetric particles is known as
   A) Surface diameter B) Volume diameter
   C) Projected diameter D) Stocke's diameter

13) The particle size range for suspension, fine emulsion having in ranges between
   A) 05 – 10 μm B) 10 – 50 μm
   C) 50 – 100 μm D) 100 – 1000 μm

14) The rate of hydrolysis can be controlled by
   A) Decreasing the Solubility B) Complexing the drug
   C) Addition of Buffers D) Removing of water

15) For any chemical reaction, the Molecularity is always _____ than order.
   A) Lower B) Higher
   C) Equal D) None of these

2. Answer **any five**. **(5×5=25)**

a) Explain the process of detergency.

b) Comment on protective action of colloids.

c) Discuss the derived properties of powder.

d) Explain principle and working of Du-Nouy Tensiometer.

e) Give the classification of Complexes.

f) Write in brief about cumulative frequency distribution curve.

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

a) Describe in detail the optical properties of Colloids.

b) Explain the methods for the determination of surface area.

c) Define adsorption isotherm. Draw various types of adsorption isotherm and explain them.

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

———————

SLR-TH – 21

Seat No.	

Set P

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

Day and Date : Saturday, 2-12-2017 Max. Marks : 70

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

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

1) Father of Medical Microbiology is
   a) Pasteur b) Jenner c) Koch d) A. L. Hock

2) During conjunction the genetic material will be transferred through
   a) Cell wall b) Medium c) Pili d) Capsule

3) Term vaccine was coined by
   a) Robert Koch b) Pasteur c) Needham d) None of these

4) Virion means
   a) Infectious virus particles b) Non-infectious particles
   c) Incomplete particles d) Defective virus particles

5) Cell wall of gram negative bacteria is
   a) Lipids are present b) Thick
   c) Teichoic acids are absent d) None of these

6) Exotoxins are
   a) Part of cell wall b) Heat stable
   c) Heat labile d) Polymerized complexes

7) Endemic typhus is caused by
   a) R. Mooseri b) R. Quintana
   c) R. Prowazekii d) None of these

8) Glassware are sterilized by
   a) Autoclaving b) Hot air over
   c) Incineration d) None of these

9) The sterilizing agent is
   a) Ethelene oxide b) Oxygen
   c) Nitrogen d) Carbon tetrachloride

10) All RNA viruses synthesize their nucleic acid in host cell cytoplasm except
   a) Toga virus b) Corona virus
   c) Rhabdo viruses d) Orthomyxo viruses

11) Following is not true about antibody mediated immunity
   a) Role in delayed hyper sensitivity
   b) Provides primary defense against bacterial pathogens
   c) Helps in defense against viruses
   d) Prevents recurrence of virus infection

12) Thoglycollate a semisolid nutrient medium is useful to grow
   a) Aerobic bacteria b) Anaerobic bacteria
   c) Facultative anaerobic d) All of the above

13) Mesophilic bacteria grows best at _____°C.
   a) 55-88 b) 25-40 c) Below 20 d) None of these

14) "Highly pleomorphic, Gram positive, rod shaped, motile with peritrichate flagella" is description of
   a) *Streptococci* b) *Staphylococci*
   c) *Clostridia* d) *Mycobacteria*

15) Shadow casting and freeze itching are the techniques used in
   a) Optical microscopy b) Electron microscopy
   c) Fluorescent microscopy d) Phase constast microscopy

2. Answer **any five**. **(5×5=25)**

1) Discuss the growth curve of microorganism.
2) Explain the radiation sterilization on microorganism.
3) Discuss the various biological indicators used in sterilization.
4) Explain the different techniques used in Electron Microscopy.
5) Give the morphological characteristics of *Penicillium.*
6) What are bacterial spores ? Discuss sporulation process.

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

1) Enumerate different types in bacterial gene transfer. Discuss transduction in detail.
2) Describe morphology, cultural characteristics of *staphylococci.* Add a note on CMI.
3) Enlist various methods of sterilization. Discuss in details methods used in Dry heat sterilization.
4) Enlist various virus cultivation methods. Discuss in detail virus multiplication.

———————

SLR-TH – 22

Seat No.	

Set P

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

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

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

1) 2,3-dihydroxy butonic acid having _____ chiral carbon atom.

a) 2 b) 4 c) 1 d) 3

2) Replacement of aldehyde or ketone group by hydroxy group in presence of alkaline H_2O_2 is called

a) Dakin b) Lossen c) Curtius d) Wolf

3) _____ reagent is used for hydroxylation of alkene.

a) $KMnO_4$ b) OsO_4

c) RCOOOH d) All of the above

4) _____ is an equimolar mixture of optically active substances.

a) Racemic mixture b) Isobaric mixture

c) Metameric mixture d) None of above

5) 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

6) _____ reagent used in Fries rearrangement reaction.

a) H_2SO_4 b) HNO_3 c) HCl d) $AlCl_3$

7) Stereocenters are also called as

a) chiral centers b) asymmetrical centers

c) stereogenic centers d) all of these

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

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

10) Which of the following compound exhibits cis-transisomerism ?
   a) 1-Pentene b) 2-Methyl 2-pentene
   c) 2-Pentene d) 2-Methyl 2-butene

11) _____ is an inter molecular pericylic reaction.
   a) Sigmatropic b) Elecltrocyclic
   c) Cycloaddition d) None of the above

12) Factors influencing the rate of a rearrangement reaction _____
   a) Stability of intermediate b) Light
   c) Temperature d) None of the above

13) Acylation of aromatic oxygen instead of carbon is possible with _____ rearrangement reaction.
   a) Friedel-Craft's b) Fries
   c) Claisen d) Dakin

14) Migration of _____ group leads to the formation of stable compound in a radical reaction.
   a) Allyl b) Aryl c) Alkyl d) Acyl

15) Markovnikov's addition occurs in _____ reaction.
   a) Hydrohalogenation b) Hydration
   c) Hydrogenation d) Hydroboration

2. Answer **any five** : **(5×5=25)**

A) Explain methods for resolution of Enantiomers.

B) Write Fishers, Saw-Horse, Newmans, Dotted-line-wedge representations for 2-bromo, 3-chloro-butanol.

C) What are pericyclic reactions ? Explain in brief Sigmatropic rearrangement reaction.

D) Explain Wittig rearrangement. Give its mechanism and synthetic applications.

E) Write a note on *syn* and *anti*-addition of catalytic hydrogenation of Alkenes.

F) Explain Wagner-Meerwein rearrangement. Give its mechanism and synthetic application.

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

A) Write a short note on conformation of cyclohexane. Explain Neber reaction.

B) Explain the term elimination reaction. Differentiate between types of elimination reactions. Note on Chugave elimination reaction.

C) Explain Favourskii rearrangement and Curtius rearrangement its mechanism and stereochemistry.

D) Describe with suitable example R and S nomenclature system for chiral compounds. Define and classify isomerism.

———————

SLR-TH – 23

Seat No.	

Set P

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

Day and Date : Thursday, 7-12-2017 Max. Marks : 70
Time : 3.00 p.m. to 6.00 p.m.

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

1) Aromatic amine and nitrous acid reaction gives formation of
   a) Diazonium salt b) Sodium nitrite
   c) Phenol d) No reaction

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

3) Principle of gravimetric analysis based on
   a) Precipitation b) Volatization
   c) Electro analytical d) All of the above

4) Assay of sulphanilamide is _____ Titration.
   a) Diazotization b) Sodium nitrite
   c) Both a) and b) d) None of the above

5) _____ external indicator in sodium nitrite titration.
   a) Starch iodide paper b) Starch powder
   c) Iodine solution d) Starch solution

6) By oxygen flask combustion technique determination of _____ is done.
   a) Nitrogen b) Halogen
   c) Moisture d) Acid

7) Substance which releases masked metal ion is called
   a) Masking agent b) Demasking agent
   c) Complexing agent d) Chelating agent

8) K.F.R. reagent consists
   a) $I_2 + SO_2$ + Pyridine b) $I_2 + SO_2$ + Pyridine + Methanol
   c) $I_2 + SO_2$ + Methanol d) $I_2 + SO_2$

9) The platinum wire fused in Oxygen flask stopper is
   a) 13 b) 12 c) 11 d) 14

10) Kjeldahl method is used for the estimation of
   a) Nitrogen b) Oxygen c) Hydrogen d) Halogen

11) Ascorbic acid is used as masking agent for
   a) Mg b) Mn c) Ni d) Cu

12) Assay of Norfloxacin is _____ type of titration.
   a) Aqueous b) Non Aqueous
   c) Precipitation d) Complexometric

13) Non aqueous solvent having _____ property.
   a) Self dissociation b) Dielectric constant
   c) Acid base characteristics d) All of the above

14) ELISA is a type of
   a) Enzyme b) Fluorescence
   c) Both d) None

15) Benzene is _____ solvent.
   a) Protogenic b) Protophilic
   c) Aprotic d) Amphiprotic

2. Answer **any five** : **(5×5=25)**
   1) Explain the principle and applications of radioimmunoassay.
   2) Write about masking and demasking agent with example.
   3) Give complete account of non aqueous solvents.
   4) Write note on sampling of solids.
   5) Define gravimetry. Explain assay of zinc sulphate by gravimetry.
   6) With the mechanism explain three Metallochrome indicators.

3. Answer **any three** of following : **(10×3=30)**
   1) Explain in detail Kjeldahl method and gasometry.
   2) Explain in detail Karl Fischer method.
   3) Describe the steps involved in gravimetric analysis.
   4) Give the preparation and standardization of 0.1 M $NaNO_2$. Explain in detail end point detection in nitrite titration.

_____

SLR-TH – 24

Seat No.	

Set P

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

Day and Date : Saturday, 9-12-2017 Max. Marks : 70

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

Instructions *: 1) Mention appropriate question numbers and sub-question numbers.*

*2) Figures to **right** indicate **full** marks.*

*3) **Use** of appropriate and exemplary algorithms, flow charts or illustrations should be assessed similar to descriptive answers.*

I. Choose an appropriate alternative for following multiple choice questions: **(1×15=15)**

1) Recirculation of cardiac impulse in a fixed loop of cardiac muscle tissue surrounding an obstacle is termed
   a) Circus movement type reentry b) Micro reentry
   c) Fractionation of impulse d) After depolarizations

2) Myocardial hypertrophy characterized by thickening of ventricular wall without dilatation is called
   a) Eccentric hypertrophy b) Concentric hypertrophy
   c) Segmental hypertrophy d) Diffuse hypertrophy

3) A systolic BP of _____ and diastolic BP of _____ is termed as prehypertension.
   a) 140 to 159 mm Hg and 90 to 99 mm Hg
   b) < 120 mm Hg and < 80 mm Hg
   c) 120 to 139 mm Hg and 80 to 89 mm Hg
   d) > 160 mm Hg and > 100 mm Hg

4) The coronary artery involved in most severe consequences of coronary ischemia is
   a) Right coronary artery
   b) Left anterior descending branch of left coronary artery
   c) Circumflex branch of left coronary artery
   d) Posterior branch of right coronary artery

5) Substernal chest pain occuring only after physical or emotional stress and relieved by rest is called
   a) Variant angina
   b) Vasospastic angina
   c) Unstable angina
   d) Classical angina

6) All of the following are features of extrinsic asthma except
   a) Usually an allergic phenomenon
   b) Prevalence is more in children
   c) Presence of IgE and relative eosinophilia is not common
   d) Less likely to develop into a severe unremitting episode called status asthmaticus

7) Identify and etiologic predisposing factor of respiratory failure
   a) Fatty liver
   b) Ankylosis
   c) Polio myelitis
   d) Myasthenia Gravis

8) Pneumonia which involves a part or entire lobe or multiple lobes of one or both lungs is called
   a) Lobar pneumonia
   b) Lobular pneumonia
   c) Bronchopneumonia
   d) Aspiration pneumonia

9) Characteristic intraneuronal lesion found in brains of Parkinson's Disease patients is
   a) Curshmann's spirals
   b) Neuritic plaques
   c) Lewy bodies
   d) Amyloid deposits

10) Brief loss of consciousness occurring multiple times in a day especially in children is _____ type of seizures/epilepsy.
   a) Generalized Tonic Clonic Seizures
   b) Absence Seizures
   c) Atonic Seizures
   d) Myoclonic Seizures

11) Glucose underutilization by tissues with normal or deficient insulin release or insulin resistance leading to hyperglycemia occurs in
   a) Type 2 diabetes
   b) Type 1 diabetes
   c) Gestational diabetes
   d) Glucose intolerance

12) The surface glycoprotein which allows attachment of HIV to host cell CD4 molecules is
   a) gp120 b) gp41 c) p28 d) p53

13) A hypersensitivity reaction in which antigen activated T cells release lymphokines which result in tissue damage without any presence of specific antibodies is called

a) Anaphylactic b) Cytolytic c) Arthus d) Delayed

14) Childhood hypothyroidism with mental and physical retardation is called

a) Myxoedema b) Thyrotoxicosis

c) Cretinism d) Grave's Disease

15) Determination of Serum Bilirubin is a

a) Kidney Function Test b) Liver Function Test

c) Cardiac Function Test d) Thyroid Function Test

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

A) Define hypertension. Explain types of hypertension. Add a note on its etiopathogenesis.

B) What is Respiratory Failure ? Mention its types. Describe etiopathogenesis of respiratory failure.

C) What is Alzheimer's disease ? Mention signs and symptoms. Add a note on etiopathogenesis of Alzheimer's disease.

D) Describe diagnostic, analytical and therapeutic applications of enzymes.

E) Write definition, causes, pathogenesis and manifestations of myasthenia gravis.

F) Write causes and manifestations of hyperthyroidism.

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

A) Describe causative organism, mode of transmission and replication cycle and development of AIDS from clinical syndrome to opportunistic infections and AIDS related complex with reference to CD4 cell counts.

B) Write definition, causes, pathogenesis and manifestations of congestive heart failure.

C) Summarize an account of causes, types, pathogenesis and complications of diabetes mellitus.

D) Enlist renal function tests. Describe qualitative analysis of urine normal and abnormal constituents with its clinical significance.

———————

SLR-TH – 25

Seat No.	

Set P

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

Day and Date : Tuesday, 28-11-2017 Max. Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

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

1) Noyes-Whitney Equation is used for expression of _____ of drug.
   a) Dissolution rate b) Phase inversion
   c) Both a) and b) d) None of the above

2) Poorly mfg. tablet may have small pinhole on the surface this phenomenon is known as
   a) Picking b) Mottling
   c) Leaching d) Cracking

3) The shell of soft gelatin capsule may be made elastic or plastic like by addition of
   a) Sorbitol b) Povidone c) PEG d) HPMC

4) The Wurster process can be used to
   a) Coat tablet b) Determine disintegration test
   c) Sterilize solution d) Filling up capsule

5) Entric coating is archived by
   a) HPMC b) Carboxy methyl cellulose
   c) Cellulose acetate phthalate d) Povidone

6) Shellac used for _____ purpose of coating of tablet.
   a) Polishing agent b) Film coating
   c) Enteric coating d) Sub coating

7) During compression of moisture critical granule hygroscopic substance used to maintain proper moisture level is
   a) Sorbitol b) Talc c) Acacia d) Tragacanth

8) Disintegration time of Hard gelatin capsule
   a) 15 min. b) 30 min. c) 60 min. d) 120 min.

9) Green bones are used for the preparation of gelatin of type
   a) A b) B c) C d) D

10) Manufacturing problem of separation of top or bottom of tablet.
   a) Lamination b) Chipping c) Capping d) Mottling

11) Water soluble sub used as coating material in microencapsulation process is
   a) Polyethylene b) Silicon
   c) Hydroxy ethyl cellulose d) Paraffin

12) Durability of tablet to combined effect of shock and abrasion is evaluated by using
   a) Hardness tester b) Disintegration test
   c) Fribilator d) Screw gauge

13) _____ is used to enhance the solubility of tablet.
   a) PEG b) Lactose c) Talc d) None of the above

14) Carr's index of power is 10% then the type of flow is
   a) Poor b) Excellent c) Very poor d) Good

15) Disintegration time of Sugar coated tablet
   a) 15 min. b) 30 min. c) 60 min. d) 120 min.

2. Solve **any five** : **(5×5=25)**

1) Enlist different tablet coating equipment. Explain accela – cota system.
2) What are the needs of granulation ? Explain in detail granule equipment.
3) Explain in detail Additives used in tablet with example.
4) Explain method of preparation of gelatin.
5) Write in detail factory layout objective and types of layout.
6) Describe in detail sugar coating and entric coating of tablet.

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

1) Define microencapsulation. Write in detail phase separation, coacervation.
2) Define Tablet. Explain in detail defect of tablet manufacturing and write remedies.
3) Describe in detail preparation of Hard gelatin capsule shell and IPQC test.
4) Enlist all Q.C. test for tablet. Explain Fribility test, Disintegration test, Weight variation test.

_____

SLR-TH – 26

Seat No.	

Set P

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

Day and Date : Thursday, 30-11-2017 Total Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

MCQ/Objective Type Questions

1. Multiple Choice Questions : **15**

1) Which of the following is the first process that must occur before a drug can become available for absorption from a tablet dosage form ?
   a) Dissolution of the drug in the G.I. fluids
   b) Ionization of the drug
   c) Dissolution of the drug in the epithelium
   d) Disintegration of the tablet

2) The biological half-life of a drug (first order kinetics) is represented by
   a) $t_{½} = 0.693/k$ b) $t_{½} = 2.303$ c) $t_{½} = 1/ak$ d) $t_{½} = a/2k$

3) The rate of drug bioavailability is most rapid when the drug is formulated as
   a) Controlled release product b) Tablet
   c) Hard gelatin capsule d) Solution

4) If a drug has a very small volume of distribution (V_d) it is likely that this drug
   a) Has a short biological half-life
   b) Will not be effective
   c) Does not accumulate in various tissues
   d) Not bioavailable

5) The movement of drug between one compartment to other is referred as
   a) Drug absorption b) Drug distribution
   c) Drug elimination d) None of these

6) In biopharmaceutical classification of drugs, Class II drugs have _____ as a rate limiting step.
   a) Permeation b) Dissolution
   c) Gastric empting d) None of these

7) The unit of perfusion rate
   a) ml/min b) mg/min c) ml/min/ml d) mg/min/mg

P.T.O.

8) Binding site I of drugs to human serum albumin is also known as
   a) Warfarin binding site
   b) Azapropazone binding site
   c) Tamaxifen binding site
   d) Both a and b

9) In which pharmacokinetics compartment model, compartments are joined to one another in a series ?
   a) Mammillary model
   b) Catenary model
   c) Physiological model
   d) Realistic model

10) Non-linear pharmacokinetic is also known as _____ kinetics.
   a) Zero order
   b) Capacity limited
   c) First order
   d) None of these

11) Which of the following approach is correct to promote crossing the BBB by drugs by using dimethyl sulphoxide ?
   a) As permeation enhancer
   b) For osmotic disruption of barrier
   c) As drugs carrier to the brain
   d) All of the above

12) Excretion by organs other than kidney is known as
   a) Renal excretion
   b) Non-renal excretion
   c) Glomerular filtration
   d) All of the above

13) What is ICH ?
   a) International Conference on Harmonization
   b) Indian Conference on Hormones
   c) International Conference on Health
   d) All of the above

14) Therapeutic index is the ratio of
   a) Elimination rate to plasma drug concentration
   b) Amount of drug in body to plasma drug concentration
   c) Maximum safe concentration to minimum effective concentration
   d) None of the above

15) _____ is moderately perfused organ.
   a) Liver b) Muscle c) Bone d) Adrenal

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

a) Write a short note on entero-hepatic cycling.

b) Explain in detail pH partition hypothesis.

c) Enlist the different physiological barriers to distribution of drugs and explain in detail BBB.

d) Write a note on Biopharmaceutical Classification System.

e) Explain the different methods for measurement of bioavailability.

f) With examples, name the various drug binding sites on HSA.

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

a) What are different mechanisms of drug absorption ? Add a note on passive diffusion.

b) What are the different types of compartment models ? And explain one compartment open model in detail.

c) What is renal excretion of drug ? Describe in detail principle process that determine the urinary excretion of drug.

d) Explain in detail different factors influencing protein binding of drug.

———————

SLR-TH – 27

Seat No.	

Set P

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

Day and Date : Monday, 4-12-2017 Max. Marks : 70

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

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

1) For nonvolatile drug according to ferguson principle relative super saturation is
   A) St/so B) Pt/po C) So/st D) None

2) Metabolism is mainly observed in
   A) Liver B) Heart C) Brain D) Intestine

3) Metronidazole contains _____ ring.
   A) Purine B) Pyridine C) Piperazine D) Imidazole

4) Niridazole is used as
   A) Antiamoebics B) Anthelmentics
   C) Antiviral D) Antibiotics

5) Chlorpropamide is synthesized from
   A) Chlorobenzene B) Benzene
   C) Aniline D) None of these

6) Praziquantel shows MOA by _____ to worm.
   A) Stop ATP production B) Paralysis
   C) Stop egg formation D) None of these

7) Amoebic infection is caused by an
   A) Mycobacterium tuberculae B) Micobacterium Leprae
   C) Entamoeba histolytica D) None of these

8) Tetracycline's consist of _____ backbone in their structure.
   A) Phenanthrene B) Pentacyclines
   C) Napthacene D) Anthracene

9) _____ is also known as saluretics.
   A) Hydrochlorothiazide B) Mannitol
   C) Acetazolamide D) Spirinolactone

P.T.O.

10) _____ is the third generation cephalosporin.
A) Cefotaxime B) Cefaclo C) Cefoxitin D) None of these

11) Streptomycin shows action by inhibition of _____ Synthesis.
A) Protein B) Carbohydrate C) Lipid D) None of these

12) Tetracycline are avoided during pregnancy because
A) It is teratogenic
B) It may be affect the growth of foetus
C) It may cause discoloration of mother teeth
D) It may cause abortion

13) One of the following diuretic acts on the loop of the henle
A) Spironolactone B) Ethacrynic acid
C) Clorexolone D) Dichlorophenamide

14) Penicillin is
A) B-lactum antibiotic B) Polypeptide antibiotic
C) Tetracyclic antibiotic D) Aminoglycoside antibiotic

15) The heterocyclic ring in furesemide is
A) Furan B) Thiophene C) Pyrole D) Indole

2. Answer **any four** of the following questions : **(5×5=25)**
1) Write MOA and SAR of Cephalosporin.
2) What are loop Diuretics ? Explain with example.
3) Discuss the different forces involved in drug receptor interaction.
4) Write oxidation reaction in Phase I reaction.
5) Write the synthesis of Tolbutamide and Mebendazole.
6) Draw structure, chemical name and uses of lucanthone, Niridazole.

3. Answer the following questions : **(3×10=30)**
1) What is Metabolism ? Write a note on Phase II reaction.
2) Write uses and synthesis of Niclosamide and metronidazole.
3) Write a note on Partition coefficient and Bioisosterism.
4) What happen when Tetracycline undergo Epimerisation, Chelation, Strong Acid, Strong Base ?

_____

SLR-TH – 28

Seat No.	

Set P

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

Day and Date : Wednesday, 6-12-2017 Max. Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

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

1) When two substances have same absorbance the wavelength is called as _____

A) Isobestic point B) Isocratic point
C) Quenching point D) None of these

2) Chromophor is _____

A) Covalently saturated B) Covalently unsaturated
C) Co-ordinately unsaturated D) Co-ordinately saturated

3) Fluorescent behavior can be found in _____

A) Gaseous state B) Liquid state
C) Solid state D) All state

4) In phosphorescence _____

A) Electrons are paired
B) An unpaired electron with same spin
C) A) and B)
D) An unpaired electron with opposite spin

5) Sample to be analysed by atomic absorption must be vaporized or atomised by using a _____

A) Graphite furnace B) Flame atomizer
C) A) and B) D) None

6) $\sigma \rightarrow \sigma^*$ transition occurs in compounds like _____

A) Heterocyclic compound B) Saturated compound

C) Polycyclic compound D) Unsaturated compound

7) Two elements may exhibit different but partly overlapping spectra and emitting at particular wavelength

A) Spectral interference B) Oxide formation interference

C) Ionization interference D) Cation-anion interference

8) Flame photometry is also called flame _____ spectroscopy.

A) Absorption B) Emission

C) A) and B) D) None

9) Which of the following is an EMR ?

A) Current B) Light C) Heat D) Sound

10) The radiations emitted by element in flame photometry is mostly in the _____ region.

A) UV B) IR

C) Visible D) X-ray

11) The unit of frequency is _____

A) Nm B) Hz C) cm^{-1} D) μm

12) Monochromatic devices used in spectroscopy contains _____

A) Prism B) Slit C) Filter D) All of above

13) Absorption of energy by ground state atoms in gaseous state forms on the basis of _____

A) AES B) AAS C) FES D) AFS

14) Most preferable solvent for quinine sulphate assay by fluorimeter is _____

A) 0.1 M KOH B) 0.1 M NaOH

C) 0.1M H_2SO_4 D) 0.1M HCl

15) Self quenching occurs due to _____

A) High concentration B) Low concentration

C) Heavy metals D) Presence of O_2

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

   1) Explain the term wave number, red shift, hypochromic effect and auxochrome and fluorescence.
   2) Write the interferences in atomic absorption spectroscopy.
   3) Derive the simultaneous equation method for assay of substances in multicomponent samples.
   4) Explain with a neat labeled diagram of fluorimeter.
   5) Give structural requirements of molecule to show fluorescence.
   6) Give the applications of AAS and FES.

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

   1) Write note on any two sources and any two detectors used in UV-Visible spectroscopy.
   2) Derive Beer-Lamberts law in detail. Give in brief the reasons of deviation from Beer's law.
   3) Explain the factors affecting fluorescence.
   4) Give principle involved in AAS. Give advantage of AAS over FES. Difference between AAS and AES.

———————

SLR-TH – 29

Seat No.	

Set P

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

Day and Date : Friday, 8-12-2017 Total Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

1. Multiple choice questions/objective type questions. **(15×1=15)**

1) "Affinity" is defined as
   a) A measure of how tightly a drug binds to plasma proteins
   b) A measure of how tightly a drug binds to a receptor
   c) A measure of inhibiting potency of a drug
   d) A measure of bioavailability of a drug

2) 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

3) _____ is the second messenger of G-protein-coupled (metabotropic) receptor.
   a) Adenylyl cyclase b) Sodium ions
   c) Phospholipase C d) cAMP

4) The following 5-HT receptor is NOT a G protein coupled receptor
   a) 5-HT_1 b) 5-HT_2 c) 5-HT_3 d) 5-HT_4

5) Therapeutic Index (TI) is
   a) A ratio used to evaluate the safety and usefulness of a drug for indication
   b) A ratio used to evaluate the effectiveness of a drug
   c) A ratio used to evaluate the bioavailability of a drug
   d) A ratio used to evaluate the elimination of a drug

6) Indicate the location of M_2cholinoreceptor type

a) Heart b) Glands

c) Smooth muscle d) Endothelium

7) Two drugs binding to the same receptors is

a) Chemical antagonism b) Pharmacokinetic antagonism

c) Competitive antagonism d) Non-competitive antagonism

8) Which of the following diseases can augment the neuromuscular blockade produced by non-depolarizing muscle relaxants ?

a) Myasthenia gravis b) Burns

c) Asthma d) Parkinsonism

9) Epinephrine decreases intracellular cAMP levels by acting on

a) α_1 receptor b) α_2 receptor c) β_1 receptor d) β_2 receptor

10) _____ of the following beta blocker is contraindicated in asthma.

a) Propranolol b) Atenolol c) Nebivolol d) Esmolol

11) Down regulation of receptors can occur as a consequence of

a) Continuous use of agonists

b) Continuous use of antagonists

c) Chronic use of CNS depressants

d) Denervation

12) A receptor which itself has enzymatic property is

a) Thyroxine receptor b) Progesterone receptor

c) Insulin receptor d) Glucagon receptor

13) Tachyphylaxis is

a) A drug interaction between two similar types of drugs

b) Very rapidly developing tolerance

c) A decrease in responsiveness to a drug, taking days or weeks to develop

d) None of the above

14) What does the term "potentiation" mean ?
   a) Cumulative ability of a drug
   b) Hypersensitivity to a drug
   c) Fast tolerance developing
   d) Intensive increase of drug effects due to their combination

15) An antagonist is a substance that
   a) Binds to the receptors and changes cell function, producing maximal effect
   b) Binds to the receptors and changes cell function, producing submaximal effect
   c) Interacts with plasma proteins and doesn't produce any effect
   d) Binds to the receptors without directly altering their functions

2. Answer **any five**. **(5×5=25)**

1) Give the advantages and disadvantages of parenteral route of drug administration.
2) Define agonist, antagonist, inverse agonist, partial agonist.
3) What are adrenergic drugs ? Give classification of adrenergic drugs with example.
4) Explain briefly concept of receptor. Add a note on classification and families of receptors.
5) Classify H_1 anti-histaminics. Add a note on their pharmacological actions.
6) Write a note on essential drug concept. What are the WHO guidelines for selection of essential drugs ?

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

1) Classify anti-cholinergic. Write the pharmacological actions of Atropine.
2) Discuss in detail synthesis and destructional and pharmacological actions of 5-HT/Serotonin.
3) Write a note on Drug toxicity in man. Give suitable examples. Discuss in detail dose response relationship.
4) Discuss the symptoms, care and treatment of organophosphorus poisoning.

———————

SLR-TH – 30

Seat No.	

Set P

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

Day and Date : Monday, 11-12-2017 Total Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

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

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

1) UPT kit is useful to confirm _____
   a) Diabetes b) Pregnancy
   c) Blood pressure d) Hepatitis A

2) _____ reagent is used to confirm RNA.
   a) Bile b) DPA c) FDA d) Safranine

3) _____ discovered RNA in 1909.
   a) Phoebus levene b) Rous c) Guarine d) Weismann

4) Identify vector mediated gene transfer technique.
   a) Electroporation
   b) Liposome mediated gene transfer
   c) PEG mediated gene transfer
   d) Agrobacterium mediated gene transfer

5) _____ is used to improve blood flow during surgery.
   a) Penicillin b) Dextran
   c) Streptomycin d) Vitamin B_{12}

6) *E. coli* DNA ligase enzyme has an ability to join _____ of DNA fragments.
   a) Blunt ends b) Sticky ends c) Coding ends d) Genetic ends

7) Alexander Fleming discovered penicillin in _____
   a) 1919 b) 1929 c) 1939 d) 1949

8) _____ enzyme is isolated from *Thermus aquaticus.*
   a) *Taq polymerase* b) *Taq ligase* c) *Taq kinase* d) *Taq nuclease*

9) Most suitable pH required for the commercial production of streptomycin is _____
   a) 7 to 8 b) 3 to 4 c) 9 to 10 d) 5 to 6

P.T.O.

10) _____ requires Mg^{++} for cleavage of DNA molecules.
   a) Type I restriction endonuclease
   b) Type II restriction endonuclease
   c) Type III restriction endonuclease
   d) Type IV restriction endonuclease

11) Identify the device used to control constant water flow in fermentation process.
   a) Tachometer b) Flow meter c) Rota meter d) Speedometer

12) Identify the substrates used for growth of anchorage dependent animal cells.
   a) Glass b) Plastic c) Metal d) All of these

13) _____ is most commonly used fusogen in conjunction with alkaline pH and high calcium concentrations.
   a) PEG b) $NaNO_3$
   c) PVA d) DMSO

14) What is the term used to define capacity of the cell to give rise to the whole plant ?
   a) PTC b) Xenoplantation c) Totipotency d) Protoplast

15) _____ is most superior cryoprotectant used in cryopreservation.
   a) PEG b) $NaNO_3$ c) PVA d) DMSO

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

   1) Write a note on cosmid as vector.
   2) Define down stream processing. Why is it to be done ?
   3) Describe protoplast fusion with their applications.
   4) Discuss liposome mediated gene transfer with their merits and demerits.
   5) Explain historical background of biotechnology.
   6) Write a note on trypsinization.

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

   1) Explain production of streptomycin by fermentation technology.
   2) Discuss protoplast culture with their applications.
   3) Add a note on PCR.
   4) Discuss production of monoclonal antibodies of hybridoma technology.

_____

SLR-TH – 31

Seat No.	

Set P

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

Day and Date : Wednesday, 29-11-2017 Max. Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

1. MCQs. **(15×1=15)**

1) Mascara is available in _____ forms.
   a) Cream b) Emulsion c) Both a) and b) d) None of these

2) Beeswax borax cream is synonym of
   a) Cold cream b) Vanishing cream
   c) Cetrimide cream d) All purpose cream

3) Rate of sedimentation of flocculated suspension is
   a) Low b) High c) Unknown d) Un controlled

4) Which vegetable oil is mostly useful in lipstick ?
   a) Castor oil b) Liquid paraffin c) Almond oil d) Peanut oil

5) Which of the following gelling agent is used in preparation of Unna's paste ?
   a) Tragacanth b) Pectin c) Gelatin d) Sodium alginate

6) Wool fat is also called as
   a) Anhydrous lanolin b) Lanolin
   c) Petrolatum d) None

7) Separation of dispersed phase globule of an emulsion layer called as
   a) Cracking b) Irrigation c) Insufflation d) Thickening

8) _____ is natural gelling agent.
   a) Tragacanth b) Clays c) Guar gum d) Chitosan

9) _____ are basically ointments.
   a) Creams b) Paste c) Jellies d) Gel

10) _____ is used as humactant in cream.
a) Gelatin b) Glycerin c) Bees wax d) All of the above

11) Ozokerite wax is widely in _____ formulation.
a) Vanishing cream b) Cold cream
c) Lipstick d) All purpose

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

13) Swelling and synersis are properties of
a) Creams b) Paste c) Ointments d) Gel

14) Lipstick is _____ cosmetic.
a) Emollient b) Beautifying c) Both a) and b) d) None of the above

15) Opthalmic ointment must be
a) Sterile b) Non-sterile c) Both a) and b) d) Can't say

2. Solve **any five** : **(5×5=25)**

1) Define ointments. Classify ointment bases with example.
2) Differentiate between Gels and Jellies.
3) Write on formulation of cold cream.
4) Define paste. Write its advantages and disadvantages.
5) Draw a neat labeled diagram of Aerosol. Add a note on propellants.
6) Define emulsions. Classify emulsifying agents.

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

1) Explain the detail factors affecting percutaneous absorption.
2) Define lipstick. Explain quality control parameters for lipstick.
3) Describe evaluation tests for creams.
4) Classify cosmetics. Write in detail about formulation of vanishing cream.

_____

SLR-TH – 32

Seat No.	

Set P

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

Day and Date : Saturday, 2-12-2017 Max. Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

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

1) Ratio values of the following are determined except _____
   a) Vasaka b) Periwinkle
   c) Datura d) Isabgol

2) _____ shows deep red colour with phloroglucinol and concentrated HCl in proportion of 1 : 1.
   a) Silk b) Jute
   c) Cotton d) Silk and Cotton

3) All of the following are calculated in terms of per square mm except _____
   a) Stomatal Number b) Vein-islet Number
   c) Veinlet Termination Number d) Stomatal Index

4) Antiviral property of margosa is due to _____
   a) Nimbin b) Nimbinin
   c) Nimbidin d) All of these

5) Carbon fixation pathway is also called as _____
   a) Calvin pathway b) Acetate pathway
   c) Shikimic acid pathway d) Amino acid pathway

6) Monoterpenoids contains _____ number of isoprene units.
   a) 1 b) 2 c) 3 d) 4

7) Identify tetrasaccharide
   a) Gentionose b) Erythrose
   c) Erythrulose d) Stachyose

8) _____ is an example of alcohol volatile oil.
   a) Peppermint b) Cardamom
   c) Clove d) Peppermint and Cardamom

9) _____ shows pink color with ruthenium red solution.
   a) Agar b) Acacia
   c) Isabgol d) Agar and Isabgol

10) _____ belonging to Cervidae Family.
   a) Beeswax b) Kasturi
   c) Cannabis d) Haridra

11) Cannabinol is active constituent of _____
   a) Indian Hemp b) Indian Psyllium
   c) Indian Saffron d) Clove

12) _____ is used in rickets condition.
   a) Cassia oil b) Cod liver oil
   c) Mentha oil d) Ricinus oil

13) _____ belongs to oleoresin class of drug.
   a) Asafoetida b) Ginger
   c) Podophyllum d) Guggul

14) Identify the test used to confirm tannins
   a) Gold Beaters Skin test b) Phenazone test
   c) Chlorophyll test d) Both a) and b)

15) *Uncaria gambier* belonging to _____ family.
   a) Leguminosae b) Solanaceae
   c) Rubiaceae d) Acanthaceae

2. Answer **any five** of the following questions : **(5×5=25)**
   1) Write a note on Indian saffron.
   2) What is stomatal index ? How it is determined ?
   3) Write any five qualitative chemical tests used for confirmation of carbohydrates.

4) How fixed oils are differentiated from volatile oil ?

5) Explain shikimic acid pathway.

6) Draw the structures of :

   a) Catechol

   b) Pyrogallol

   c) Cannabinol

   d) Gallic acid

   e) Menthol.

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

1) Define natural fibres. Write their importance. How cotton is differentiated from silk ?

2) Describe pharmacognostic scheme of fennel fruit.

3) Discuss in *Terminalia species* in detail.

4) Write biological source, active constituent with their structure and uses of any one crude drug of the following classes :

   a) Belonging to Compositae family

   b) Belonging to Plantaginaceae family

   c) Belonging to Berberidaceae family

   d) Belonging to Gadidae family

   e) Belonging to Cervidae family.

———————

SLR-TH – 33

Seat No.	

Set P

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

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

1. MCQ. **(15×1=15)**

1) The short acting sulphonamide is
   A) Sulphamethizole B) Sulphamethoxypyridazine
   C) Sulphamethoxazole D) Sulphalene

2) Name pyrazine containing drug used in treatment of T.B.
   A) Praziquantel B) Pyrazinamide
   C) Pyrimethamine D) Para amino salicylic acid

3) _____ is used as Quinoline antibacterial agent.
   A) Sparfloxacine B) Trimethoprim
   C) Nevirapine D) Griseofulvin

4) Which of the antineoplastic agent is metabolized by xanthine oxidase ?
   A) 6-mercaptopurine B) Vincristine
   C) 6-chlorambucil D) 6-thiogaunine

5) Pyrazinamide showing action by suppressing bacterial _____ synthesis.
   A) DNA B) Protein C) RNA D) Lipid

6) Phototoxicity of Sparfloxacine is decreased due to
   A) Amino B) Chloro
   C) Both A and B D) None of these

7) _____ drug inhibits DNA gyrase enzyme.
   A) Pyrizinamide B) Ketocanazole C) Azaserine D) Ciproflaxacine

8) Which of the following ring is present in Sulphapyridine ?
   A) Pyrimidine B) Pyrazole C) Pyridine D) Pyrole

9) Identify folic acid antagonists agent from following
   A) Methotrexate B) Busalphan C) Cisplatin D) Taxol

10) Amodiaquine is derivatives of
   A) 4-aminoquinoline B) 3-aminoquinoline
   C) 8-aminoquinoline D) 9-aminoquinoline

11) Zudovudine triphosphate competitively inhibit
   A) Reverse transcriptase B) Transferase
   C) Ligase D) Protein synthesis

12) Which one is alkylating agent ?
   A) Thioguanine B) Mitomycine C) Tacrolimus D) Doxorubicine

13) A potent inhibitor of thymidylate synthetase
   A) Naftifine B) 5-flucytocine C) Ciclopirax D) Ketocanazole

14) Clotrimazole is a combination of
   A) Sulphadiazine + Trimethoprime
   B) Sulphamethoxazole +Trimethoprime
   C) Sulphamethoxazole + Sulphadiazine
   D) Sulphadiazine + Pyrimethamine

15) Cancer in glands is called
   A) Sarcoma B) Timorous C) Leukaemia D) Carcinoma

2. Answer **any five** of the following questions : **(5×5=25)**
   1) Explain SAR and MOA of ciprofloxacin as quinoline antibacterial agent.
   2) What is combination therapy ?
   3) Describe viral replication process and classify antiviral drugs with e.g.
   4) Write structure, SAR, MOA of Griseofulvin as antifungal agent.
   5) What is DOT therapy ?
   6) Explain life cycle of malarial parasite.

3. Answer the following questions : **(3×10=30)**
   1) Classify antineoplastic agent giving suitable e.g. Explain MOA of antimetabolites.
   2) Outline synthesis and uses of Ethionamide, Primaquine, Para amino salicyclic acid, Pyrimethamine.
   3) Explain MOA, SAR and of sulphonamides. Draw the structure of sulphacetamide and sulphadoxine.

———————

SLR-TH – 34

Seat No.	

Set P

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

Day and Date : Thursday, 7-12-2017 Max. Marks : 70

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

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

1) The solvent not used in IR
   a) $CHCl_3$ b) CCl_4 c) CS_2 d) H_2O

2) Infrared spectroscopy is a convenient method for understanding of
   a) Drug receptor interaction b) Functional group identification
   c) Physico-chemical properties d) Conformational properties

3) Infrared spectra may be obtained for
   a) Solids b) Liquids c) Gases d) All of the above

4) The glass electrode used in pH measurement is
   a) Metal-metal oxide electrode b) A membrane electrode
   c) Ion selective electrode d) None of the above

5) Which of the following is considered when compound is metasubstituted ?
   a) Hydrogen bonding b) Inductive effect
   c) Mesomeric effect d) None of these

6) In static TG sample weight is recorded as function of time at
   a) Constant time b) Constant pressure
   c) Constant temperature d) None of these

7) The unit of measurement of conductance is
   a) Ohm b) Ampere c) Mhos d) None of these

8) Potentiometer is used to measure
   a) Concentration b) Current c) EMF d) Temperature

9) Half wave potential is dependent on
   a) Nature of reacting material b) Supporting electrolytes
   c) Hydrogen over potential d) Size of mercury drop

10) The Nernst glower rod is heated to produce IR radiation at (°C)
a) 1500 b) 2000 c) 3000 d) 5000

11) Specific conductance unit is
a) Ohm cm^{-1} b) Mho cm^{-1} c) Ohm cm d) Ohm^{-1} cm^{-1}

12) Wave number is the number of waves
a) Per second b) Per centimeter
c) Per inch d) Per $centimeter^3$

13) Energy passing through Unit area is
a) Intensity of X-ray b) Frequency of X-ray
c) Wavelength of X-ray d) Amplitude of X-ray

14) The IR radiation source, Globar is chemically
a) Silicon carbide b) Silicon disulphide
c) Zirconium oxide d) None of these

15) DSC is
a) Differential Scanning Calorimetry
b) Distributed Scanning Colorimetry
c) Differential Scanning Coulimetry
d) Different Scanning Colourimetry

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

1) Write a note on linearly polarized light.
2) Explain instrumentation of polarimeter.
3) Give application of DSC.
4) Explain half wave potential with significance.
5) Enlist various types of detectors and explain thermocouple.
6) How do you calibrate conductometer and pH meter.

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

1) What is IR Spectroscopy ? Write a note of requirement of IR Spectroscopy. Write in details sampling techniques in IR Spectroscopy.
2) Write in detail types of potentiometric titrations.
3) Define TGA. Discuss instrumentation of thermogravimetry.
4) What are reference and indicator electrode ? Explain the working of saturated calomel electrode and glass electrode with suitable diagram.

———————

SLR-TH – 35

Seat No.	

Set P

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

Day and Date : Saturday, 9-12-2017 Max. 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. **(1×15=15)**

1) Digitalis slows the heart in congestive heart failure by

a) Increasing vagal tone

b) Decreasing sympathetic over activity

c) Direct depression of sino-atrial node

d) All of the above

2) _____ is a disease characterized by imbalance between O_2 demand and O_2 supply.

a) Arrhythmia b) Hypertension

c) Angina pectoris d) Diuretics

3) Digoxin is contraindicated in

a) Angina pectoris patients b) Ventricular tachycardia

c) Hypertensive patients d) Complete heart-block

4) Sodium cromoglycate has a role in the treatment of the following conditions EXCEPT

a) Chronic bronchial asthma b) Chronic urticaria

c) Chronic allergic rhinitis d) Chronic allergic conjunctivitis

P.T.O.

5) Lanatoside is the drug used in treatment of _____

a) Arrhythmia b) Hypertension

c) Angina pectoris d) CHF

6) The following drug reduces the effect of oral anticoagulants

a) Broad spectrum antibiotic b) Cimetidine

c) Aspirin d) Oral contraceptive

7) The drug belongs to 5-HT_3 antagonist class is

a) Hyoscine b) Ondansetron

c) Cisapride d) None of the above

8) The principal action common to all class I antiarrhythmic drugs is

a) Na^+ channel blockade

b) K^+ channel opening

c) Depression of impulse conduction

d) Prolongation of effective refractory period

9) Activated charcoal belongs to _____ class.

a) Astrigent b) Protective and adsorbent

c) Purgative d) None of the above

10) The specific antidote for Digitalis poisoning is

a) Digoxin b) Naloxone

c) Vitamin K d) All of the above

11) The 'acid neutralizing capacity' of an antacid is governed by

a) The equivalent weight of the antacid

b) The pH of 1N solution of the antacid

c) The rate at which the antacid reacts with HCl

d) Both a) and c)

12) Streptokinase is

a) Coagulant b) Antiplatelet agent

c) Anticoagulant d) Thrombolytics

13) Central cough suppressants are also called as

a) Expectorants b) Antitussives

c) Mucokinetics d) All of the above

14) The following angiotensin converting enzyme inhibitor can reduce cardiac contractility

a) Captopril b) Enalapril

c) Perindopril d) Lisinopril

15) Montelukast 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 Arrhythmia and anti-arrhythmic drugs. Classify antiarrhythmic drugs with example.
2) Write pharmacological actions and adverse effects of digitalis.
3) Define and classify anticoagulants. Write a note on Warfarin as an anticoagulant.
4) Write a note on COPD.
5) Define constipation and write drugs used in constipation. Explain any one class in detail.
6) Define and classify anti-hyperlipidemics with examples.

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

1) Define and classify anti-hypertensive. Write note on Calcium channel blocker.
2) Discuss pharmacotherapy of CHF.
3) Define peptic ulcer. Discuss pharmacotherapy of peptic ulcer.
4) Write in detail general principles of treatment of poisoning. Write a note on arsenic poisoning.

SLR-TH – 36

Seat No.	

Set **P**

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

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

MCQ/Objective Type Questions

1. MCQ : **(1×15=15)**

1) Pharmacokinetics of drug in the neonates differs from that in adults because their
   a) Intestinal transit is fast
   b) Drug metabolizing enzymes are overactive
   c) Tubular transport mechanism are not well developed
   d) Glomerular filteration rate is high

2) If receptors exposed to antagonist for longer period of time which results in
   a) Decrease in no. of receptors b) Increase in no. of receptors
   c) No effect on receptors d) None of the above

3) Therapeutic drug monitoring is useful for
   a) Drug has broad therapeutic index
   b) Drug has narrow therapeutic index
   c) Both of above
   d) None of the above

4) The elderly patient are relatively intolerant to
   a) Digoxin b) Salbutamol c) Propanolol d) Nifedipine

5) Which of the following adverse drug reaction is due to a specific genetic abnormality ?
   a) Tetracycline induced sunburn like skin lesion
   b) Quinidine induced thrombocytopenia
   c) Metaclopramide induced muscle dystonia
   d) Primaquine induced massive haemolysis

6) An undesirable effect of drug that occur at therapeutic doses and can be predicted from its pharmacological action is called
   a) Side effect b) Toxic effect
   c) Idiosyncrasy d) Allergic reaction

7) Which document created in 1964 forms the basis of ethical consideration in clinical research ?
   a) Declaration of Geneva
   b) Declaration of Helsinki
   c) Declaration of Belfast
   d) None of the above

8) In which of the following phases of clinical trial of drug ethical clearance is not required ?
   a) Phase I
   b) Phase II
   c) Phase III
   d) Phase IV

9) What is the purpose of Pre-clinical testing ?
   a) To verify the drug is sufficiently safe and effective to be tested in human
   b) To undergo preliminary testing in healthy human to monitor the effect of drug
   c) Both a and b
   d) None of the above

10) Document mandatory to enroll subject in clinical research study
   a) Protocol
   b) Clinical trial agreement
   c) Informed consent form
   d) Investigator brochure

11) The randomized double blind controlled trial
   a) The doctor know but patient don't know who is getting placebo
   b) Neither doctor not the patient know who is getting placebo
   c) The patient known but doctor don't known who is getting placebo
   d) The doctor and patient know who is getting placebo

12) Which of the following constitute drug abuse
   a) Physician prescribed use of penicillin G for the cure of viral fever
   b) Self administration of aspirin to release headache
   c) Repeated self administration of morphine to derive euphoria
   d) All of the above

13) The period of pregnancy during which drug administered to mother can produce development and functional abnormalities is
   a) Conception to 17 day of gestation
   b) 18 to 55 days of gestation
   c) 56 days onwards
   d) None of the above

14) Fetal or life threatening unexpected adverse event's notified to regulatory agencies within
   a) 7 days
   b) 10 days
   c) 20 days
   d) None of the above

15) Pharmacovigilance is done for monitoring
   a) Unethical practice
   b) Drug price
   c) Pharmacology student
   d) Drug safety

2. Answer **any five** : **(5×5=25)**

   1) Explain in detail therapeutic drug monitoring.
   2) Discuss case study of COPD.
   3) Define ADR, classify ADR and write note on attribution and degree of certainty.
   4) Write note on use of drug in pregnancy.
   5) Explain in detail drug allergy.
   6) Describe briefly rational introduction of new drug.

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

   1) Explain in detail individualisation of drug therapy.
   2) Define drug interaction. Explain in detail Invivo drug interaction.
   3) Explain in detail Belmont Report and Declaration of Helsinki.
   4) Explain consequence of prolonged drug administration and withdrawal symptoms due to drug discontinuation.

———————

SLR-TH – 37

Seat No.	

Set P

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

Day and Date : Wednesday, 29-11-2017 Max. Marks : 80
Time : 10.30 a.m. to 1.30 p.m.

1. MCQ. **(16×1=16)**

1) _____ is a gelling agent.
   a) Sodium CMC b) Lactose
   c) Both a) and b) d) None of above

2) _____ is a ingredient of non staining iodine ointment.
   a) Sodium alginate b) Arachis oil
   c) Stearic acid d) Liquid paraffin

3) Lipstick is _____ cosmetic.
   a) Emollient b) Beautifying
   c) Both a) and b) d) None of the above

4) _____ contains more percentage of solid.
   a) Paste b) Cream
   c) Both a) and b) d) Ointment

5) Which of the following gelling agent is used in preparation of Unna's paste ?
   a) Tragacanth b) Pectin c) Gelatin d) Sodium alginate

6) Which ingredients is use for cold cream ?
   a) White bees wax b) Aerosil
   c) CMC d) None of the above

7) On the view of rheology, cream show which type of flow
   a) Plastic b) Dilatant
   c) Pseudoplastic d) Newtonian

8) _____ is natural gelling agent.
   a) HPMC b) Acacia c) Guar gum d) Chitosan

9) _____ is the ointment base in following.
   a) Emulsifing base b) Cocoa base
   c) Both a) and b) d) None of the above

10) _____ is used as eye cosmetic.
   a) Mascara b) Vanishing cream
   c) Lipstick d) All of the above

11) Ozokerite wax is widely in _____ formulation.
   a) Vanishing cream b) Cold cream
   c) Lipstick d) All purpose

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

13) Phase inversion and creaming regulated to
   a) Emulsion b) Paste c) Ointments d) Gel

14) Ophthalmic ointment must be
   a) Sterile b) Non-sterile c) Both a) and b) d) Can't say

15) Cream formulation phenomenon is
   a) Permanent b) Reversible c) Temporary d) Steady

16) Which of the following is not evaluation parameter of creams ?
   a) Viscosity b) Friability
   c) Spredability d) Extrudability

2. Solve **any four** : **(4×4=16)**

1) Define paste. Classify it and give formulation of Unna's paste.
2) Classify cosmetics with their examples.
3) Write on formulation of non staining Iodine ointment.
4) Give an account on Instability of creams.
5) Draw a neat labelled diagram of structure of skin.

3. Solve **any two** : **(8×2=16)**

1) Explain in detail factors affecting percutanous absorption.
2) Explain in detail methods of ointment formulation.
3) Describe evaluation tests for ointment.

4. Solve **any four** : **(4×4=16)**
   1) Write a note on mascara.
   2) Distinguish between ointments, creams, paste.
   3) Write in brief packaging and preservation of cream.
   4) Comment on rheology of gel.
   5) Describe in detail penetration enhancers.

5. Solve **any two** : **(8×2=16)**
   1) Define and write applications of Gels. Add note on gelling agents.
   2) Define Lipstick. Write ingredients used in Lipstick formulation.
   3) Classify creams. Write in detail formulation of Vanishing creams.

———————

SLR-TH – 38

Seat No.	

Set P

B.Pharm. (Semester – VII) (New-CGPA) Examination, 2017
STERILE DOSAGE FORMS

Day and Date : Tuesday, 28-11-2017 Max. Marks : 70

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

I. MCQ **15**

1) Which route preferred for depot injection ?
   a) I. M. b) Subcutaneous c) I.V. d) None of these

2) Pressure needed for injection refers to
   a) Injectability b) Syringeability c) Suspendability d) All of these

3) As per GMP WFI should meet microbial specification of _____ CFU/100 ml.
   a) NMT 5 b) NMT 15 c) NMT 10 d) NMT 50

4) Hot DOP test is useful for the evaluation of
   a) HEPA b) Temperature sensitivity
   c) Blowers d) All of these

5) Which method is useful for the estimation of isotonicity ?
   a) NACL Equivalent method b) Freezing point depression method
   c) Both a) and b) d) None of these

6) As per GMP for grade B and C atleast _____ per hour.
   a) 10 air changes b) 20 air changes
   c) 50 air changes d) 100 air changes

7) Out of following applications which one is not related to a new drug ?
   a) ANDA b) AADA c) NDA d) Both a) and b)

8) Mechanism of dry heat sterilization
   a) Oxidation of proteins
   b) Denaturation and coagulation of proteins
   c) Alkylation of sulfhydryl group
   d) Denaturation of DNA

9) The major obstacle for ophthalmic bioavailability is
   a) Cornea b) Sclera c) Iris d) None of these
10) Reduction of D-value by 90% is known as
   a) Z-value b) F-value c) G-value d) N-value
11) For reconstitution of dosage form which type of water should be used ?
   a) SWFI b) WFI
   c) Bacteriostatic WFI d) RO water
12) Which of the following strength of Dextrose Injection is isotonic ?
   a) 2.5% w/v b) 09% w/v c) 5% w/v d) 0.9% w/v
13) To avoid leaching, rubber closures can be laminated with
   a) PVC b) Silicon oil c) Teflon d) All the above
14) Injection by IV route can be given as
   a) Bolus b) Drip c) Both a) and b) d) None of the above
15) LVP containing bacteriostatic agent label should have _____ warning.
   a) Keep in dark place b) Store below 4°C temp.
   c) Not for use in neonates d) Dilute before use

II. Answer **any five** : **25**

a) Give an idea about change room design.
b) Write a note on rheological properties of parenteral suspensions.
c) Discuss pilot plant scale up techniques.
d) What are SUPAC guidelines ?
e) Discuss essential characteristics of parenteral formulations in short.
f) Discuss adjustment of isotonicity with one example.

III. Answer **any three** : **30**

a) Discuss BFS technology of parenteral.
b) Give the quality control testing procedure for parenteral.
c) Discuss pilot plant scale up with example of any one dosage form.
d) Discuss HEPA and HVAC system in detail.

_____

SLR-TH – 39

Seat No.	

Set P

B.Pharmacy (Semester – VII) Examination, 2017
(New CGPA)
PHARMACEUTICAL JURISPRUDENCE

Day and Date : Thursday, 30-11-2017 Total Marks : 70
Time : 3.00 p.m. to 6.00 p.m.

I. Multiple Choise Questions/Objective type questions : **(15×1=15)**

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

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

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

4) Insulin injection comes under schedule
   a) S b) P
   c) G d) A

5) Advertisement of prescription drugs are meant for
   a) Physician b) Manufacturer
   c) Patient d) Retailer

6) The first Pharmacy Council of India was constituted by the central government in _____
   a) 1949 b) 1948
   c) 1950 d) 1960

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

8) The Pharmacy Council of India makes regulation under Section _____ called as education regulations.
   a) 8 b) 10
   c) 11 d) 12

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

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

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

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

13) The Pharmacy Council of India is required to be reconstituted every _____
   a) 10 years b) 5 years
   c) 3 years d) 8 years

14) Licence for the retail sale of schedule C and C1 drugs is given in form.
   a) 18 b) 19
   c) 21 d) 22

15) Talisman, Mantras and Kavachas come under
   a) Misbranded drugs b) Poisonous drugs
   c) Magic remedies d) Psychotropic drugs

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

1) Give an account of the registration of pharmacists.
2) Give an account of offences and penalties under Pharmacy Act.
3) Discuss offences and penalties relating to import of drugs.
4) Define the following terms under Drugs and Magic Remedies (Objectionable Advertisement Act) :
   a) Advertisements
   b) Magic remedy.
5) What are the operations controlled under Narcotic drugs and Psychotropic Substances Act ?
6) What are the qualifications and duties of food inspectors ?

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

1) What are the conditions for issuing licence to manufacture drugs other than those specified in schedule C, C1 and X ?
2) Describe the labeling conditions specified in the Drugs and Cosmetics Rules.
3) What are the objectives of DPCO ? Discuss the pricing of bulk drugs.
4) Discuss in a brief legal procedure for cultivation of poppy plant and extraction of opium.

———————

SLR-TH – 40

Seat No.	

Set P

B.Pharmacy (Semester – VII) Examination, 2017
(New CGPA Pattern)
MEDICINAL CHEMISTRY – III

Day and Date : Monday, 4-12-2017 Total Marks : 70

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

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

1) _____ for panic attack, acute anxiety.
   a) Alprazolam b) Zolpidem
   c) Propranalol d) None of above

2) Which of the following proton pump inhibitor ?
   a) Ranitidine b) Omeprazole
   c) Procainamide d) All of above

3) Testosterone, estrogen and progestin contain _____ carbon in their nucleus.
   a) 19, 21, 18 b) 21, 18, 19
   c) 19, 18, 21 d) 18, 19, 21

4) The probenacid is used as _____ agent.
   a) Oral contraceptive b) Antiulcer
   c) Sedative d) Antigout

5) Piroxicam contain _____ nucleus.
   a) 1, 2 benzothiazine b) Purine
   c) Indole d) Pyrazolidine

6) Fluoxymestrone is modification of
   a) Testosterone b) Estrone
   c) Progesterone d) None

7) Only Aspirin can
   a) Reduce fever
   b) Irreversible inhibit its target enzyme
   c) Prevent epidosis of gouty arthritis with long term use
   d) Reduce the risk of colon cancer

8) _____ a long acting barbiturate.
   a) Phenobarbital b) Hexabarbital
   c) Barbital d) None of above

9) _____ is MAO inhibitor.
   a) Phenalzine b) Caffine
   c) Malindone d) Fluoxetine

10) Barbiturate is derivative of
   a) Urea b) Ethylalcohol
   c) Opium d) None of above

11) The chemical behavior of morphine alkaloid is
   a) Acidic b) Basic
   c) Neutral d) Amphoteric

12) Growing evidence to suggest that nicotine has its effect by
   a) Releasing serotonin into the cerebellum
   b) Releasing dopamine in the mesolimbic system of the brain
   c) Releasing GABA into the hypothalamus
   d) Releasing Ach into the dienecephalons

13) _____ drug used to treat disorder by attaching to endorphin receptor site in the brain.
   a) Naltrexone b) Buprenorphine
   c) Nalaxone d) All of above

14) _____ molecule contain benzothiazepine nucleus.
   a) Verapamil b) Amlodipine
   c) Cimetidine d) None of above

15) _____ substituent on the nitrogen of morphine shows μ antagonist activity.
   a) $-CH_2-CH_2=CH_2$ b) $-CH_3$
   c) $-CH_2-CH_2-Ph$ d) All

2. Answer **any 5**. **(5×5=25)**

1) Classify NSAID drug and explain MOA and SAR of drug used in gout disease.
2) Note on female sex hormonal drugs.
3) Classify CNS stimulant drug and explain MOA and SAR of central symphathomimetic drugs.
4) Classify anticonvulsant drug and explain SAR of hydantoin.
5) Explain MOA and SAR development up to first morphine antagonistic drug.
6) Note on proton pump inhibitor drug.

3. Answer **any 3**. **(10×3=30)**

1) Classify Hypnotic and Sedative drug and explain MOA and SAR of benzodiazepine.
2) Classify antihistaminic drug and explain development of H – 1 antagonistic drugs.
3) Classify psychotherapeutic agents and explain MOA and SAR of MAO inhibitor.
4) Write synthesis of :
   a) Pheytoin
   b) Diazepam
   c) Methadone
   d) Diphenhydramine

———————

SLR-TH – 41

Seat No.	

Set P

B.Pharm. (Semester – VII) (New CGPA) Examination, 2017
PHARMACEUTICAL ANALYSIS – V

Day and Date : Wednesday, 6-12-2017 Total Marks : 70
Time : 3.00 p.m. to 6.00 p.m.

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

1) _____ thickness whatman (heavy paper) paper is used for preparative paper chromatography.
A) 1 mm B) 0.5 mm C) 3 mm D) None of these

2) In gel chromatography, separation of sample mixtures is not carried out by _____ mechanism.
A) Partition B) Adsorption C) Ion exchange D) All of these

3) Which of the following is not used as stationary phase in adsorption column chromatography ?
A) Kieselgurh B) Silica gel C) Alumina D) Sephadex

4) _____ is used as visualizing reagent in Thin Layer Chromatography.
A) Iodine B) Ninhydrin
C) Sulphuric acid D) All of these

5) Guard column is used to _____ analytical column in HPLC.
A) Protect B) Increase life of
C) A and B D) Support

6) Ion exchange resin can be synthesized from
A) Styrene-divinylbenzene B) Alcohol-formaldehyde
C) Vinyl-divinylbenzene D) A and B

7) _____ is a carrier gas used in Gas Chromatography.
A) Helium B) Argon C) Nitrogen D) All of these

8) _____ is used to describe the migration rates of solutes on column.
   A) Capacity factor B) Selectivity factor
   C) Partition coefficient D) Distribution constants

9) _____ is the applications of thin layer chromatography.
   A) Completion of reaction B) Purity of the sample
   C) A and B D) Separation of solvents

10) _____ is used to minimize the pulsed flow in HPLC.
   A) Pulse damper B) Pulse minimizer
   C) Pulse cleaner D) None of these

11) _____ is the time of emergence of the peak maximum of a component after sample injection.
   A) Retention volume B) Retention time
   C) Adjusted retention volume D) Adjusted retention time

12) _____ sample applicator is used to apply sample solution on HPTLC plate.
   A) Resomat B) Linomat C) Monomat D) All of these

13) _____ is a advantage of HPLC.
   A) Speed of analysis B) Separation of volatile samples
   C) Separation of gaseous samples D) All of the above

14) _____ is a length of column used in gas chromatography.
   A) 15 – 25 cm B) 10 – 90 m
   C) 10 – 30 cm D) 100 – 125 m

15) _____ detector of HPLC is temperature sensitive.
   A) UV absorbance B) IR absorbance
   C) Refractive Index D) Fluorescence

2. Answer **any five** of the following questions : **(5×5=25)**
   1) How TLC plates are prepared ? Write on different development techniques of TLC.
   2) Write on van deemter equation.
   3) Write on capacity factor and HETP.

4) Write a note on different stationary phases used in adsorption column chromatography.

5) Give applications of paper chromatography.

6) Explain solvent reservoir system and column used in HPLC.

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

1) Write in detail on instrumentation of Gas chromatography.

2) Explain with suitable diagram any four detectors used in HPLC.

3) Give applications of ion exchange chromatography. Write on stationary phases used in Gel chromatography.

4) Write on pumps used in HPLC. Enlist applications of HPLC. Write difference between TLC and HPTLC.

———————

SLR-TH – 42

Seat No.	

Set P

B.Pharmacy (Semester – VII) (New CGPA) Examination, 2017
PHARMACOLOGY – III

Day and Date : Friday, 8-12-2017 Max. Marks : 70
Time : 3.00 p.m. to 6.00 p.m.

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

1) Even moderate drinking of alcohol during pregnancy can produce
   A) Hyper acidity B) Liver disease
   C) Foetal alcohol syndrome D) Unstable personalities

2) After disulfiram use, sensitization to alcohol develops after _____ hours of first dose.
   A) 2-3 B) ~12
   C) 7-14 D) Other than A), B) and C)

3) Side effect of methanol cause
   A) Blindness B) Vomiting
   C) Hypotension D) All of above

4) Loss of corneal and laryngeal reflexes observed at _____ stage.
   A) Stage of analgesia B) Stage of delerium
   C) Surgical anaesthesia D) Medullary paralysis

5) _____ causes direct depression of myocardial contractility by reducing intracellular Ca^{2+} concentration.
   A) Nitrous oxide B) Diethyl ether
   C) Halothane D) Isoflurane

6) _____ is a not complication after anaesthesia.
   A) Fall in Blood Pressure B) Nausea
   C) Vomiting D) Delirium

7) _____ is one of the cheapest and least toxic anti epileptic.
A) Diazepam B) Clonazepam
C) Phenobarbitone D) Carbamazepine

8) _____ lowers seizure threshold and can precipitate fits in untreated epileptics.
A) Chlorpromazine B) Triflupromazine
C) Fluphenazine D) Quetiapine

9) _____ has efficacy in juvenile depression. And its plasma t $\frac{1}{2}$ is 26 hours.
A) Fluoxetine B) Sertraline
C) Flavoxamine D) Escitalopram

10) Caffeine cause
A) Gastric irritation B) Nausea
C) Vomiting D) All of above

11) _____ is a dopaminergic agonist.
A) Levodopa B) Bromocriptine
C) Selegiline D) Tolcapone

12) Androgen used in
A) Testicular failure B) Hypopituitarism
C) Ageing D) All of above

13) _____ is major complication in diabetes.
A) Nephropathy B) Retinopathy
C) Both A) and B) D) None of the above

14) Which of the following disease is accompanied by loss of cholinergic neurons ?
A) Parkinson's disease B) Alzheimer's disease
C) Psychosis D) Depression

15) _____ gas is not used due to toxicity.
A) Nitrous oxide B) Chloroform
C) Halothane D) Ethyl chloride

2. Solve **any five** : **(5×5=25)**

   A) Write the mechanism of action and uses of oxytocin.

   B) What is pain ? Classify opioid analgesics.

   C) Explain preanaesthetic medication.

   D) Define and classify antidepressants with suitable examples.

   E) Describe thyroid and anti thyroid drugs with examples.

   F) Define and classify antipyretics-analgesics.

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

   A) Define and classify immunosuppressive agents. Give the mechanism of action of cyclosporine.

   B) Define and classify anti parkinsonian drugs. Describe levodopa in detail.

   C) Describe anti thyroid drugs with examples, write a note on Iodine.

   D) What is epilepsy ? Classify antiepileptics with examples. Describe mechanism of action, adverse effects interactions, contraindications and uses of diazepam.

———————

SLR-TH – 43

Seat No.	

Set P

B.Pharm. (Semester – VII) (New CGPA Pattern) Examination, 2017
PHARMACOGNOSY – III

Day and Date : Monday, 11-12-2017 Max. Marks : 70
Time : 3.00 p.m. to 6.00 p.m.

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

1) Alkaloid contain at least one _____ atom in their ring structure.
a) Hydrogen b) Sulphur c) Oxygen d) Nitrogen

2) Rauwolfia belong's to _____ family.
a) Leguminosae b) Solanaceae c) Apocyanaceae d) Liliaceae

3) Tropane alkaloids are obtained from _____ Amino acids.
a) Tryptophan b) Ornithine c) Lysine d) Phenyl alanine

4) Cinchona alkaloids are identified by _____ Chemical Test.
a) Thalaquine b) Brontragers c) Folins d) Vitalis

5) Rio Ipecac is belong's to _____ type of root.
a) Annulated b) Slender c) Tortorus d) Cydindrical

6) Sinalbin obtained from _____ mustard.
a) White b) Red c) Brown d) Black

7) Serratiopeptidase is used in the treatment of
a) Anti-inflammatory b) Thrombotic disorder
c) Analgesic d) Febrifuge

8) Identify the drug containing prunasin
a) Senna b) Mustard c) Aloe d) Almond

9) Bufadionolide contains lactone ring attached at C_{17} made of _____ number of carbons.
a) 4 b) 5 c) 3 d) 6

10) Opium contains organic acid known as
a) Quinic acid b) Gallic acid c) Muconic acid d) Acetic acid

11) Identify the coloured alkaloid
a) Atropine b) Quinine c) Cocain d) Berberine

12) Cinchona requires-an important environmental factor to yield better quality
a) Temperature b) Altitude c) Soil d) Rainfall

P.T.O.

13) Ergot under UV light shows _____ fluorescence.
a) Red b) Green c) Blue d) Yellow

14) Identify Indian tobacco official in BP is used as respiratory stimulant.
a) Tulsi b) Lobelia c) Vasaka d) Honey

15) Green tea is act as source of
a) Caffeine b) Tannin c) Bioflavone d) All of these

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

1) Write the General Biosynthetic Pathway of formation of Tropane Alkaloids.

2) How Opium is Cultivated and Collected from plants source explain.

3) Define Glycoside, Classify with examples.

4) What are BITTERS ? Explain Chirata.

5) Give examples of cardio active marine drugs with their source.

6) Write the three Carbon Skeleton structure of Indole Alkaloid.

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

1) What are Alkaloid Amines ? Write, pharmacognostical scheme of Ephedra herb.

2) What are Bio Flavonoid ? Explain any two samples in detail.

3) What are Anthroquinones ? Write the classification and Phytochemistry along with their hydrolysis product of any one.

4) a) Write importance of Natural Enzymes.
b) Write Constituents and uses of Opium.

_____

SLR-TH – 44

Seat No.	

Set P

B. Pharmacy (Semester – VIII) Examination, 2017
NOVEL DRUG DELIVERY SYSTEMS

Day and Date : Wednesday, 29-11-2017 Max. 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 : **(1×16=16)**

1) Drug release from dissolution controlled tablets is given by _____ equation.
   a) Higuchi b) Noyes-Whitney
   c) Vant-Hoff d) Dalton's law

2) In an aerosol system, if the product is miscible with liquefied propellant, it forms _____
   a) three phase system b) two phase system
   c) one phase system d) four phase system

3) _____ belong(s) to the class of soluble polymers.
   a) Polyethylene glycol
   b) Polyvinyl pyrrolidone
   c) Hydroxypropyl methyl cellulose
   d) All of these

4) Dissolution controlled matrix tablets can be prepared by _____
   a) congealing b) encapsulation
   c) complexation d) all of these

5) The numerical designation for propellant Heptafluoropropane is _____
   a) 227 b) 152a c) 134b d) 127

6) _____ produce more stable multiple emulsions.
   a) fixed oils b) volatile oils
   c) both a) and b) d) none of these

7) Poor drug absorption from colon is due to _____
   a) less surface area b) more viscous luminal contents
   c) lower water content d) all of these

P.T.O.

8) _____ is an example of surface coating aerosol.
   a) Hair spray b) Disinfectant
   c) Room deodorant d) Insecticide

9) BCS class-III drugs possess _____ permeability and _____ solubility.
   a) high, low b) low, low c) high, high d) low, high

10) _____ is used as useful tool to analyze solvent characteristics of liquefied propellant.
   a) Vapour pressure b) Colour
   c) Kauri-Butanol value d) None of these

11) _____ factor(s) affect first pass metabolism of drugs.
   a) enzyme activity b) blood flow
   c) plasma protein binding d) all of these

12) Colonic drug delivery is an example of _____
   a) Delayed transit and continuous release
   b) Slow and continuous release
   c) Delayed release
   d) Conventional release

13) The loading dose in an oral CRDDS depends upon _____
   a) Volume of distribution b) Clearance
   c) Duration of action d) All of these

14) _____ can be used to determine flash point of aerosol formulations.
   a) Hydrometer b) Tag open cup apparatus
   c) Cascade impactor d) None of these

15) Density based drug delivery systems are designed to release the drug in _____
   a) oral cavity b) colon
   c) small intestine d) stomach

16) Buoyant systems are also known as _____ drug delivery systems.
   a) floating b) size based
   c) bacteria specific d) enzyme specific

II. Answer **any four** : **16**

1) Explain the drug selection criteria for modified drug delivery systems.

2) Classify propellants. Explain in detail compressed gas propellants.

3) Describe the methods of preparation of matrix diffusion systems.

4) Discuss foam aerosols.

5) Write a note on liposomes.

III. Answer **any four** : **16**

1) Define iontophoresis and sonophoresis and give their applications.

2) Elaborate on aluminum as container materials for pharmaceutical aerosols.

3) Describe the pharmacokinetic considerations for CRDDS.

4) Propose a formula for transdermal patch. Give logical reasoning for selection of excipients in the formula.

5) Explain the design of valve assembly used in pharmaceutical aerosols.

IV. Answer **any two** : **16**

1) Describe the different approaches to modify release kinetics in design of oral CRDDS.

2) Explain in detail different methods of filling of aerosols.

3) Describe the prominent biological parameters to be considered for the design of oral CRDDS.

V. Answer **any two** : **16**

1) Describe the quality control tests to evaluate aerosol products.

2) Describe the dissolution test for extended release dosage forms.

3) Explain in detail the types of dosage forms used in aerosols.

———————

SLR-TH – 45

Seat No.	

Set P

B.Pharmacy (Semester – VIII) Examination, 2017
PHARMACEUTICAL BUSINESS MANAGEMENT

Day and Date : Saturday, 2-12-2017 Max. Marks : 80
Time : 3.00 p.m. to 6.00 p.m.

I. Choose the correct alternative : **(1×16=16)**

1) Which of the following would be included in the controlling functions ?
   A) Measuring results against corporate objectives
   B) Explaining routines
   C) Setting standard
   D) Giving assignments

2) Marketing channels that involves no intermediaries to made their products available to final buyers is classified as
   A) Direct channels B) Indirect channels
   C) Flexible channel D) Static channels

3) Primary data of market information is
   A) Published B) Unpublished C) Unbiased D) All of the above

4) Co-operative plays an important role in
   A) Aerospace B) Agriculture
   C) Manufacturing D) All of the above

5) _____ is a strategic activity and is used to differentiate and distinguish a brand to that a consumer understand the brand, not just remember it.
   A) Brand heritage B) Brand anatomy
   C) Brand positioning D) Brand extension

6) When companies combine existing brand with new brands, brands are called
   A) Parent Brand B) Product extension
   C) Brand extension D) Sub brand

7) What is the first stage of the consumer decision process ?
   A) Information search
   B) Problem recognition
   C) Alternative evaluation
   D) Purchase

8) A process by which manufacturers and retailer help customers to differentiate between various product in a market. This is called
   A) Diffusion
   B) Innovation
   C) Market testing
   D) Branding

9) With respect to consumer behavior, ones friends and relatives could be considered a
   A) Impersonal influence
   B) Reference group influence
   C) Perceptual influence
   D) None of these

10) A commonly used basis for segmenting consumer markets is
   A) Organizational size
   B) Demographics
   C) Product type
   D) Price

11) Which of the following are applications of consumer behaviours ?
   A) Marketing strategy
   B) Regulatory policy
   C) Informed individuals
   D) All of the above

12) Coordinating people and human resources to accomplish organizational goals is the process of
   A) Planning
   B) Directing
   C) Management
   D) Leadership

13) What is the main objective of the recruitments and selection process ?
   A) Recruits the right candidates
   B) Meet the high labour turn over
   C) To reduce the costs of recruiting
   D) None of these

14) Collection, analyser and reporting of available data for any given marketing situation is classified as
   A) External database
   B) Outsource database
   C) Marketing research
   D) None of these

15) A partnership business the number of partners should not exceed more than

A) 20 B) 40 C) 30 D) 50

16) A wholesales deals with items manufactured by a single firm or company is called

A) Stockist B) Retailer C) A & B D) None of these

II. Answer **any four** : **(4×4=16)**

1) What are the salient features of sole proprietorship business ?
2) Explain the concept of mix in marketing.
3) Define the terms sales promotions and advertisements.
4) Write the importance of managements.
5) Explain the importance of delegations.

III. Answer **any four** : **(4×4=16)**

1) Explain about the uniqueness of medical products.
2) What are the objectives of the sales promotions ?
3) Discuss the various qualities of a PSR.
4) Write in brief advantages of market research.
5) Write short notes on training of pharmacist.

IV. Answer **any two** : **(8×2=16)**

1) Enumerate the principle channels of distributions of goods from producers to consumers.
2) What is recruitment ? What are the different methods of recruitment of pharmacists ?
3) Explain in detail about Pharmaceutical market in India and Pharmaceutical industry scenario.

V. Answer **any two** : **(8×2=16)**

1) Explain in detail about product life cycle.
2) Discuss in a brief about importance and reasons of branding.
3) Explain in detail about consumer behaviors and market behaviors.

———————

SLR-TH – 46

Seat No.	

Set P

B.Pharm. (Semester – VIII) Examination, 2017
MEDICINAL CHEMISTRY – IV

Day and Date : Tuesday, 5-12-2017 Max. Marks : 80

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

1. Choose the correct alternatives : **(1×16=16)**

1) Which of the following drug is the shortest acting acetylcholinesterase inhibitor ?
   a) Edrophonium b) Neostigmine c) Trimethorphan d) Physostigmine

2) Which of the following is selective β2 stimulant ?
   a) Caffeine b) Salbutamol c) Propranalol d) None of above

3) Atropine is racemic mixture of equal parts of
   a) + and – hyosine b) tropine and tropic acid
   c) + and – hyoscyamine d) + and – scopine

4) Nicotinic action of acetyl choline is blocked by the drug
   a) Atropine b) Neostigmine c) d-tubocurarine d) None of above

5) _____ is not a calcium antagonistic drug.
   a) Amyl nitrate b) Verampamil c) Diltiazem d) Nifedipine

6) _____ is a positive inotropic agent.
   a) Nitroglycerin b) Digitalis c) Quinidine d) Amiodarone

7) _____ is not an irreversible choline esterase inhibitors.
   a) Neostigmine b) Ecothiophate Iodide
   c) Isoflurophate d) Parathione

8) Insertion of _____bridge in arylethanolamie gives aryloxypropanolamine.
   a) Oxyethylene b) Oxymethylene
   c) Oxybutylene d) Methylene

9) Salbutamol can be synthesized from
   a) 4-hydroxy-3-hydroxymethylbenzaldehyde
   b) 2-hydroxy-3-hydroxymethylbenzaldehyde
   c) 4-methoxy-3-hydroxymethylbenzaldehyde
   d) None of above

10) _____ is an antihyperlipidemic drug.
   a) Losarton b) Amlodipine
   c) Both a) and b) d) None of above

11) _____ drug is an affecting on biosynthesis of catecholamine.
   a) Reserpine b) Metyrosine
   c) Guanithidine d) None of above

12) Which one of the following is MOA is lovastatin ?
   a) Increase 7α-hydroxylase activity
   b) Increase lipoprotein lipase
   c) Inhibit 3-hydroxy-3-methyl glutaryl-co-A reductase activity
   d) Inhibit harmone sensitive lipase

13) Choose the drug that often causes tachycardia when given in regular doses
   a) Verapamil b) Guanithidine
   c) Thiazolidinedione d) Propranalol

14) Acetyl choline is hydrolyed by an enzyme
   a) E-cholinesterase b) Pseudocholinesterase
   c) None of above d) Both a) and b)

15) Nitric oxide formed by organic nitrate increase the endothelial level of
   a) Intracellularcalcium influx
   b) CAMP
   c) Penicillium notatum
   d) CGMP

16) The drug which inhibit ACE is
   a) Captopril b) Atenolol c) Reserpine d) Verapamil

2. Solve **any four** : **(4×4=16)**

1) Classify adrenergic drug and explain SAR of direct acting drug.
2) Explain HMG-CO-A reductase inhibitor with example.
3) Note on computer aided drug design.
4) Explain MOA and SAR of Digitalis.
5) Note on calcium channel blocker with examples.

3. Solve **any two** : **(8×2=16)**

   1) Write synthesis of
      a) Dicyclomine
      b) Methyldopa
      c) Nifidepine
      d) Salbutamol

   2) Classify antihypertensive agent and explain MOA and SAR of ACE inhibitor.

   3) Write the QSAR parameter and explain stearic and electronic parameter.

4. Solve **any four** : **(4×4=16)**

   1) Classify cholinergic drug and explain SAR of it.

   2) Explain neuromuscular blocking agent.

   3) Explain drug affecting storage and release of NA.

   4) Explain in detail types of pro-drug.

   5) Explain MOA and SAR of irreversible cholinesterase enzyme.

5. Solve **any two** : **(8×2=16)**

   1) Explain in detail biosynthesis, storage and release of NA from amino acid with structure and enzyme involved.

   2) Classify anticholinergic agent and explain MOA and SAR of atropine.

   3) Classify antianginal agent and discuss chemistry, MOA, SAR of organic nitrate.

———————

SLR-TH – 47

Seat No.	

Set P

B.Pharm. (Semester – VIII) Examination, 2017
PHARMACEUTICAL ANALYSIS – VI

Day and Date : Thursday, 7-12-2017 Total Marks : 80
Time : 3.00 p.m. to 6.00 p.m.

I. Multiple choice questions : **(16×1=16)**

1) All solvents are used to record NMR except
   a) $CDCl_3$ b) DMSO-d_6
   c) C_2H_5OH d) CCl_4

2) The largest peak in mass spectrum is called as
   a) Metastable peak b) Base peak
   c) Parent ion peak d) Daughter peak

3) The weights of five tablets were found to be 160 mg, 137 mg, 149 mg, 153 mg and 161 mg respectively. The mean weight of the tablet is
   a) 160 mg b) 148 mg
   c) 152 mg d) 146 mg

4) Which of the following test will you perform for assessing quality of paper as packaging material ?
   a) Grammage
   b) Water vapour transmission rate
   c) Folding endurance test
   d) All of the above

5) The bombarding electrons capable of producing ion in a mass spectrometer have energy about
   a) 20 ev b) 70 ev c) 100 ev d) 25 ev

6) No. of signals in NMR spectrum for toluene molecule
   a) one b) three c) two d) four

7) Which one of the following hydrocarbons produces an NMR spectrum with more than one peak ?
   a) methane b) ethane
   c) butane d) cyclobutane

8) Which of the following is normally detected by mass spectrometry ?
   a) Positive ion b) Negative ion
   c) Radical d) All of the above

9) The ability of a method to remain unaffected by small but deliberate variations is called
   a) Repeatability b) Reproducibility
   c) Robustness d) Intermediate precision

10) Which of the following test is performed for plastic packaging material for non parenteral use ?
   a) Leakage test
   b) Non volatile residue
   c) Clarity of aqueous extract
   d) All of the above

11) Which of the following is a component of quality management system ?
   a) cGMP b) Quality assurance
   c) Quality control d) All of these

12) The lowest amount of analyte in a sample which can be quantitatively determined with suitable precision and accuracy is called
   a) Detection limit b) Quantitation limit
   c) Specificity d) Robustness

13) Vicinal coupling is
   a) Coupling between ^{1}H nuclei attached to the same C atom
   b) Coupling between ^{1}H nuclei attached to adjacent C atoms
   c) Coupling between ^{1}H nuclei in an alkane
   d) Coupling between ^{1}H nuclei in an alkene

14) NMR phenomenon is not shown by _____ nuclei.
   a) ^{13}C b) ^{16}O c) ^{1}H d) ^{15}N

15) Characteristic feature of a Tropylium ion is that it contains a _____ membered ring.

a) Five b) Six c) Eight d) Seven

16) Faraday cup acts as _____ in mass spectrometer.

a) Detector b) Capacitor

c) Analyser d) Collector

II. Answer **any four** of the following questions : **(4×4=16)**

1) Which standard is used in NMR ? Justify.

2) Enlist ionisation methods used in mass spectrometry. Explain electrospray ionization.

3) Explain normal distribution.

4) Give the applications of mass spectrometry.

5) Explain the folding endurance test for paper as packaging material.

III. Answer **any four** of the following questions : **(4×4=16)**

1) Elaborate on quality control tests for plastic as a packaging material.

2) Explain in detail the test for determination of moisture vapour transmission rate of packaging material.

3) Write on equipment validation.

4) Define the terms :

i) Robustness

ii) Specificity

iii) Accuracy

iv) Precision.

5) Define the terms :

i) Standard deviation

ii) Mean

iii) Median

iv) Mode.

IV. Answer **any two** of the following questions : **(2×8=16)**

1) Draw diagram of double focusing mass analyzer. Add a note on Mc Lafferty rearrangement. Enlist types of ions produced in mass spectrometry.

2) What is chemical shift ? Explain the factors affecting chemical shift.

3) Write in detail about Batch Production and Control Record.

V. Answer **any two** of the following questions : **(2×8=16)**

1) Write a note on fragmentation patterns in mass spectrometry.

2) Explain in detail coupling constant in NMR. Also add a note on applications of NMR.

3) Explain instrumentation involved in NMR spectroscopy with a neat labeled diagram. Write on bursting strength test carried for packaging material.

———————

SLR-TH – 48

Seat No.	

Set P

B.Pharmacy (Semester – VIII) Examination, 2017
PHARMACOLOGY – IV

Day and Date : Saturday, 9-12-2017 Max. Marks : 80
Time : 3.00 p.m. to 6.00 p.m.

1. Multiple Choice Questions. **(1×16=16)**

1) _____ is a long acting sulphonamide.

A) Sulphadoxine B) Sulphapyridine
C) Sulphamethoxazole D) Sulphacytine

2) Quinolones are extremely active against _____

A) Gram – ve organisms B) Pseudomonas
C) Aeruginosa D) All of above

3) Plasma half life of levofloxacin is _____ Hours.

A) 16-22 B) 10 C) 5-7 D) 8

4) _____ causes severe hepatotoxicity.

A) Trovafloxacin B) Ciprofloxacin
C) Levofloxacin D) Gatifloxacin

5) Cefepime is a _____ generation cephalosporin.

A) I B) II C) III D) IV

6) _____ penicillin does not mix with other drugs but administer separately.

A) Cloxacillin B) Dicloxacillin C) Methicillin D) Nafcillin

7) Tetracyclines should not be treated with _____

A) Renal impairment B) Pregnancy
C) Breast feeding D) All of above

8) _____ drug should be avoided when the patient with liver disease.

A) Azithromycin B) Clarithromycin

C) Erythromycin D) Clindamycin

9) _____ antifungal drug, which inhibit mitosis.

A) Flucytosine B) Griseofulvin C) Micafungin D) Flucanazole

10) _____ is a folic acid analogues and act as antimetabolites of anti cancer drug.

A) 6 MP B) Azarabine C) 5 FU D) Methptrexate

11) Eczema is associated with _____

A) Itching B) Weeping C) Dry D) All of above

12) _____ is known as father of Chemotherapy.

A) Paul Ehrlich B) Burn and Dale

C) Burk Holder D) Other than A, B ana C

13) _____ is the term applied to a phenomenon in which bacteria resistant to one drug are found to be resistant to a second drug without having been exposed to the latter.

A) Cross resistant B) Mutation

C) Adaptation D) Dependence

14) The precision, reliability and reproducibility of bioassay depend on _____

A) Proper selection of tissue B) Method with highest selectivity

C) Sensitivity for the drug D) All of above

15) Bioassay procedures are generally employed when the bioassay is _____ sensitive than the chemical assay.

A) more B) less C) equal D) none of above

16) _____ is a drug for acne and is also effective in hyperpigmentary disorder including melasma.

A) Hydroquinone B) Monobenzone

C) Azelaic acid D) Benzophenone

2. Solve **any four** : **(4×4=16)**

   A) Write mechanism of action of tetracycline and chloramphenicol.

   B) Give the adverse effects and uses of ciprofloxacin.

   C) Briefly write on drug resistance importance in chemotherapy.

   D) Classify anthelmintic drugs with examples.

   E) Explain the role of vitamin B_6 in the treatment of tuberculosis with isoniazid.

3. Solve **any four** : **(4×4=16)**

   A) Describe common toxicities of macrolides.

   B) Briefly write about drug therapy of alopecia.

   C) Define and classify antiviral drugs.

   D) Write a note on drug therapy of herpes simplex and urticaria.

   E) Discuss the drug therapy of acne and erythema.

4. Solve **any two** : **(8×2=16)**

   A) What is bioassay ? Mention its principle, application and methods. Discuss the bioassay of Insulin.

   B) What is psoriasis ? Enumerate various drugs used in the treatment of psoriasis. Add note on topical therapy of psoriasis.

   C) Discuss pharmacology of glaucoma.

5. Solve **any two** : **(8×2=16)**

   A) Classify tetracyclines with examples. Write mechanism of action, adverse effects and therapeutics uses of tetracyclines.

   B) Write in detail on the multidrug therapy of turberculosis.

   C) Discuss bioassay of heparin in detail.

———————

SLR-TH – 49

Seat No.	

Set P

B. Pharmacy (Semester – VIII) Examination, 2017
HERBAL TECHNOLOGY

Day and Date : Tuesday, 12-12-2017 Total Marks : 80

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

1. Multiple Choice Questions : **(1×16=16)**

1) Garbling process is generally performed after _____ stage of crude drug.
   a) Harvesting b) Drying
   c) Packing d) Storing

2) _____ refers to the determination of identity, purity, physical, chemical properties.
   a) Safety b) Quality
   c) Efficacy d) All of the above

3) Hardness and weight variation are the QC tests for
   a) Bhasma b) Taila c) Vati d) Arista

4) Uneven distribution of active ingredients in finished products is commonly found disadvantage in
   a) Mono herbal b) Poly herbal
   c) Mono and poly herbal d) Liquid herbal

5) Acid value, Iodine value are the pharmacopoeial parameters employed for
   a) Hair colorants b) Hair shampoos
   c) Hair oil d) Hair growth promoters

6) The extraction process for organic solvents with minimum solvents is possible by _____ method.
   a) Soxhlet b) Percolation
   c) Infusion d) Decoction

P.T.O.

7) Improper preservation of crude drugs leads to
   a) Loss of chemical constituents b) Loss of properties
   c) Growth of microbes d) All of the above

8) Ideal time for collection of bark drugs in _____ season.
   a) Summer b) Winter
   c) Post rainy d) Early summer

9) WHO recommend for assessment of the efficacy of herbal medicine include
   a) Acute disease b) Chronic disease
   c) Health condition d) All of the above

10) Health foods and nutraceuticals are need to satisfy _____ criteria.
   a) Attractive packing b) Fair price
   c) Safety and effectiveness d) Only natural

11) Trade mark refers to symbol, word, name meant for _____
   a) Show quality b) Identify products
   c) Increase in business d) Reduce competition

12) Natural antibacterial used in cosmetic preparation from herbal origin ____
   a) Neem b) Sandalwood
   c) Ginkoba d) Henna

13) Traditional medicinal preparation involves following _____ raw material as active source of.
   a) Animal parts b) Herbal parts
   c) Minerals d) All of the above

14) Quality assurance of Herbal medicinal products satisfy with
   a) GMP b) GLP
   c) GACP d) All of the above

15) Asava and Arista preparations produce _____ which acts as solvent for extraction.
   a) Acid b) Alkali c) Alcohol d) Gas

16) Herbal medicines prepared as per ayurvedic ancient texts are called as
   a) Indigenous herbal medicine b) Herbal medicines in system
   c) Modified herbal medicines d) Imported herbal medicine

2. Answer **any four** : **(4×4=16)**

   1) Define Herbal Technology and describe the scope of Herbal Technology.
   2) Write quality control tests for standardization of Churna.
   3) What are Pesticidal residues ? Write its effects in herbal foods.
   4) Write note on Herbal Drug regulations in India.
   5) Describe the classification of herbal drugs under different categories.

3. Answer **any four** : **(4×4=16)**

   1) Write the ideal characteristics of Hair colorants.
   2) Write merits and demerits of poly herbal formulations.
   3) Define nutraceuticals, write examples of plants products with their source and uses.
   4) Classify Ayurvedic formulations with suitable examples.
   5) Write methods of processing of herbs.

4. Answer **any two** : **(8×2=16)**

   1) Suggest important Physical and Chemical Parameters for determination of Quality of Herbal drugs as recommended by WHO.
   2) For a given sample of Dashamoolarista, suggest 4 specific parameters for its Quality control and describe methods in detail.
   3) a) Write merits and demerits of Herbal cosmetics.
      b) Describe the process of preparation of Asava.

5. Answer **any two** : **(8×2=16)**

   1) Describe the method of preparation of Avaleha with suitable example and write the QC tests.
   2) Classify herbal skin care cosmetics and describe the methods for quality control of Herbal Shampoo.
   3) Write note on :
      a) Packaging and storage of Herbal Drugs.
      b) Scope of herbal medicines and herbal cosmetics products in global market.

———————