SLR-TA – 1

Seat No.	

Set P

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

Day and Date : Thursday, 3-5-2018 Max. Marks : 75
Time : 10.30 a.m. to 1.30 p.m.

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

1) _____ is the process which converts chemical energy into heat energy.
A) Respiration B) Excretion C) Nutrition D) Transpiration

2) _____ membrane surrounded by the lungs.
A) Pericardial B) Mediastinal C) Peritoneal D) Pleural

3) _____ is a sesamoid bone.
A) Patella B) Sternum C) Skull D) Pelvis

4) _____ joint occours between radius and ulna.
A) Ball and socket B) Sliding
C) Hinge D) Pivot

5) Columnar epithelium tissues are found in
A) Lungs and kidney B) Gall bladder
C) Bronchi D) Abdomen

6) The outer layer of the skin is composed of
A) Transitional epithelium
B) Pseudostratified columnar epithelium
C) Stratified squamous epithelium
D) Stratified columnar epithelium

7) A thin, semi-transparent, flexible membrane is known as
A) Ear Lobe B) Ear Canal C) Ear Drum D) Pinna

8) The inner layer of the wall of the heart is
A) Epicardium B) Myocardium C) Pericardium D) Endocardium

9) Sudden closure of AV valves produces
A) Fourth Sound B) First Sound
C) Third Sound D) Second Sound

10) _____ formed by fold of tunica intima.
A) Capillaries B) Arterioles C) Valve D) Septum

11) Polymorphonucleocyte means
A) RBCs B) Lymphocyte
C) Neutrophils D) Platelets

12) Lymphatic System performs drainage of
A) Interstitial fluid B) Intenstinal fluid
C) Plasma D) Blood

13) The _____ suture joins the temporal and parietal bones of the skull.
A) Lambdoidal B) Squamosal
C) Coronal D) Sagittal

14) Cell drinking is referred as
A) Pinocytosis B) Phagocytosis
C) Endocytosis D) Exocytosis

15) The cross bridges involved in muscle contraction is located on the
A) Myosin myofilaments B) Actin myofilaments
C) Tropomysin D) Dystrophin

16) Clumping of cells is known as
A) Clotting B) Agglutination
C) Mutation D) Glutathione

17) The _____ receptors are sensitive to taste and smell.
A) Baroreceptor B) Thermoreceptor
C) Chemoreceptor D) None of the above

18) If fatty material is deposited in inner side of artery, condition is called as
A) Arteriosclerosis B) Atherosclerosis
C) Thrmbosis D) Heart attack

19) The major cation in the extracellular fluid is
A) Na^+ B) K^+ C) Cl^- D) Ca^{2+}

20) Formation of a local blood clot in an artery is called as
A) Thrombin B) Thrombosis
C) Prothrombin D) Thrombokinase

2. Solve **any two**. **(2×10=20)**

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

   B) Discuss blood groups and their clinical significance.

   C) Describe the internal structure of heart and blood circulation through the heart.

3. Solve **any seven**. **(7×5=35)**

   A) Give anatomy and physiology of cell.

   B) Write a note on nervous and connective tissues.

   C) Draw a neat labeled diagram of neuromuscular junction and give its functions.

   D) Define joints. Give structural and functional classification of joints.

   E) What is anemia ? Describe mechanism of coagulation of blood.

   F) Write the composition and functions of lymph.

   G) Draw a neat labeled diagram of spinal cord and enlist cranial nerves.

   H) Explain conduction system of heart.

   I) Describe general principles of cell communication.

SLR-TA – 2

Seat No.	

Set **P**

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

Day and Date : Saturday, 5-5-2018 Max. Marks : 75
Time : 10.30 a.m. to 1.30 p.m.

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

1) According to Bronsted theory _____ is a substance that can accept protons.
   A) Acid B) Base
   C) Buffer solution D) Both A and B

2) Non aq. titrations are based on _____
   A) Arrhenius theory B) Bronsted – Lawry theory
   C) Lewis theory D) None of these

3) Absolute error is the difference between _____ and _____
   A) Measured value and True value B) Mean and True value
   C) Both A and B D) None of these

4) Weakly acidic/basic substance analysed by _____
   A) Aqueous titration B) Non aqueous titration
   C) Redox titration D) Complexometric titration

5) _____ is one that contains one mole of solute per kg of solution.
   A) Molal solution B) Formal solution
   C) Molar solution D) Normal solution

6) Which method is based on precipitation by adsorption indicators ?
   A) Fajan's method B) Mohr's method
   C) Volhard's method D) None of these

7) Halides can be determined by titrating with $AgNO_3$ using _____ an indicator.
   A) Potassium chromate B) Phenolphthalein
   C) Eosin D) Crystal white

8) Which masking agent is used for masking the aluminium and iron.
   A) Thioglycerol B) Potassium cyanide
   C) Triethanolamine D) Aluminium fluoride

9) _____ analyte is separate from a solution of a sample as a precipitate and is converted to a compound of known composition.
   A) Volatization B) Precipitation gravimetry
   C) Electrogravimetry D) Precipitation point

10) If precipitation is contaminated by substance which are normally soluble in the solution under the condition of precipitation called _____
   A) Coprecipitation B) Postprecipitation
   C) Supersaturation D) None of these

11) Solubility of sparingly soluble salts can be determined by _____
   A) Polarography B) Potentiometry
   C) Conductometry D) IR Spectroscopy

12) There is linear relationship exist between the pH and _____ of solution.
   A) Colour B) Potential C) Turbidity D) None

13) Diffusion current can be correlated with different conditions by _____
   A) Nerst equation B) Brags equation
   C) Illkovic equation D) Beers equation

14) Residual current in polarography is due to _____
   A) Oxidisable impurity B) Reducible impurity
   C) Analyte D) All of these

15) A normal solution is which contains _____ of substance per liter of solution.
   A) One mole B) One gram equivalent
   C) One gram mass D) One mililitre

16) The indicator which is used in standardization of 0.1 M sodium hydroxide IP _____
   A) Methyl red B) Methyl orange
   C) Phenolphthalein D) Crystal violet

17) _____ relates to the quality of an experiment.
   A) Precision B) Standard deviation
   C) Accuracy D) LOD and LOQ

18) Random error is also known as _____
   A) Determinate error B) Indeterminate error
   C) Operational error D) Both A and C

19) Most of the indicators are chemically weak acid/weak base is given by _____

A) Ostwalds theory
B) Resonance theory
C) Quinonoid theory
D) All of above

20) Application of permangnometry includes except _____

A) Assay of H_2O_2
B) Determination of nitrate and perchlorates
C) Ferrous sulphate and ferrous ammonium sulphate assay
D) As chelating agent for assay of calcium as oxalate

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

1) Discuss theories of acid base. Justify pH of water is 7.
2) Write in brief about steps required in gravimetric analysis.
3) What is redox titration ? Explain various condition used in iodometric determination.

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

1) Define systemic error and explain in brief the types of systemic error.
2) What are leveling and differentiating solvents ?
3) Classify complexometric titration.
4) Write a note on limit test for sulphate.
5) Explain buffer. Explain mechanism of buffer action.
6) Define primary and secondary standard with example. Explain the assay procedure of ephedrine HCl.
7) Differentiate between Mohr's method and Volhard's method.
8) Explain how Dropping Mercury Electrode (DME) works ?
9) Write a note on sodium nitrite titration.

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SLR-TA – 3

Seat No.	

Set **P**

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

Day and Date : Tuesday, 8-5-2018 Total Marks : 75
Time : 10.30 a.m. to 1.30 p.m.

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

1) In prescription R_x is abbreviated for Latin word _____
   A) Recipe B) You take
   C) Both A) and B) D) None of these

2) B. P 2015 comprises _____ volumes.
   A) 4 B) 6 C) 5 D) 3

3) Youngs formula is based on _____
   A) Age B) Sex
   C) Weight D) Body surface area

4) Rate of absorption and bioavailability is more with _____ dosage form.
   A) Solid B) Liquid C) Semisolid D) None of these

5) In _____ year inception of Institute of Technology, Banaras Hindu University, Varanasi.
   A) 1937 B) 1935 C) 1936 D) 1938

6) Saccharine is sweeter _____ time than sucrose.
   A) 350 B) 450 C) 550 D) 600

7) Mouthwashes are intended for _____
   A) Deodorant B) Rinsing C) Antiseptic D) All of these

8) Cold creams are _____
   A) Liposomes B) Water in oil emulsion
   C) Oil in water emulsion D) Both A) and B

9) The books containing the standards for drugs and other related substances are known as _____

A) Pharmacopoeia B) Formularies C) Compendia D) All of these

10) Proof spirit contains _____ % V/V of ethyl alcohol.

A) 57.2 B) 57.1 C) 57.3 D) 56.2

11) If the adult dose of the ampicillin is 250 to 500 mg, thrice a day then _____ mg is child dose of 10 year old.

A) 100 to 200 B) 125 to 250 C) 150 to 300 D) 125 to 200

12) Suspending agents act by _____

A) Increasing the viscosity

B) Reducing the rate of sedimentation

C) Decreasing viscosity

D) None of these

13) Lotions are applied _____

A) To unbroken skin B) Without friction

C) With friction D) Both A) and B)

14) One pound is equal to _____ grams.

A) 453.59 B) 450.15 C) 475.28 D) 452.66

15) _____ emulsion is good conductor of electric current.

A) W/O B) O/W

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

16) In displacement value formula d stands for _____

A) Percentage of medicament in six suppositories

B) Weight of medicament in six suppositories

C) Percentage of coca butter in six suppositories

D) Weight of coca butter in six suppositories

17) Whitefield ointment is synonym for _____ ointment.

A) Methyl salicylate B) Sulfur

C) Compound benzoic acid D) None of above

18) Synergistic and antagonist drugs are causes for _____ incompatibility.

A) Physical B) Chemical C) Therapeutic D) Both A) and B)

19) Plasticizer is used in _____ formulation.
A) Gels B) Jellies C) Droughts D) Both A) and B)

20) A pharmacist must have _____ knowledge during dispensing and compounding.
A) Abbreviations B) Weight C) Measures D) All of these

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

1) Classify semisolid dosage forms. Explain in detail preparation of ointments and pastes.

2) What is emulsifying agent ? Describe in detail methods of preparation and stability problems of emulsion.

3) Describe in detail pharmacy as a career.

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

1) Define the terms.
A) Tolerance
B) Synergism
C) Posology
D) Additive effect
E) Official dose.

2) What is pharmacopoeia ? Explain in detail extra pharmacopoeia.

3) How dose of drug is calculated ? Explain with formula.

4) Define and classify solid dosage form and give its advantages and disadvantages.

5) Calculate the volume of each 70%, 60%, 50% alcohol and water required to produce 300 ml of 40% alcohol by allegation method.

6) Explain briefly parts of prescription.

7) Write a note on dusting and effervescent powders.

8) Enlist excipients used in formulation of liquid dosage forms. Explain solubility enhancement techniques.

9) Define the term suspension. Distinguish between flocculated and deflocculated suspension.

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SLR-TA – 4

Seat No.	

Set P

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

Day and Date : Saturday, 12-5-2018 Max. Marks : 75
Time : 10.30 a.m. to 1.30 p.m.

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

1) In limit test of sulphate turbidity comes due to formation of
   a) Barium Chloride b) Barium Nitrate
   c) Barium Oxide d) Barium Sulphate

2) In limit test of arsenic the colour of mercuric chloride changes due to contact of
   a) Arsine b) Arsenious c) Arsenic d) Bromine

3) If the test solution color, turbidity or opalescence is less than the standard solution it _____ the limit test.
   a) Passes b) Does not passes
   c) Rejects d) None of these

4) Example of strong acid is
   a) Ca_2^+ b) Hg^+ c) I^+ d) Cu^+

5) The solutions that are able to resists changes in pH value are called as
   a) Acid b) Base c) Buffer d) All of these

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

7) Hemoglobin contains _____ type of protein.
   a) Histidine b) Alanine c) Lysine d) All of these

8) Boric acid used for _____ purpose in parenteral pharmaceutical preparation following buffer is used.
   a) Anti-infective b) Refresh c) Cooling d) Anti-cancer

9) Identify antacid from following.
   a) Borax b) Aluminium hydroxide
   c) Copper sulphate d) None of these

10) Magnesium sulphate is prepared from
   a) $MgCO_3$ b) $MgCl_2$ c) MgO d) None of these

11) Pharmaceutical buffer system could be categorizes into
   a) 1 b) 2 c) 3 d) None of these

12) To prevent dental caries toothpaste containing _____ should be used.
   a) Sodium fluoride b) Sodium iodide
   c) Both a) and b) d) Sodium hydroxide

P.T.O.

13) Iodine is used for _____ purpose.
a) protective b) antacid c) disinfectant d) antidote

14) Identify mol. wt. of potassium iodide.
a) 158 b) 200 c) 100 d) 166

15) Sodium iodide isotopes is used for _____ purpose.
a) Protective b) Antacid c) Diagnostic d) Antidote

16) Zinc oxide is prepared from heating zinc with
a) CO_2 b) O_2 c) H_2S d) None of these

17) Milk of magnesia contains
a) MgO b) $Mg(OH)_2$ c) $MgCl_2$ d) None of these

18) Potassium permanganate is manufactured on a large scale by heating potassium hydroxide with manganese dioxide in the presence of air or an oxidizing agent, such as
a) potassium nitrate b) potassium iodide
c) potassium sulphate d) none of these

19) _____ radiation having more penetrating capacity.
a) Alpha b) Beta c) Gamma d) None of these

20) The first British Pharmacopoeia was published in year
a) 1864 b) 1845 c) 1801 d) 1950

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

1) Describe various sources and types of impurities in pharmaceuticals. Discuss the limit test of Heavy metals.

2) Discuss the role of antacids with example and explain concept of cathartics.

3) Explain method of preparation and assay of hydrogen peroxide. Give mechanism, properties and uses of it.

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

1) Explain preparation and stability of buffer.

2) Describe any two dental products in pharmaceuticals.

3) What are acidifiers ? Give information about ammonium chloride.

4) Classify antimicrobials. Explain about boric acid as effective antimicrobials.

5) Write assay of copper sulphate and ferrous sulphate.

6) Explain the role of sodium iodide I^{131}.

7) Define term “half life” and give properties of alpha and beta radiation.

8) Define isotonicity and how it is adjusted.

9) Define limit test and explain limit test for iron.

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SLR-TA – 5

Seat No.	

Set **P**

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

Day and Date : Thursday, 3-5-2018 Max. Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

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

1) _____ releases 'thrombopoietin' which stimulate the platelet synthesis.
A) Pancreas B) Liver C) Kidney D) Salivary gland

2) _____ is function of lymph nodes.
A) Filtering B) Phagocytosis
C) Proliferation of lymphocytes D) All of above

3) Time required for atrial systole is _____ second.
A) 0.8 B) 0.1 C) 0.3 D) 0.4

4) Exchange of gases between blood and body cells is defined as _____ respiration.
A) Internal B) External
C) Alveolar ventilation D) Other than A, B and C

5) Small intestine having _____ part known as jejunum.
A) curved B) straight C) coiled D) extended

6) A mentally healthy person is
A) Satisfy with himself B) Well adjusted
C) Take own decisions D) All of above

7) For the transfusion of blood always donors' _____ are considered.
A) RBC B) WBC
C) Platelets D) Other than A, B and C

8) Following one organ is not associated with spleen
A) Diaphragm B) Fundus C) Pancreas D) Liver

9) Blood passes through the right atrio-ventricular opening into the right ventricle. Here the opening is guarded by _____ valve.
A) Tricuspid B) Bicuspid
C) Semilunar pulmonary D) Semilunar aortic

P.T.O.

10) _____ lies behind the mouth.
A) Nasipharynx B) Oropharynx
C) Laryngopharynx D) Oesophagus

11) Secretion of saliva is under _____ nervous system
A) Central nervous B) Peripheral
C) Autonomic D) Somatic

12) _____ is a bilobed nucleus in granulocytes.
A) Neutrophils B) Basophils C) Eosinophils D) Lymphocytes

13) Lymphatic system consists of
A) lymph vessels B) lymph nodes
C) lymph organs D) all of above

14) _____ part of heart is less thicker.
A) Right atrium B) Left atrium C) Left ventricle D) Right ventricle

15) Sound producing vocal cords are located in
A) Pharynx B) Larynx
C) Nasal cavities D) Other than A, B and C

2. Solve **any five** : **(5×5=25)**

A) List out various leukocytes and mention two important functions of each.

B) Write the composition and functions of lymph.

C) Briefly discuss the different components of ECG.

D) Discuss in brief the mechanism of respiration.

E) Name the salivary glands. Write the composition and functions of saliva.

F) Explain physical and mental health.

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

A) Draw a neat labeled diagram of internal structure of heart. Discuss the role of Renin Angiotensin System in regulation of blood pressure.

B) Explain hemolytic disorder of new born. Add note on mechanism of hemostasis.

C) Show the structure of small intestine. Discuss the process of digestion in small intestine.

D) What is respiration ? Describe exchange of gases during internal and external respiration.

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SLR-TA – 6

Seat No.	

Set **P**

B.Pharmacy (Semester – I) (Old) Examination, 2018
PHARMACOGNOSY – I (CBCS Pattern)

Day and Date : Saturday, 5-5-2018 Total Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

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

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

1) Who isolated narcotine from opium in 1803 ?
   a) Seydler b) Gantle Fosse
   c) Galen d) Dersone

2) Identify the complex permanent tissue present in plants.
   a) Parenchyma b) Collenchyma
   c) Sclerenchyma d) None of these

3) Ninhydrine test is used for the detection of _____
   a) Alkaloid b) Amino acids
   c) Carbohydrates d) Tannins

4) Determination of FOM is _____ method of evaluation.
   a) Physical b) Chemical c) Biological d) Organoleptic

5) Aerenchyma is the type of _____
   a) Parenchyma b) Collenchyma
   c) Sclerenchyma d) Phloem

6) Identify the primary nutrients useful for the growth of medicinal plants.
   a) Nitrogen b) Phosphorus c) Potassium d) All of these

7) Periwinkle contains _____ type of stomata.
   a) Anomocytic b) Anisocytic c) Dicytic d) Paracytic

8) Principle of Chinese system of medicine is based on _____
   a) Yin and Yang theory b) Five elements theory
   c) Panchsheel theory d) Both a) and b)

9) Identify the test used for the detection of anthraquinone glycosides.
   a) Foam test b) Soap test
   c) Shinoda test d) Borntragers test

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

11) Identify the crude drug that constitutes bulb part.
   a) Garlic b) Onion c) Indian squill d) All of these

12) Cinchona is used as _____
   a) Bitter tonic b) Antimalarial c) Cardio tonic d) Both a) and b)

13) Which of the following reagent is used for the staining of starch grains ?
   a) Phloroglucinol b) Ruthenium red
   c) Conc. HCl d) Dilute iodine

14) The relative height of any place from the sea level is called as _____
   a) Aptitude b) Altitude c) Humidity d) None of these

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

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

1) Write the scope of Pharmacognosy with reference to cosmetic industry and textile industry.
2) Enlist types of complex permanent tissues. Explain any one in brief.
3) Add a note on extractive value with their significance.
4) Describe gross morphology of flower.
5) Write a note on chemodemes.
6) Classify crude drugs according to their chief constituents.

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

1) Enlist various traditional systems of medicines. Discuss homeopathic system of medicine.
2) Explain parameters involved in the chemical method of evaluation.
3) Add a note on sexual method of propagation with their merits and demerits.
4) Discuss methodology of preparation of herbarium sheet.

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SLR-TA – 7

Seat No.	

Set **P**

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

Day and Date : Tuesday, 8-5-2018 Max. Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

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

1) _____ intended to produce continuous effect on the mucous membrane of the throat.
A) Lozenges B) Troche C) Buccal D) Both A and B

2) To make up the bulk of solid unit dosage forms when drug itself is inadequate to produce the bulk _____ is used.
A) diluent B) filler
C) disintegrant D) both A and B

3) Dibutyl phthalate is used in capsule and gelatin based suppositories formulations as _____.
A) Plasticizer B) Filler
C) Binder D) None of these

4) _____ tablet is dissolved in water for injection and injected parenterally.
A) Soluble B) Hypodermic
C) Sublingual D) Troches

5) _____ is a hydro-alcoholic solution of at least one active ingredient intended for internal use.
A) Elixir B) Gargles C) Syrups D) Lotions

6) In syrup sucrose crystallizes making the solution hazy to prevent this _____ is used.
A) sorbitol B) glycerin C) polyols D) all of these

7) Tablets produced by fusion or candy molding process are called as _____
A) soluble B) lozenges C) troches D) buccal

8) _____ is the unit of thermodynamic temperature.
A) Kelvin B) Mole C) Candela D) Ampere

9) Powder/granules interparticle friction is reduced by the _____
   A) Lubricant B) Disintegrants
   C) Glident D) Binder

10) In hygroscopicity testing the amount of moisture adsorbed can be determined by _____.
   A) Gravimetry
   B) Thermogravimetric analysis (TGA)
   C) Karl-Fischer titration (KF-titration)
   D) All of these

11) _____ monophasic liquid preparation intended for intrenal use.
   A) Gargles B) Liniments C) Droughts D) Lotions

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

13) The Govt. of India published the *Indian Pharmacopoeial List* in _____
   A) 1948 B) 1946 C) 1945 D) 1947

14) _____ is a non official compendia.
   A) Martindale B) Merk Index
   C) National Formulary D) Both A and B

15) Additive Butyl Hydroxy Toluene (BHT) is used as _____.
   A) Antifoaming agents B) Wetting agents
   C) Antioxidants D) Humectants

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

1) Write a note on Syrup.

2) Classify liquid dosage form. Give its advantages and disadvantages.

3) Explain in detail Pharmaceutical industries in India.

4) Enlist preformulation parameters and explain dissolution and permeability parameters.

5) Explain about extra Pharmacopoeia.

6) What are basics of metrology ? Elaborate SI system.

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

1) Elaborate in detail semisolid dosage form give its advantages and disadvantages.

2) Explain in detail British Pharmacopoeia.

3) Describe in detail career in pharmacy.

4) Explain in detail additives of solid dosage form give its limitation and uses/ application.

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SLR-TA – 8

Seat No.	

Set **P**

B.Pharm. (Semester – I) (Old CBCS) Examination, 2018
PHARMACEUTICAL INORGANIC CHEMISTRY

Day and Date : Saturday, 12-5-2018 Max. Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

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

1) In limit test of arsenic _____ apparatus is used.
   a) Guitzeit apparatus b) Dissolution
   c) Disintegration d) All of above

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

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

4) _____ describe the therapeutic or pharmaceutical application of drug.
   a) Title b) Dose c) Category d) Standard

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

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

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

8) The limit test for iron _____ is added to avoid precipitation.
   a) Ammonia b) Thioglycolic acid
   c) Citric acid d) Iron

9) According to Lewis concept electron pair donar are
   a) Acid b) Base c) Neutral d) Indicator

10) Phosphate buffer system is important regulator of P^H in
a) Plasma b) Kidney c) Lungs d) Cytosol

11) Assay of sodium chloride is based on _____ Titration.
a) Acid-base b) Redox c) Precipitation d) Gravimetric

12) The synonym of sodium bicarbonate is
a) Epsom salt b) French chalk
c) Baking soda d) None of above

13) A chemical present in toothpaste is
a) $CaCO_3$ b) $Ca_3(PO_4)$
c) Stannous flouride d) Strontium chloride

14) Low serum sodium level is called
a) Hyponatremia b) Hypokalemia
c) Hypernatremia d) Hyperkalemia

15) The element present in sea weed is
a) Iodine b) Calcium c) Zinc d) Potassium

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

1) Write a note on ORS.

2) What is desensitizing agents ? Write a note on zinc eugenol cement.

3) What is GIT agents ? Classify with eg.

4) Write a note on mechanism of action of antimicrobial agents.

5) How physiological acid base balance is maintained in body ?

6) Write a note on antidote used for cyanide poisoning.

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

1) Give preparation uses, and assay of 1) Potassium permagnate, 2) Copper sulphate.

2) Mention sources of contamination of pharmaceutical. Give full account of limit test for Arsenic.

3) Which different aspects of drug are covered in an official monograph ?

4) Define and classify topical agent and discuss the assay of hydrogen peroxide and boric acid.

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SLR-TA – 9

Seat No.	

Set **P**

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

Day and Date : Tuesday, 15-5-2018 Max. Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

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

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

2) _____ give same type of needle-shaped osazone crystals.
   A) Glucose, fructose, maltose B) Glucose, galactose, fructose
   C) Glucose, fructose, mannose D) Glucose, galactose, maltose

3) A positive rapid furfural test is obtained with _____
   A) Glucose B) Maltose C) Fructose D) Lactose

4) Cellulose is made up with molecules of _____
   A) α-glucose B) β-galactose C) β-glucose D) α-glucosamine

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

6) Esters of fatty acids with higher alcohols other than glycerol are said to be _____
   A) Fats B) Oils C) Waxes D) Triacylglycerides

7) Arachidonic acid contains the number of double bond _____
   A) 2 B) 3 C) 5 D) 4

8) Mutarotation refers to change in _____
   A) pH B) Temperature
   C) Optical rotation D) Chemical property

9) Ganglioside is subclass of _____
   A) Phospholipid B) Lipoprotein
   C) Sulpholipid D) Glycolipid

P.T.O.

10) These are called as digestive tract of the cell
A) Microsomes B) Chromosomes
C) Lysosomes D) Cytosol

11) Which of the following is Essential Fatty acid ?
A) Arachidonic acid B) Lenoleic acid
C) Lenolenic acid D) All of the above

12) Invert sugar is _____
A) Lactose B) Maltose
C) Hydrolytic product of sucrose D) None of the above

13) Direct oxidative pathway of glucose is _____
A) Glycogenesis B) Glycolysis
C) Glycogenolysis D) HMP Shunt

14) Name the compound with greatest free energy.
A) ATP B) Cyclic AMP
C) Phosphoenolpyruvate D) Phosphocreatinine

15) The nitrogenous base in lecithin is _____
A) Serine B) Ethanolamine
C) Cephalin D) Choline

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

1) Write note on fatty acids. Give details of EFA.
2) Explain structure and functions of starch.
3) Write short note on fluid mosaic model of cell membrane. Write about transport systems.
4) What are lipids ? Classify them with suitable example.
5) Explain structure and properties of sucrose and lactose.
6) Explain the significance of Osazone test and Fehling's test.

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

1) Describe β-oxidation of stearic acid. Calculate net ATP yield.
2) Explain in detail TCA cycle with energetics. Add note on its amphibolic nature.
3) What is biological oxidation ? Give enzymes involved in biological oxidation. Explain ETC.
4) Describe hexose monophosphate shunt and its significance.

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SLR-TA – 10

Seat No.	

Set P

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

Day and Date : Friday, 4-5-2018 Max. Marks : 75
Time : 10.30 a.m. to 1.30 p.m.

MCQ/Objective Type Questions

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

1) The nerves conduct impulses from sensory receptors to _____
   a) Brain b) Spinal cord
   c) Both a) and b) d) Other than a) and b)

2) Within the axoplasm, when the substance is transported from the cell body towards the axon terminals is known as _____ transport.
   a) Anterograde b) Retrograde
   c) Both a) and b) d) Other than c)

3) _____ is not an inhibitory neurotransmitter.
   a) Dopamine b) GABA c) Glutamate d) Serotonin

4) The lowest part of the brain stem is the _____
   a) Medulla oblongata b) Pons
   c) Mid brain d) Thalamus

5) _____ is the main part of the stomach.
   a) Cardiac orifice b) Fundus c) Body d) Pylorus

6) _____ is the shortest part of the colon.
   a) Ascending b) Transverse c) Descending d) Sigmoid

7) Average Basal Metabolic Rate of an adult is _____ K cal/Hr./ sq.meter.
   a) 20 b) 40 c) 50 d) 60

8) Lower respiratory tract includes except _____
   a) Larynx b) Trachea c) Bronchi d) Bronchioloes

9) _____ is called the throat.
a) Oral cavity b) Pharynx c) Larynx d) Trachea

10) _____ is the amount of air that normally enters the lungs during quite breathing.
a) Tidal volume b) Expiratory reserve volume
c) Inspiratory reserve volume d) Residual volume

11) Bad smell of human urine is due to _____
a) Urobillin b) Creatinine c) Urinoid d) Urochrome

12) _____ is an infection of the renal pelvis and calices.
a) Nephrolithiasis b) Urolithiases
c) Pyelonephritis d) Glomerulonephritis

13) _____ is an enlargement of the thyroid gland.
a) Myxoedema b) Cretinism
c) Goitre d) Hyperthyroidism

14) _____ stimulates the production of milk in the breast.
a) Somatrotropin b) Thyrotropin
c) Prolactin d) Luteinizing hormone

15) Formation of sperm in males and ovum in females is called as _____
a) Gametogenesis b) Insemination
c) Fertilization d) Implantation

16) Each testis is coved by _____
a) Tunica vaginalis b) Tunica albuginea
c) Both a) and b) d) Other than c)

17) The human genome project has estimated that humans have _____ genes.
a) 10,000 and 15,000 b) 20,000 and 25,000
c) 30,000 and 35,000 d) 40,000 and 45,000

18) A codon may be _____
a) CGA b) TTA c) GCT d) All of above

19) Composition of semen is _____
a) Minerals b) Mucus c) Glucose d) All of above

20) In healthy adult the Glumerular Filtration Rate is _____
a) 100 ml/min b) 125 ml/min c) 150 ml/min d) 175 ml/min

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

A) Give the organization of nervous system. Add note on physiology of nerve fiber.

B) Draw a neat labeled diagram of digestive system. Discuss anatomy and physiology of liver.

C) Discuss about the structure of kidney. Brief about the physiology of urine formation.

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

A) Justify, why pituitary is often called the 'master gland' ?

B) Describe physiology of menstruation.

C) What are neurotransmitters ? Give five examples of neurotransmitters.

D) Enlist different methods of artificial respiration and describe any one in detail.

E) Discuss role of renin angiotensin system in kidney.

F) Discuss anatomy and physiology of adrenal gland.

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

H) Enlist role of RNA and DNA in genetics.

I) Discuss about action potential of nerve fiber.

SLR-TA – 11

Seat No.	

Set P

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

Day and Date : Monday, 7-5-2018 Max. Marks : 75
Time : 10.30 a.m. to 1.30 p.m.

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

1) SN_1 reaction occurs through the intermediate formation of
   A) carbanion B) carbocations
   C) free radicals D) none of these

2) Lucas reagent is
   A) $HCl/ZnCl_2$ B) $HNO_3/ZnCl_2$ C) $Pd/BaSO_4$ D) NH_4

3) Benzaldehyde reacts with mixture of conc.H_2SO_4 and HNO_3 gives
   A) P-nitro benzaldehyde B) O-nitro benzaldehyde
   C) P-nitro benzoic acid D) M-nitro benzaldehyde

4) When benzyne reacts with 1, 3-butadiene is called as
   A) Diel's-Alder reaction B) Elimination
   C) Substitution D) None

5) Oxidation of secondary alcohol gives
   A) Ketones B) Amines C) Aldehydes D) None

6) A method to obtain primary amine directly from amides is
   A) Fries B) Hoffman C) Claisen D) None

7) In Victor Meyer test primary alcohol produces _____ colour.
   A) Blue B) Red blood C) Green D) None

8) The carbon atoms in an alkene are
   A) SP^4 hybridized B) SP^3 hybridized
   C) SP hybridized D) SP^2 hybridized

9) Imines are obtained when _____ are reacted with an amine.
   A) Aldehyde B) Ketone C) Both D) None

10) An amine on treating with excess of an alkyl halide yields.
A) an alkyl amine B) tetra alkyl amine
C) trialkyl amine D) dialkyl amine

11) In Cannizarro's reaction product obtained is
A) only carboxylic acid
B) only alcohol
C) mixture of carboxylic acid and alcohol
D) none

12) Reverse reaction of MPV reduction is
A) Oppenaur oxidation B) Aldol condensation
C) Mannich reaction D) Perkin reaction

13) Which of the following compound will not be easily oxidised ?
A) primary alcohol B) secondary alcohol
C) tertiary alcohol D) aldehyde

14) Pyrolysis of alkanes is carried out at _____ °C.
A) 0 – 200 B) 200 – 400 C) 500 – 700 D) 900 – 1000

15) If the double bonds are separated by one single bond then the diene is called
A) isolated B) conjugated
C) non-conjugated D) none

16) Lindlar's catalyst is
A) $LiAlH_4$ B) $Pd/BaSO_4$ in quinoline
C) NH_2NH_2 D) $HCl/ZnCl_2$

17) Alkyl halides undergoes
A) substitution B) elimination
C) addition D) both A) and B)

18) The isomers of a substance must have
A) same chemical properties B) same molecular weight
C) same structural formula D) same functional group

19) The reaction of a sodium alkoxide with an alkyl halide is called
A) Wurtz fitting B) Williamson's synthesis
C) Perkin reaction D) Aldol condensation

20) Methane is produced by hydrolysis of

A) Al_4C_3 B) Dry ice

C) 2-butane D) CaC_2

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

i) What are the laboratory methods of preparation of alkenes ?

ii) Define and classify structural isomers with suitable example.

iii) Write any five chemical reactions of aliphatic amines.

iv) Write a note on 1, 2 and 1, 4 addition reactions of 1, 3-butadiene.

v) How will you prepare alkyl halides ?

vi) Write methods of preparation of alkanes.

vii) Write a note on nucleophilic addition reactions of aldehydes and ketones.

viii) Write any five chemical reactions of carboxylic acids.

ix) Write structures of compounds from given IUPAC names.

i) 3, 4-dimethyl-1-pentene

ii) 2-Bromo-1-chloro-4-methyl pentane

iii) 2, 4-Hexadien-1-01

iv) 3-Buten-2-one

v) 3, 4-dimethylhexanoic acid.

3. Solve **any two**. **(10×2=20)**

i) Write in detail mechanism, stereo chemistry of nucleophilic substitution reactions of alkyl halides unimolecular and biomolecular.

ii) Write methods of preparation and chemical reactions of alcohols.

iii) Write in detail reaction, mechanism, conditions,criterias and applications of

i) Aldol condensation

ii) Perkin condensation.

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SLR-TA – 12

Seat No.	

Set P

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

Day and Date : Friday, 11-5-2018 Max. Marks : 75
Time : 10.30 a.m. to 1.30 p.m.

1. MCQ : **(20×1=20)**

1) Carbohydrates are defined as
   A) Polyhydroxy acid
   B) Polyhydroxy phenol
   C) Polyhydroxy aldehyde and ketone
   D) Trimethoprim

2) Identify pentose sugar from the following.
   A) D-ribose B) D-fructose C) Lactose D) D-erythrose

3) Glucose gets converted into glucose 6-phosphate by help of _____ enzyme.
   A) Hexokinase B) Pentokinase
   C) Monokinase D) Synthetase

4) One ATP molecule generates _____ k/cal. energy.
   A) 7.1 B) 7.5 C) 7.3 D) 7.8

5) Catabolism of hemoglobin generates _____ which is released in urine.
   A) Urobilinogen B) Uric acid C) Urobilin D) Heme

6) Identify which of the following are referred as power house of cell ?
   A) Mitochondria B) Golgi bodies
   C) Cytoplasm D) DNA

7) The harmful effect of hydrogen peroxide are prevented by _____ enzyme.
   A) Hydroxyperoxidases B) Oxygenases
   C) Ligase D) Hydrase

8) The formation of glycogen from glucose is referred as
   A) Glycogenolysis B) Glycogenesis
   C) Glycolysis D) Glucolysis

P.T.O.

9) Under aerobic condition one mole of glucose generates how much ATP ?
A) 38 B) 32 C) 8 D) 16

10) The enzymes of TCA cycle are located at
A) Mitochondrial matrix B) Cytoplasm
C) DNA D) RNA

11) One Acetyl CoA molecule generates _____ ATP.
A) 8 B) 10 C) 12 D) 14

12) Pentose phosphate pathway is also referred as
A) HMP-shunt B) TCA cycle C) Urea cycle D) Uric acid cycle

13) Identify the highly concentrated form of energy from the following.
A) Triacylglycerol B) Glucose C) Protein D) Fructose

14) _____ ATP yields from oxidation of one molecule of palmitate.
A) 132 B) 129 C) 101 D) 105

15) Which enzyme regulates synthesis of ketone bodies ?
A) HMG-CoA B) DNA-Hydrase
C) DNA-Ligase D) DNA-Isomerase

16) The transfer of _____ group from an amino acid to keto acid is known as transamination.
A) Amino B) Keto C) Aldehyde D) Aldo-keto

17) Urea is synthesized in _____ organ.
A) Skin B) Kidney C) Brain D) Liver

18) _____ is referred as reserve bank of information.
A) DNA B) DNA-Hydrase
C) DNA-Ligase D) DNA-Isomerase

19) Peptide bond formation process is catalyzed by _____ enzyme.
A) Peptidyltransferase B) Peptidylhydrase
C) Peptidyoxidase D) Peptidylisomerase

20) _____ enzyme is used in treatment of leukemia.
A) Streptokinase B) Hexokinase
C) Ligase D) Asparginase

2. Solve **any seven** of the following : **(7×5=35)**
   1) Classify amino acid and proteins. Give its biological role.
   2) Classify energy rich compounds with its biological significance.
   3) Define free energy. Give relationship of it with respect to enthalpy and entropy.
   4) Explain complete account to biological oxidation with its significance.
   5) Describe the lipid disorder “fatty acid and obesity.”
   6) Define enzymes. Give classification properties and nomenclature of it.
   7) Explain in detail biosynthesis of purine and pyrimidine nucleotides.
   8) Write structure and function of DNA and RNA.
   9) Give structure and biological role of maltose and lactose.

3. Solve **any two** of the following : **(10×2=20)**
   1) Explain citric acid cycle with its energetics and biological significance.
   2) Define lipids. Explain the process of β-oxidation of saturated fatty acid.
   3) Explain the concept enzyme kinetics and discuss about enzyme inhibitors with example.

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SLR-TA – 13

Seat No.	

Set P

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

Day and Date : Monday, 14-5-2018 Total Marks : 75
Time : 10.30 a.m. to 1.30 p.m.

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

1) Cell injury is a variety of stress, a cell encounters as a result of changes in its _____ environment.
   a) internal b) external
   c) both a) and b) d) None of these

2) To learn the fundamentals of disease processes at cellular level _____is essential to have an understanding.
   a) Mechanism of cell injury b) Cellular adaptation
   c) Causes d) All of above

3) _____ is also referred to as a typical hyperplasia.
   a) Hypertrophy b) Hyperplasia
   c) Metaplasia d) Dysplasia

4) Heart failure may be caused by _____
   a) Intrinsic pump failure b) Increased work load on the heart
   c) Both a and b d) None of these

5) Elevated jugular venous pressure is an indication of fluid accumulation in _____
   a) Aorta b) Ventricles
   c) Pulmonary artery d) Atrium

6) _____ is a physical sign for heart failure.
   a) Fast and low pulse b) Pale skin
   c) Cold and sweaty skin d) All of above

7) _____ is a clinical effect for chronic ischemia.
   a) Angina pectoris b) Acute illness
   c) Chest pain d) Silent

8) _____ contribute significantly to the occurrence of ischemic heart disease.
   a) Cocaine b) Contraceptive pill
   c) Anxiety d) Obesity

9) _____ angina is characterised by pain at rest and has no relationship with physical activity.
   a) Typical b) Prinzmetal's variant
   c) Cresendo d) Unstable

10) Asthmatic attach begins with _____
   a) Difficulty in breathing b) Wheezing noises
   c) Coughing d) All of above

11) _____ asthma common in childhood and caused by exposure to definite allergens.
   a) Intrinsic b) Extrinsic
   c) Both a and b d) None of these

12) Pathological change seen in acute renal failure ____
   a) Tubular necrosis b) Glomerulonephritis
   c) Both a and b d) None of these

13) Accumulation of uric acid in the blood is characterised by
   a) Fatigue b) Muscle twitch
   c) Cramps d) All of above

14) _____ is the development of iron deficiency anaemia.
   a) Increased blood loss b) Increased requirement
   c) Decreased intestinal absorption d) All of above

15) Insulin is a polypeptide with molecular weight of _____ Dalton.
   a) 5000 b) 6000
   c) 7000 d) 8000

16) _____ is a sign for hyperthyroidism.
   a) Warm moist skin b) Dry skin
   c) Bradycardia d) Puffy face

17) _____ is adverse effect of progesterone.
   a) Dizziness b) Diminished sex drive
   c) Weight gain d) All of above

18) Oestrogen and androgen combination used to treat _____
   a) Post partum breast engorgement
   b) Menopause vasomotor symptoms
   c) Both a and b
   d) None of these

19) Seizure lasts for 2-5 minute. When it stops, after this person may have _____

a) Head ache b) Confusion
c) Fatigue d) All of above

20) _____ sign and symptom of meningitis observed usually occur one week after exposure.

a) Fever b) Stiff neck
c) Sore throat d) All of above

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

A) Define homeostasis. Describe components and types of feedback systems with suitable examples.

B) What is meant by congestive heart failure ? Write in detail etiology and pathophysiology of congestive heart failure.

C) Define epilepsy. Give its types and explain etiology and clinical manifestations of epilepsy.

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

A) Mention causative agent, pathology, clinical manifestations and management of AIDS.

B) Explain leprosy pathophysiology aspect in detail.

C) Write a note on peptic ulcer.

D) What do you mean by UTI ? Describe in short about the causes of pathogenesis.

E) Define Psychosis. Write the symptoms of psychosis and its treatment.

F) Differentiate between the Hypothyroidism and Hyperthyroidism.

G) Comment on sickle cell anaemia.

H) What is hypertension ? Give type and management of same.

I) Define the terms Pathology, Pathophysiology, Histology, Health and disease.

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SLR-TA – 14

Seat No.	

Set **P**

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

Day and Date : Friday, 4-5-2018 Total Marks : 70

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

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

1) _____ powders absorb moisture and get converted into solution.

a) Hygroscopic b) Deliquescent

c) Efflorescent d) Eutectic

2) A surgical dressing is _____

a) Sterile b) Non sterile

c) Partly sterile d) None of the above

3) _____ is the process of separation of a solids from liquid, where in solids are not more than 1.0% while filtrate is elegant and desired product.

a) Filtration b) Clarification

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

4) For mixing of semisolid _____ mixer used.

a) Triple roller mill b) Planetary mixer

c) Colloidal mill d) All of above

5) Filter aids should be _____

a) remain suspended in liquid b) non porous

c) non recoverable d) absorb the colour substances

6) _____ mixtures are more difficult to form and a higher degree of mixing efficiency is required.

a) Positive b) Negative

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

7) Which method mostly preferred for moisture sensitive drug ?
   a) Wet granulation b) Dry granulation
   c) Both a) and b) d) Direct compression
8) Which mills generally used for levigation purpose ?
   a) Fluid energy mill b) Ball mill
   c) Colloidal mill d) All of the above
9) _____ bandage is example of medicated bandage.
   a) Crepe b) Domette
   c) Zinc paste d) Calico
10) Vitamins and antibiotics are milled using _____
   a) Ball mill b) Fluid energy mill
   c) Hammer mill d) Both a) and b)
11) _____ is used as sweetener in tooth powder.
   a) Saccharine b) Peppermint
   c) Menthol d) Vanillin
12) _____ are powders intended for body cavities or areas where direct access to affected part is not possible.
   a) Dusting powders b) Insufflations
   c) Foot powders d) Talcum powders
13) The suspension to be filtered is known as _____
   a) Slurry b) Filter medium
   c) Filter cake d) Filtrate
14) _____ is example of continuous type of mixer.
   a) Sigma blade mixer b) Planetary mixer
   c) Zigzag blender d) V cone blender
15) Minimum dose used for sterilization by Gamma radiation is _____
   a) 25 kGy b) 100 kGy c) 50 kGy d) 75 kGy

2. Solve **any five** : **(5×5=25)**

1) Explain principle, working, construction of planetary mixer.

2) Draw neat labeled diagram of basket centrifuge and fluid energy mill.

3) Write formula, principle, procedure for ORS.

4) Define communition. Explain factors affecting it.

5) Write a note on aeration and vortex formation.

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

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

1) What do you mean by sutures and ligatures ? Explain method of manufacturing of cat gut.

2) Write principle, working, construction, advantages, disadvantages of plate and frame filter.

3) Discuss objective of granulation. Add note on effervescent granules.

4) Write a short note on :

a) Filter leaf

b) Talcum powder

c) Filter media

d) Surgical dressing and bandages.

SLR-TA – 15

Seat No.	

Set P

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

Day and Date : Monday, 7-5-2018 Max. Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

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

1) English meaning for the Latin term 'Anti Cibos' is
   a) Before meals b) After meals
   c) Between meals d) None of the above

2) Incompatibility will occur when mixing of two _____ substances.
   a) Agonist b) Antagonist
   c) Similar therapeutic effect d) Same

3) The solutions which are not having the same osmotic pressure are called
   a) Isotonic b) Paratonic
   c) Iso-osmotic d) None of the above

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

5) Which of the following formula is based on age of the child in month for calculation of dose ?
   a) Dilling's formula b) Clark's formula
   c) Fried's formula d) Young's formula

6) In prescription meaning of Latin word recipe is
   a) You take b) Take care
   c) You give d) None of the above

7) Which of the following is organoleptic additive used in suspension ?
   a) Colouring agent b) Preservative
   c) Suspending agent d) Wetting agent

8) Which of the following is function of the hospital ?
   a) Patient care b) Medical research
   c) Public health d) All of the above

9) In displacement value formula 'd' means
   a) Amount of medicament present in suppositories
   b) % of medicament present in suppositories
   c) Amount of cocoa butter present in suppositories
   d) % of cocoa butter present in suppositories

10) Hospital formulary is the list of
   a) Patient b) Hospital staff c) Drugs d) Instrument

11) 8% solution means
   a) 8 gm in 800 ml of water b) 8 gm in 100 ml of water
   c) 1 gm in 800 ml of water d) None of the above

12) Any alcoholic solution which contains _____ % v/v alcohol is a proof spirit which said to be 100 proof.
   a) 25.1 b) 57.1 c) 67.1 d) 87.1

13) _____ is not a advantage of emulsion.
   a) Easy to swallow
   b) Bioavailability is high as compare to solids
   c) Bulky to handle
   d) None of these

14) The English meaning of Latin term 'Aqua distllata' is
   a) Distilled water b) Meals c) Water d) Make

15) Cocoa butter melts at _____ ˚C.
   a) 10 – 15 b) 2 – 8 c) 7 – 12 d) 30 – 35

2. Answer **any five**. **(5×5=25)**

   a) What are the different sources of errors in prescription ?

   b) Write a short note on physical incompatibility.

   c) Explain in detail hospital formulary.

   d) Define hospital. Give its classification and functions.

   e) How will you compound and dispense liniment ?

   f) Calculate the volume of each 70%, 30% alcohol require to produce 300 ml of 40% alcohol.

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

   a) What is posology ? Give any three formulae used for calculating dose for children with scientist name. Explain the factors influencing the dose.

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

   c) Define PTC. Give the construction and function of PTC.

   d) Define emulsion. Give the advantages of emulsion. Add a detail note on compounding of emulsion.

_____

SLR-TA – 16

Seat No.	

Set P

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

Day and Date : Friday, 11-5-2018 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) Alkene undergo hydrogenation reaction to give
   A) Alkanes B) Alkenes
   C) Alkynes D) Conjugated alkanes

2) Alkenes
   A) Are saturated compounds
   B) Are unsaturated compounds
   C) Contains all carbon-carbon singles bonds
   D) Contains no carbon-carbon double bonds

3) Which statement best describes the mechanism of SN_2 reaction ?
   A) Front side attack with inversion of configuration
   B) Back side attack with inversion of configuration
   C) Front side attack with retention of configuration
   D) Back side attack with retention of configuration

4) Lindlard's catalyst is
   A) $LiAlH_4$ B) $Pd/BaSO_4$ in quinoline
   C) NH_2NH_2 D) $HCl/ZnCl_2$

5) Bayer's reagent is
   A) Dilute $KMnO_4$ B) Br_2 in CCl_4
   C) NH_2NH_2 D) $HCl + ZnCl_2$

6) What is the IUPAC name for given structure neopentane ?
   A) 1-methylbutane B) 2-methylbutane
   C) 1,1-dimethylpropane D) 2,2-dimethylpropane

7) Ethyl alcohol reacts with conc. H_2SO_4 at 170°C to form
   A) Acetone B) Acetic acid C) Ethylene D) Diethyl ether

8) Propene reacts with HBr in the presence of a peroxides to give
   A) n-propyl bromide B) allyl bromide
   C) isopropyl bromide D) vinyl bromide

9) Homolytic fission C-C bond leads to the formation of
   A) Free radical B) Carbonium ion
   C) Carbon ion D) Both A and B

10) Pyrolysis of alkanes is carried out at _____ °C.
   A) 0-200 B) 200-400 C) 500-700 D) 900-1000

11) If the double bonds are separated by one single bond then the diene is called
   A) Isolated B) Conjugated
   C) Non conjugated D) Cumulated

12) When acetylene is passed through hot iron tube at 400°C it gives
   A) Benzene B) Toluene
   C) o-Xylene D) Mesitylene

13) 1,3-butadiene reacts with bromine to mainly give
   A) 3,4 dibromo 1 butene B) 1,3 dibromo 2 butene
   C) 4 bromo 1 butene D) 1 bromo 2 butene

14) Ether reacts with cold H_2SO_4 to form
   A) Oxonium ion B) Alkene
   C) Alkoxide D) Zwitterion ion

15) A common way to prepare symmetrical ethers is from
   A) Alkyl halides B) Alcohols C) Esters D) Acids

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

1) Write methods of preparation of alkyl halides.
2) Write in detail about Resonance effect and Inductive effect.
3) Write methods of preparation of ethers.
4) Write a note on Diels alder reaction.
5) Write reaction of alkenes.
6) Write a reaction of alkynes.

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

1) Define and classify alcohols. How will you separate mixture of primary, secondary and tertiary alcohols ?
2) Write a note on S_N1 and S_N2 reactions and describe factors affective it.
3) What are the different ways to define of acid and bases ? Add a note on factors affecting it.
4) Write a note on Saytzeff's rule and Hoffmann rule with suitable example.

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SLR-TA – 17

Seat No.	

Set P

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

Day and Date : Monday, 14-5-2018 Max. Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

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

1) Niacin deficiency results in a condition called as_____
   a) Pellagra b) Beri-beri c) Rickets d) Xerophthlmia

2) _____ vitamin is having antioxidant property.
   a) A b) D c) E d) K

3) The bond in protein structure that are not broken on denaturation _____
   a) Peptide bond b) Ionic bound c) Disulfide bond d) None of these

4) The vitamin containing isoalloxazine ring_____
   a) thiamine b) riboflavin c) niacin d) biotin

5) The major site of urea synthesis is _____
   a) liver b) kidney c) brain d) muscles

6) _____ is the liberation of free ammonia from the amino group of amino acids coupled with oxidation.
   a) Oxidative deamination b) Nonoxidative deamination
   c) Transdeamination d) Trasamination

7) Hopkins-Cole test is for identification of _____
   a) Tyrosine b) Tryptophan
   c) Arginine d) Cysteine

8) The reagent used in sequenator to find amine acid sequence is _____
   a) Sanger's reagent b) CNBr reagent
   c) Trypsin d) Edman's reagent

9) The nitrogenous base not present in DNA structure _____
   a) adenine b) guanine c) cytosine d) uracil

10) Alcohol dehydrogenase is an example for the class of enzyme namely _____
   a) Oxidoreductases b) Transferases
   c) Hydrolases d) Ligases

P.T.O.

11) The phenomenon of disorganization of native protein structure is known as _____
a) Renaturation b) Denaturation c) Flocculation d) Coagulation

12) The amino acid which contains a guanidine group is _____
a) Histidine b) Arginine c) Citrulline d) Ornithine

13) Folding or twisting of polypeptide chain is called as _____
a) α-helix b) β-sheets
c) Parallel sheets d) Antiparallel sheets

14) Distance traveled per turn of α-helix in nm is _____
a) 0.42 b) 0.52 c) 054 d) 0.46

15) DNA strands for replication are separated by _____ enzyme.
a) DNA ligase b) DNA polymerase
c) DNA helicase d) DNA isomerase

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

1) Describe Watson and Crick model of DNA structure.
2) Add note on enzyme specificity.
3) Discuss Sanger's reaction and Edman's reaction
4) Give detail about gene, genome and its characteristics.
5) Add note on denaturation of proteins.
6) Explain urea cycle in detail.

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

1) Give in brief factors affecting enzymatic reaction.
2) What are the different levels at which proteins structure is studied ?
3) Give the complete account of energy releasing B-complex vitamins.
4) Explain the significance of SGPT and SGOT.

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SLR-TA – 18

Seat No.	

Set P

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

Day and Date : Wednesday, 16-5-2018 Total Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

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

1) DCT is made up of which of following cells _____
   a) Intercalated cell b) Principal cells
   c) Both a and b d) None of above

2) Detrusor muscle present in _____
   a) Urinary bladder b) Urethra
   c) Ureter d) Kidney

3) The junction between neuron and it's target cell is called as _____
   a) Neurotransmitter b) Synapse
   c) Node of Ranvier d) Voltage gated channel

4) Thalamus is primary site of _____
   a) Motor reflex coordination b) Hormone production
   c) Sensory integration d) None of above

5) Neuroglial cells support and provide nutrition for _____
   a) Muscle cell b) Glands c) Nephron d) Neuron

6) Brain and spinal cord are protected by membranes known as _____
   a) Meninges b) Node of Ranvier
   c) Myelin sheath d) Axomembranus

7) Which of the following nerve is responsible for sense of hearing ?
   a) Vestibulocochlear b) Facial
   c) Vagus d) Abducens

8) The hormone _____ causes contraction of uterus.
   a) Prolactin b) Estrogen c) Oxytocin d) Progesterone

9) Renin is hormone secreted by _____
   a) Kidney b) Pancrease c) Liver d) Brain

10) Corpus luteum is formed of dead _____
a) RBCs b) WBCs c) Chorion d) Graffian follicle

11) The colour of eye depend upon colour of _____
a) Choroid b) Sclera c) Cornea d) Iris

12) Corpuscles in skin which are sensitive to pressure are called _____
a) Pacinian corpuscles b) Ruffinis corpuscles
c) Krause corpuscles d) Meissners corpuscles

13) Mumps is characterized by enlargement of _____
a) Parotid gland b) Adrenal gland
c) Thyroid gland d) Pituitary gland

14) Which of the following is not sexually transmitted disease ?
a) Syphilis b) Gonorrhoea c) AIDS d) Rubella

15) Which of the following layer of uterus is get shed during menstruation ?
a) Stratum functionalis b) Stratum basalia
c) Both a and b d) None of above

2. Answer **any five**. **(5×5=25)**

1) Describe in detail structure of nephrone.
2) Give histology and properties of skeletal muscle.
3) Describe in detail anatomy and physiology of cerebrum.
4) Write a note on anatomy of pancrease. Give the relation between insulin and glucagon.
5) Write note on oogenesis and spermatogenesis.
6) Explain anatomy of tongue and write gustatory and olfactory pathway.

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

1) Explain in detail anatomy and physiology of skeletal muscle contraction.
2) Explain in detail hormone secreted by pituitary gland and give it's function.
3) Explain in detail anatomy and physiology of eye.
4) Explain anatomy of female reproductive system and add a note on menstrual cycle.

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SLR-TA – 20

Seat No.	

Set P

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

Day and Date : Thursday, 3-5-2018 Max. Marks : 70

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

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

1) The system that undergoes gel-sol-gel transformation is known as
   A) Elastic B) Shear thickening
   C) Shear thinning D) Non elastic

2) Greater the thixotropy _____ is the physical stability of suspension.
   A) Higher B) Lower C) Poor D) All of these

3) The change the state from a solid directly to gas is called as
   A) Fusion B) Boiling C) Sublimation D) Evaporation

4) Mesomorphic substances
   A) Are in between solids and liquids
   B) Are Nematic
   C) Are Smectic
   D) Have different properties in different in direction

5) Amorphous form of a drug dissolves _____ than the crystalline form.
   A) Slower B) Faster C) Equal D) Does not dissolve

6) The compressibility factor Z for an ideal gas is
   A) Zero B) Less than one
   C) Greater than one D) Equal to one

7) Which one is the colligative property ?
   A) Atmospheric pressure B) Critical pressure
   C) Osmotic pressure D) None of these

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

9) With rise in temperature the surface tension of liquid
   A) Increase B) Decrease
   C) Remain same D) None of these

10) A system containing liquid water and water vapour has the number of phases equal to
A) 0 B) 1 C) 3 D) 2

11) The occurrence of the same substance in more than one crystalline forms is called as
A) Polymorphism B) Isomerism
C) Recemisation D) None of these

12) Entropy is a measure of _____ of the molecules of the system.
A) Concentration B) Zig-zag motion
C) Velocity D) Randomness

13) Solubility generally rise with
A) Increases in temperature
B) Decreases in temperature
C) Increases with volume of the solvent
D) None of these

14) A liquid boils when its vapour pressure becomes equal to
A) Zero B) Very high
C) Very low D) One atmospheric pressure

15) The process which carries out at constant volume is known as
A) Isobaric Process B) Isochoric Process
C) Isothermal Process D) Adiabatic Process

2. Answer the following : **(5×5=25)**
1) What are various factors influencing on viscosity ?
2) Explain Nernst Distribution law with its applications.
3) Define crystal Habit. Explain crystal system.
4) Explain factors affecting on solubility of gases in liquids.
5) Discuss different thermodynamic processes with example.

3. Solve **any three** : **(3×10=30)**
1) Derive Raoults law and differentiate the positive and negative deviations of Raoults Law.
2) What is Newtonian and non-Newtonian flow ? Explain in detail Newtonian law with Rheogarm and Equation.
3) Discuss critical phenomenon. Explain principal and working of Claude's method for liquefaction of gases.
4) What is osmosis ? Explain any two methods for measurement of osmotic pressure of solutions.

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SLR-TA – 21

Seat No.	

Set P

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

Day and Date : Saturday, 5-5-2018 Max. Marks :70
Time : 3.00 p.m. to 6.00 p.m.

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

1) Which one of the following is an example of 'unit process' ?
   a) Drying b) Evaporation
   c) Filteration d) Production of penicillin

2) Raynolds number may be defined as the ratio of the one of the following
   a) Elastic forces to pressure forces
   b) Gravity forces to inertial forces
   c) Inretial forces to viscous forces
   d) Viscous forces to internal forces

3) In which of the following pump, the packaging material move along with the moving member ?
   a) Gear pump b) Impeller pump
   c) Piston pump d) Plunger pump

4) The flight used in screw conveyor is
   a) Round b) Semicircle c) Spiral d) Square

5) In Raising film evaporator the entrainment separator is installed for _____
   a) Heat transfer b) To escape vapors
   c) To breaking foam d) All of these

6) Flash distillation also referred as _____ Distillation.
   a) Azeotropic b) Equilibrium
   c) Rectification d) Destructive

7) Flash distillation is useful in separating the components which boils at
   a) Close temperature b) Immisible liquid mixtures
   c) Widely different temperatures d) Miscible liquid mixtures

8) In which portion of pipe the flow of liquid is high ?
   a) Central portion
   b) Near wall of the pipe
   c) At boundary layer
   d) Transition region

9) Unit process is a sequence of operations involving one of the following process
   a) Chemical
   b) Chemical and physical
   c) Chemical, physical and biological
   d) Physical

10) The belt conveyors moves mainly with the help of
   a) Idlers
   b) Non-trouhing idlers
   c) Drive pulleys
   d) Snubber idlers

11) The SI unit of pressure head in Hydraulics is
   a) Joule b) Watt c) Meter d) Kilo Joule

12) _____ distillation process requires third components to increase the relative volatility of the one of the two components.
   a) Azeotropic
   b) Fractional
   c) Flash
   d) Steam

13) Freeze dryer is useful in drying of
   a) Blood plasma
   b) Bacterial cell culture
   c) Antibiotics
   d) All of the above

14) Which one of the following pump produces more of the non-pulsating discharge of liquid ?
   a) Double acting pump
   b) Duplex pump
   c) Single acting pump
   d) Triplex pump

15) Which of the following experiment is used for the study of the fluid flow ?
   a) Bernoulli's
   b) Reynolds
   c) Orifice meter
   d) Stokes

2. Answer **any five** : **(5×5=25)**

1) Write Bernoulli's equation and explain the symbols used therein with labelled diagram.

2) Explain the term 'compressor' and 'blower'. List any four differences between them.

3) Illustrate the concept of solid transport of *fluidization*.

4) Elaborate the concept of multiple effect evaporation. What specific advantage does it offer ?

5) Explain with relevant procedure the separation of an azeotropic mixture.

6) Describe the drying rate curve. Explain its applications.

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

1) Explain the construction, operational details of freeze dryer. Describe its applications in pharmacy.

2) Explain the working, principle and construction of venturi meter. Write the expression for the volumetric flow rate of fluid through it.

3) Describe the construction and working centrifugal pump of your choice. How do you compare a centrifugal pump with reciprocating pump ?

4) What is fractional distillation ? Explain sequence of boiling point composition diagrams of fractional distillation.

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SLR-TA – 22

Seat No.	

Set P

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

Day and Date : Tuesday, 8-5-2018 Max. Marks : 70

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

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

1) Most acidic among the following :
   a) RCOOH
   b) Cl – CH_2 – COOH
   c) $ClCH_2CH_2COOH$
   d) O_2NCH_2COOH

2) Least basic of the following is
   a) R – NH_2 b) $RCONH_2$ c) R_3N d) R_2NH

3) Acidity of carboxylic acids is due to
   a) Inductive effect
   b) Resonance
   c) Field effect
   d) All

4) Characteristic reaction of aldehydes is nucleophilic _____ reaction.
   a) Addition b) Substitution c) Elimination d) None

5) _____ in organic amines leads to increased water solubility.
   a) Acylation
   b) Salt formation
   c) Alkylation
   d) Oxime formation

6) Cumene process is related to the preparation of
   a) Amines b) Aldehydes c) Carboxylic acids d) Phenols

7) In _____ rearrangement an o-alkyl phenol is obtained.
   a) Fries b) Hoffmann c) Claisen d) None

8) Resonance energy in Benzene is
   a) 36 Kcal/mole
   b) 121 Kcal/mole
   c) 141 KJ/mole
   d) 36 KJ/mole

9) Naphthalene on reduction with Na and Ethanol yields

a) Dialin b) Tetralin c) Decalin d) None

10) Electrophilic aromatic substitution at _____ position is preferred over other places in pyridine.

a) None b) 2 c) 3 d) 1

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

a) RCOOH b) RCOCl c) $RCONH_2$ d) $(RCO)_2O$

12) Choose correct for the following reaction :

$ArCOR + R_1 - NH_2 \Longrightarrow$

a) $ArCONHR_1$ b) $ArCONR_1R$

c) ArCOR d) $ArC = NR_1R$

13) Isoquinoline on reacting with n-Butyl Lithium yields

a) 1-Butyl isoquinoline b) 2-Butyl isoquinoline

c) 3-Butyl isoquinoline d) 4-Butyl-isoquinoline

14) Five-membered unsaturated heterocycles name ends with the suffix

a) - ine b) - ole c) - icine d) - epine

15) Nitration of 2-substituted Indoles yields _____ derivatives.

a) 4-nitro b) 3-nitro c) 5-nitro d) 8-nitro

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

1) Describe how amines are prepared in the laboratory.

2) Explain with examples four reactions of ketones.

3) What is Nucleophilic Aromatic Substitution (NAS) ? Write four NAS reactions of benzene.

4) Write two methods of preparation of Naphthalene.

5) Write three electrophilic aromatic substitution reactions of pyrrole and thiophene.

6) How are carboxylic acids prepared ? Explain.

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

1) Explain in detail :

   1) MPV Reduction

   2) Aldol condensation **(5+5)**

2) What is electrophilic aromatic substitution ? Explain how it occurs in Benzene with examples. Include the mechanism too. **(1+6+3)**

3) Write four reactions for each : **(5+5)**

   a) Quinoline

   b) Anthracene

4) a) What are special reactions of phenols ? Discuss any three along with their uses. **5**

   b) Discuss the role of diazotization in synthetic organic chemistry. **5**

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SLR-TA – 23

Seat No.	

Set P

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

Day and Date : Saturday, 12-5-2018 Max. Marks : 70

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

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

1) Iodine can be standardized by using

A) Arsenic trioxide B) Sodium thiosulphate

C) Both A) and B) D) Oxalic acid

2) 20 gm of NaOH in 1000 ml gives _____ M NaoH.

A) 1 B) 0.1

C) 0.5 D) 0.05

3) Each ml of 0.1 M HCl ≈ _____ gm of $C_{10}H_{15}NO$.

A) 0.01652 B) 0.0106

C) 0.0053 D) 0.02063

4) Starch is added towards the end point because

A) It is sensitive towards iodine

B) It forms starch-iodide complex

C) It causes error in titration

D) All of these

5) Colorimetry is _____ type of method.

A) Optical B) Special technique

C) Spectral D) Biological

6) Blank determination is performed to

A) Minimize the error

B) To find out the effect of impurities in the vessels or reagents

C) To determine the excess of standard solution

D) All of these

7) Each ml of 1 M sulphuric acid is equivalent to _____ gms of Na_2CO_3.

A) 0.201 B) 0.106

C) 0.0106 D) 0.053

8) Standardization of silver nitrite is based on _____ method.

A) Mohr's B) Volhard's

C) Fajan's D) Gay-Lussac

9) Assay of ibuprofen powder is based on _____ type of titration.

A) Bromatometry B) Iodometry

C) Acid-base D) Precipitation

10) The pH at the equivalence point for weak acid-strong base is

A) 7< B) 7> C) 7 D) None

11) _____ is a strong oxidising agent.

A) Sodium Thiosulphate B) Iodine

C) Sodium Hydroxide D) Sodium Bicarbonate

12) Difference between true value and observed value with regard to sign is known as

A) Error B) Absolute Error

C) Relative Error D) Precision

13) According to _____ theory, acid accepts anion.

A) Lewis's B) Arrehenius's

C) Usanovich D) Lux-flood concept

14) In permangnometry, _____ is used as an indicator.

A) Starch B) Ferroin solution

C) Eosin solution D) None

15) Assay of aspirin is _____ type of titration.

A) Back B) Blank

C) Both A) and B) D) Redox

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

   1) Define : Precision, relative accuracy, significant figure, molarity and primary standard.

   2) Define Pharmaceutical Analysis. Add a note on scope of analysis.

   3) Give the difference between Mohr's method and Volhard's method.

   4) Give the preparation and standardization of 0.1 M HCl with its principle behind it.

   5) Explain in detail assay of benzoic acid.

   6) Write a note on gravimetry.

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

   1) Explain in detail neutralization curve for 0.1 M HCl and 0.1 M NH_4OH.

   2) Explain in detail classification of instrumental methods.

   3) Explain in detail argentometry.

   4) Define Error. Explain its classification. Add a note on absolute and relative error with example.

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SLR-TA – 24

Seat No.	

Set P

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

Day and Date : Tuesday, 15-5-2018 Max. Marks : 70
Time : 3.00 p.m. to 6.00 p.m.

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

1) The discipline of pathology forms a vital bridge between initial learning phase of _____ of clinical subjects.
   A) Preclinical sciences B) Final phase
   C) Both A) and B) D) Other than A) and B)

2) Cell injury is a result of change in _____ environment.
   A) Internal B) External
   C) Both A) and B) D) Other than A) and B)

3) In intracellular fluid _____ is the main cation.
   A) Potassium B) Sodium
   C) Chloride D) Protein

4) _____ is not a physical agent which is a cayse of inflammation.
   A) Trauma B) Heat
   C) Radiation D) Bacteria

5) Achalasia is most common between ages _____ and gradually progress.
   A) 8 to 17 B) 18 to 40
   C) 51 to 71 D) above 75

6) The common cause of nephrotic syndrome is _____
   A) Glomerulonephritis
   B) Drug Toxicity of kidney
   C) Systemic and non systemic infection
   D) All of above

7) The most important feature of benign tumour is _____
   A) Remains localised
   B) Cells transferred via lymphatics
   C) Metastases
   D) Cells transferred via blood vessels

8) In anaemia in adult female, the lower extreme of the normal haemoglobin is taken as _____ g/dL.
   A) 13 B) 11.5 C) 15 D) 9.5

9) _____ pioneer in pathology.
   A) Christain Gram B) Claude Bernade
   C) William Byod D) M. M. Wintrobe

10) Cell death belongs to _____
   A) Adaptations B) Reversible cell injury
   C) Irreversible cell injury D) Other than A, B and C

11) Major function of electrolytes is maintenance of _____
   A) Acid base equilibrium B) Proper osmolarity
   C) Both A) and B) D) Other than A) and B)

12) Blood P^H below 7.4 is termed as _____
   A) Acidosis B) Alkalosis
   C) Buffer D) Neutral

13) Patients with respiratory alkalosis characterized by _____
   A) Peripheral vasoconstriction B) Tetany
   C) Both A) and B) D) Other than A) and B)

14) _____ is a chemical cause of inflammation.
   A) Heat B) Bacteria
   C) Hypersensitivity reaction D) Bacterial Toxins

15) _____ diarrhea occurs when small and large intestine secrete more water into the stool.
   A) Osmotic B) Secretary
   C) Exudative D) Bacterial

2. Solve **any five** : **(5×5=25)**

A) Write a note on iron deficiency anaemia.

B) Explain pathogenesis of irreversible cell injury.

C) Define and classify shock. Add pathogenesis of hypovolemic shock.

D) What is meant by inflammation ? Explain different types and causes of inflammation.

E) Differentiate between crohn's disease and ulcerative colitis.

F) What is urinary tract infection ? Describe in detail about the causes of pathogenesis.

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

A) Write a note on hyponatraemia, hypernatraemia, hypokalaemia, hyperkalaemia and hypocalcaemia.

B) Define degenerative joint diseases. Write etiology, pathogenesis and manifestations of osteoarthritis.

C) Define hepatitis. Give its classification and explain in detail viral hepatitis.

D) Write etiopathogenesis and manifestations of acute renal failure.

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SLR-TA – 25

Seat No.	

Set P

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

Day and Date : Friday, 4-5-2018 Max. Marks : 70
Time : 3.00 p.m. to 6.00 p.m.

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

1) Cleansing action of soap is due to
   A) Hydrolysis of salt present in soap
   B) Ionization of salt present in soap
   C) High molecular mass of soap
   D) Emulsification properties of soap

2) Printing ink made by which of the following method ?
   A) Mechanical dispersion B) Bredig's arc
   C) Peptization D) Aggregation

3) Which of the following is positively charged sol ?
   A) Starch B) Arsenic sulphide
   C) Haemoglobin D) Clays

4) In lyophobic sols, dispersed phase has no _____ for medium or solvent.
   A) Repulsion B) Attraction C) Solvation D) Hydration

5) Stability of colloids explained by which theory ?
   A) DLVO B) Lyotropic series
   C) Donnan Membrane D) Hardy schulze rule

6) Potential between the surface of the tighly bound layer and the electroneutral region of the solution called as

A) Nernst potential B) Electrodynamic potential

C) Zeta potential D) None of these

7) Adsorption of oxygen gas on charcoal, is which type of adsorption isotherm.

A) Type – I B) Type – III C) Type – II D) Type – IV

8) Which of the following is lipophilic surfactant ?

A) Tweens B) Spans C) SLS D) All

9) HLB range for lipophilic surfactants is

A) 2 – 9 B) 9 – 16 C) 16 – 20 D) above 20

10) Formula for porosity of powder is

A) Bulk volume/Void volume B) Void volume/Bulk volume

C) Void volume/True volume D) True volume/Bulk volume

11) Optical microscopy directly gives

A) Weight distribution B) Number distribution

C) Length distribution D) Width distribution

12) In conductivity method, particle size is expressed as _____ diameter.

A) Projected B) Volume C) Surface D) Stokes

13) Which of the following is a fundamental property of powder ?

A) Volume B) Density C) Porosity D) Size

14) Clathrates are which type of complexes.

A) Inclusion B) Organic molecular

C) Metal D) None

15) Acid hydrolysis of ester followed which type order of reaction ?

A) Pseudo B) Second C) First D) None

2. Answer **any five** : **(5×5=25)**

   a) Explain Purification methods for colloids.

   b) Discuss in brief methods for determination of Complexation.

   c) Elaborate the different factors affecting on flow properties of powder.

   d) Explain different factors influencing on rate of reactions.

   e) Comment on HLB Scale.

   f) Write note on : Normal and Weight distribution Curve.

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

   a) Define Colloids. Explain in detail different methods for preparation of Colloids.

   b) Enlist the different fundamental properties of powder. Discuss in detail Coulter Counter Method.

   c) Describe in detail method of Accelerated Stability Study.

   d) State and explain in detail Freundlich and Langmuir adsorption isotherm.

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SLR-TA – 26

Seat No.	

Set **P**

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

Day and Date : Monday, 7-5-2018 Max. Marks : 70
Time : 3.00 p.m. to 6.00 p.m.

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

1) Griffith (1928) reported the phenomenon of transformation first in
   a) H. influenza b) Bacillus species
   c) Pneumococci d) E.coli

2) In Electron Microscope source of electrons is from
   a) Mercury lamp b) Tungsten metal
   c) Both a) and b) d) None of these

3) The capacity of a given strain of microbial species to produce disease is known as
   a) Pathogen b) Virulence c) Infection d) None of these

4) Lederberg and Tatum (1946) described the phenomena of
   a) Conjunction b) Transformation
   c) Mutation d) Plasmids

5) Reduction of virulence is known as
   a) Exaltation b) Attenuation
   c) Both a) and b) d) None of these

6) Endotoxin produced by Gram negative bacteria is present in
   a) Peptidoglycan b) Inner membrane
   c) Theichoic acid d) Lippolysacharide

7) Bacteria multiply by
   a) Spore formation b) Simple binary fission
   c) Conjugation d) Gametes

8) Temperature required for pasteurization is
   a) Below 100°C b) Above 150°C c) 110°C d) None of these

9) Which of the following is ionizing radiation ?
   a) U. V. rays b) IR c) Gamma rays d) None of these

10) AIDS is caused by
a) Retroprison b) Prion c) Rhabdovirus d) Retrovirus

11) Following is not true about Fungi
a) Do not possesses true nucleus b) Divide sexually and asexually
c) Cell wall contains chitin d) All of the above

12) Rickettsia stains with _____ stain.
a) Giemsa and Castaneda b) Machiavello and Gimenez
c) Both a) and b) d) None of the above

13) All DNA viruses synthesis their nucleic acids in the host cell nucleus except
a) pox viruses b) parvo virus c) adenovirus d) b) and c)

14) Select the correct growth medium for fungi cultivation
a) Subouraud dextrose agar b) Thayer-Martin medium
c) MacConkey agar d) Nutrient agar

15) Spores of _____ as a biological agent used for sterilization control in hot air oven.
a) *Clostridium Tetani* b) *Bacillus substilis*
c) Both a) and b) d) Other than this

2. Answer **any five** : **(5×5=25)**
1) Describe phenol coefficient test. List its merits and demerits.
2) Define the terms (1) Disinfectant (2) Antiseptic (3) Sanitization (4) D-value (5) Z-value.
3) Give the general characteristics of Fungi.
4) Write the contribution of Robort Koch in detail.
5) Give the clinical significance of Rickettsia.
6) Draw a neat labelled diagram of HIV.

3. Answer **any three** : **(3×10=30)**
1) Define-attenuation, exaltation, virulence and pathogenicity. Discuss in details – Antibody Mediated Immunity.
2) Give an exhaustive account of various bacterial culture media.
3) Give the characteristics of ideal disinfectants. Classify disinfectants. Discuss disinfectants based on its spectrum of activity.
4) Explain how virus is deffers from other microorganism. Discuss viral symmetry in detail.

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SLR-TA – 27

Seat No.	

Set P

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

Day and Date : Friday, 11-5-2018 Max. Marks : 70

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

Multiple choice questions :

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

1) Stability order of Carbo-cations is as follows _____

a) Allylic > 2° > Methyl b) Allylic > 3° > 1°

c) Allylic > Methyl > 2° d) 3° > Allylic > 1°

2) Curtius rearrangement reaction yields

a) Alkene b) 1° Amine

c) 2° Amine d) 3° Amine

3) Claisen rearrangement leads to products with substitution at _____ positions

a) Ortho b) Para

c) Meta d) Both ortho and para

4) The catalysts used in pericyclic reactions are

a) $AlCl_3$ b) $TiCl_4$

c) $SnCl_4$ d) None

5) The term syn-periplanar means

a) ±30° same side b) ±60° same side

c) ±150° opposite side d) None

6) Products obtained in pericyclic reaction with light and heat as energy source are

a) Same b) Different

c) Unaffected d) NA

7) A substance has 'R' configuration if, order of ranked groups arranged is

a) Clockwise b) Anti-Clockwise

c) Planar d) None

8) If a reaction with a specific reactant produces a specific product, it is

a) Stereoselective b) Partially stereoselective

c) Stereospecific d) Partially stereospecific

9) _____ isomers are generated by different oreintation of groups on a ring.

a) Geometric b) Conformational

c) Compositional d) None

10) Steric repulsion means, repulsion in a molecule due to _____

a) Electrons b) Size of a group

c) Orientation of a group d) + charge

11) Acetone and propanol are examples for _____

a) Geometric isomers b) Stereoisomers

c) Conformers d) Tautomers

12) Choose correct reagent for completing the following reaction :

$R^1CRClCH_2R^2 \longrightarrow \boxed{R^1 - CR = CH - R^2}$

a) HCl, H_2O b) NaOH

c) NaOET d) H_2O

13) In reactions undergoing elimination according to Saytzeff mechanism, alkene formed is

a) Unsubstituted b) Less substituted

c) Most substituted d) Equally substituted

14) _____ representation of a conformer gives us an angled, 3D look.

a) Fischer b) Saw-horse

c) Line-Wedge-Dash d) Newmann

15) _____ and neopentane are examples for structural isomers.

a) Isopentane b) 1-Chloropentane

c) 2-pentanol d) 3-Pentanone

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

1) How are isomers classified ? Why we need to study isomerism ?

2) What is *Stereospecificity* ? Write a note on E1 reactions.

3) Describe in brief about *Configuration* and *Conformation*.

4) What are electrophilic rearrangement reactions ? Write a brief note on Favorskii rearrangement.

5) Explain electrocyclic reaction with an example.

6) Write a note on the stereochemistry of S_N2 and E2 reactions.

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

1) How do you separate enantiomers from a racemic mixture ? Explain with examples.

2) Discuss briefly about different electrophilic addition reactions. Add a note on the stereochemistry of these.

3) Discuss about :

a) Bayer-Villiger oxidation

b) Fries rearrangement reaction.

4) a) How do you name geometrical isomers ? Explain with examples.

b) Write a note on the conformational changes in Butane with changes in its potential energy.

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SLR-TA – 28

Seat No.	

Set P

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

Day and Date : Monday, 14-5-2018 Max. Marks : 70
Time : 3.00 p.m. to 6.00 p.m.

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

1) The pH is _____ maintained in direct EDTA titration.
   a) 1 b) 5 c) 15 d) 10

2) In Perchloric acid standardization _____ is used as primary standard.
   a) NaOH b) Na_2CO_3
   c) PHT d) None of the above

3) Mureoxide is used for determination of _____
   a) Ba^{++} b) Cd^{++} c) Zn^{++} d) Ca^{++}

4) The particle size of precipitate is controlled by _____
   a) Solubility of precipitate in medium
   b) Concentration of reactant
   c) Temperature
   d) All of the above

5) For chlorine absorbing liquid is _____
   a) Sodium hydroxide b) Sulphuric acid
   c) Bromine d) Silver nitrate

6) Eudiometer is used for analysis of _____
   a) Gas b) Solid
   c) Liquid d) None of the above

7) Protophilic solvents are _____ nature.
   a) Acidic b) Basic
   c) Neutral d) Both (a) and (b)

8) _____ indicator is generally used for non-aqueous titration.
   a) Crystal violet b) Mordant black II
   c) Catechol violet d) Starch

9) For fluorine _____ is absorbing liquid used.
   a) Water b) Sodium hydroxide
   c) Hydrogen peroxide d) None of the above

P.T.O.

10) Karl Fischer reagent is used for determination of _____
   a) Halogen b) Nitrogen
   c) Water d) None of the above

11) At pH 10 mordant black shows _____ color.
   a) Pink b) Blue c) Red d) Yellow

12) Filter paper no. 42 is generally used for _____ particles.
   a) Fine b) Very fine
   c) Coarse particles d) None of the above

13) Above 500°C _____ types of tubes are preferable for sampling of gases.
   a) Hard glass tube b) Silica quartz tube
   c) Glass tube d) None of the above

14) 18.6 gm of Disodium EDTA in 1000 ml distilled water is _____ M.
   a) 0.1 b) 1 c) 2 d) 0.5

15) _____ gm sodium nitrite in 1000 ml distilled water is 0.1 M.
   a) 8.6 gm b) 8.00 gm c) 6.8 gm d) 6.00 gm

2. Answer **any five** : **(5×5=25)**

1) Explain end point detection in complexometric titrations. Write a note on Metallochrome indicators.
2) Define non-aqueous titration. Give the preparation and standardization of 0.1 N Perchloric acids.
3) Write a note on Radio-immune assay.
4) Explain assay of Mebendazole and enlist types of non-aqueous solvents.
5) What is Co-precipitation ? Explain different types of Co-precipitation.
6) Define Masking and Demasking agents. Explain assay of calcium gluconate inj.

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

1) Define complexometric titration. Give the preparation and standardization of 0.05 M disodium EDTA and explain assay of Magnesium sulphate.
2) Define raw material and give types of raw materials. Explain raw material analysis of starch.
3) Explain the assay Norfloxacin powder and calcium gluconate powder with factor calculation.
4) Explain in brief ELISA method.

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SLR-TA – 29

Seat No.	

Set P

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

Day and Date : Wednesday, 16-5-2018 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.*

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

1) Inhomogeneity in ERP of Atrial fibers under excessive vagus nerve influence leads to
   a) Ectopic Pacemaker Activity
   b) Reentry
   c) Fractionation of impulse
   d) After Depolarizations

2) _____ is the most common cause of Ischemic Heart Disease.
   a) Coronary Atherosclerosis b) Renal Insufficiency
   c) Systemic Infections d) Malnutrition

3) Elevated _____ and reduced _____ is the major risk factor for coronary atherosclerosis.
   a) HDL Cholesterol and LDL cholesterol
   b) Triglycerides and HDL Cholesterol
   c) VLDL Cholesterol and LDL Cholesterol
   d) LDL Cholesterol and HDL Cholesterol

4) A myocardial infarction which involves entire thickness of myocardium is called
   a) Laminar Infarct b) Microinfarct
   c) Transmural Infarct d) Marginal Infarct

5) Substernal chest pain occurring at rest and relieved by sublingual nitroglycerine tablet is called
   a) Variant Angina
   b) Crescendo Angina
   c) Unstable Angina
   d) Classical Angina

6) Persistent cough with expectoration on most days for 2-3 months in a year lasting for 2 or more consecutive years is called
   a) Asthma
   b) Emphysema
   c) Chronic Bronchitis
   d) Asthma

7) _____ is a cause and predisposing risk factor for Pulmonary Embolism.
   a) Deep Vein Thrombosis
   b) Vitamin K Deficiency
   c) Head Injury
   d) Liver Disease

8) Deficiency of _____ leads to Emphysema.
   a) Elastase
   b) Alpha-1-Antitrypsin
   c) Anti-elastase
   d) Lecithin

9) Beta amyloid protein aggregates are found in brains of patients with
   a) Alzheimer's Disease
   b) Epilepsy
   c) Parkinson's Disease
   d) Schizophrenia

10) Brief tonic phase, clonic jerky contractions, unconsciousness and amnesia occur in
   a) Grand Mal Epilepsy
   b) Petit Mal Epilepsy
   c) Temporal Lobe Epilepsy
   d) Juvenile Seizures

11) Most of the Macro and Microvascular complications of type 2 Diabetes occur due to a metabolite of glucose called.
   a) Insulin
   b) Sorbitol
   c) Glucagon
   d) Fructose

12) CD4 + T Cell counts of _____ lead to serious deficiency of immune system function in AIDS.
   a) 600-1000/cu mm
   b) > 1000/cu mm
   c) < 1000/cu mm
   d) < 350/cu mm

13) An IgE mediated hypersensitivity reaction with manifestations ranging from simple rashes to anaphylaxis is called _____ type hypersensitivity reaction.
   a) Immediate
   b) Cytolytic
   c) Arthus
   d) Delayed

14) Adulthood hypothyroidism with non-pitting edema and cold intolerance is
   a) Cretinism
   b) Thyrotoxicosis
   c) Myxoedema
   d) Grave's Disease

15) Determination of Serum Creatinine is a
   a) Kidney Function Test
   b) Liver Function Test
   c) Cardiac Function Test
   d) Thyroid Function Test

2. Answer **any five** of the following : **(5×5=25)**
   A) Define Angina Pectoris. Explain types of Angina Pectoris in detail.
   B) What is Pulmonary Embolism ? Describe etiopathogenesis and manifestations of pulmonary embolism.
   C) What is Parkinson's Disease ? Mention Signs and symptoms. Add a note on etiopathogenesis of Parkinson's disease.
   D) Enlist Liver function tests. Describe serum Bilirubin estimation with its clinical significance.
   E) Differentiate between Type 1 and Type 2 diabetes mellitus.
   F) Write causes and manifestations of hypothyroidism.

3. Answer **any three** of the following : **(3×10=30)**
   A) Define epilepsy. Briefly explain types of seizures. Write etiopathogenesis of epilepsy.
   B) Summarize causes, pathogenesis and manifestations of Rheumatoid arthritis.
   C) Define shock. Brief out its types. Explain stages of shock.
   D) Write an account on of causes, triggers, pathogenesis and manifestations of Bronchial Asthma.

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Seat No.	

Set P

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

Day and Date : Thursday, 3-5-2018 Total Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

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

1) The capsule size 5 can fill the volume of _____ml.
   a) 1.36 b) 0.13 c) 0.27 d) 0.67

2) _____ machine is used for dedusting and polishing of hard gelatin capsules.
   a) Rotosort b) Erweka KEA
   c) Elanco Rotoweigh d) Both a) and b)

3) _____ decreases bioavailability of tetracycline.
   a) Lactose b) DCP
   c) Starch d) None of the above

4) _____ is example of perforated coating pans.
   a) Accela Cota b) Glatt immersion tube
   c) Pellegrini pan d) Both b) and c)

5) What is Ac-di-sol ?
   a) Modified starch for disintegration
   b) Modified sodium CMC for disintegration
   c) Modified MCC for direct compression
   d) None of the above

6) The capsule filling machine like Lilly and Parke Davis work on _____fill principle.
   a) Auger b) Vacuum
   c) Pistone tamp d) Vibratory

7) The filling of pellets into capsules is known as
   a) Rotofil b) Accofil
   c) Elancofil d) Qualiseal
8) Type B gelatine has its isoelectric point in the range of pH
   a) 9 b) 7
   c) 4.7 d) None of the above
9) _____ used as plasticizers in capsule shell.
   a) Sorbitol b) Glycerin
   c) Propylene glycol d) All of the above
10) If the Carr's index of a powder is 10% then the type of powder flow is
   a) Poor b) Good c) Excellent d) Fair
11) _____ occurs when coated tablet exposed to high humidity condition.
   a) Blooming b) Blistering
   c) Orange peel effect d) None of the above
12) According to I.P., acceptable friability limit should be less than _____ %.
   a) 1 b) 2 c) 6 d) 10
13) Mannitol is widely used in chewable tablet because
   a) It dissolves slowly
   b) It imparts cooling sensation
   c) It have pleasant taste
   d) All of the above
14) The time limit for disintegration of film coated tablet according to I.P. is _____minutes.
   a) 60 b) 30 c) 15 d) 5
15) Cam tracks are used _____
   a) To feeding the granules
   b) To hold the granulated feed
   c) For guiding the movement of punches
   d) Fixing the shapes

2. Answer **any five** : **(5×5=25)**

   1) Write in short significance of film coating and enteric coating.
   2) Explain different principles of filling of capsules.
   3) Enlist all official and non official test for evaluation of tablet and explain Friability test.
   4) Explain process to obtain gelatine from animal skin or bone.
   5) Write in short steps involved in sugar coating process.
   6) With a neat labeled diagram, explain working and construction of Rotary die process.

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

   1) Discuss in short various defects/problems occurs during manufacturing of tablets and its remedies.
   2) With a neat labeled diagram, explain working and construction of Rotary tablet press machine.
   3) Write applications of microencapsulation and add a note on evaluation of microcapsules.
   4) Write short note on:
      1) Bloom strength and its determination.
      2) Design of disintegration test apparatus.
      3) Draw layout of tablet section.
      4) Lubricants.

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SLR-TA – 33

Seat No.	

Set P

B.Pharm. (Semester – V) (CGPA) Examination, 2018
BIOPHARMACEUTICS

Day and Date : Saturday, 5-5-2018 Max. Marks : 70
Time : 10.30. a.m. to 1.30. p.m.

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

1) Which of the following formulation shows better bioavailability ?
   A) Tablets B) Capsule
   C) Suspension D) Emulsion

2) Blood brain barrier constitutes of
   A) Mesoblast basement membrane
   B) Glial cells and astrocytes
   C) Trophoblast basement membrane
   D) Sertoli-Sertoli cell junction

3) Which of the following is a Phase I biotransformation process ?
   A) Oxidation B) Glucouronidation
   C) Acetylation D) Methylation

4) Elimination phase of a drug can be characterized by
   A) K_E B) $T_{1/2}$
   C) Clearance D) All of the above

5) The arrangement of compartments similar to connections of satellite to planet is seen in
   A) Mammilary model B) Caternary model
   C) Non-compartment model D) Physiologic model

6) Parameter(s) considered important for the determination of bioavailability is/are
   A) Cmax B) Tmax
   C) AUC D) All of the above

7) As per-Fick's First Law of diffusion, which of the following is not directly proportional to diffusion rate ?
   A) Area of absorbing membrane B) $K_{w/o}$
   C) Concentration gradient D) None of the above

8) If pKa of drug is 7, calculate the extent of ionization at neutral pH.
   A) 30% B) 50% C) 66.66% D) 100%

9) The study of variations in drug response as influenced by circadian rhythm is called as
   A) Clinical Pharmacology B) Chronopharmacology
   C) Pharmacogenetics D) Oncology

10) A strongly acidic drug can be better excreted in _____ urine.
   A) Acidic B) Alkaline
   C) Neutral D) Independent of urine pH

11) The drug remaining in the body after 4 half-lives is
   A) 25% B) 12.5% C) 6.25% D) 3.125%

12) Method of residual is also known as
   A) Feathering B) Peeling
   C) Stripping D) All of the above

13) Which of the following is a not pharmacodynamic parameter ?
   A) Peak plasma concentration B) Minimum effective concentration
   C) Maximum safe concentration D) Onset time

14) Which of the following is NOT a downhill process ?
   A) Passive diffusion B) Facilitated diffusion
   C) Active transport D) Electrochemical diffusion

15) Limited salvation theory of dissolution is also known as
   A) Diffusion Model B) Film theory
   C) Double Barrier theory D) Surface renewal theory

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

1) Write a brief note on Biopharmaceutical Classification System.

2) Write a note on methods of measurement of bioavailability.

3) Explain the concept of volume of distribution.

4) Describe entero-hepatic cycling of drugs and its effects.

5) Write a note on pulmonary excretion and mammary excretion with suitable examples.

6) Describe the non linear pharmacokinetics with Michaelis Menten equation.

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

1) Describe physicochemical factors affecting absorption with emphasis on pH-partition hypothesis.

2) Describe one compartment open model-IV bolus.

3) Write a note on protein-drug binding. Describe its effects on various pharmacokinetic parameters.

4) Define Clearance. Describe factors affecting renal clearance.

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SLR-TA – 34

Seat No.	

Set P

B.Pharm. (Semester – V) (CGPA) Examination, 2018
MEDICINAL CHEMISTRY – I

Day and Date : Tuesday, 8-5-2018 Max. Marks : 70

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

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

1) The metabolism of drug involves

A) Ist order B) IInd order

C) Zero order D) Pseudo order

2) One of the following belongs to Biguanides class

A) Phenformin B) Tolbutamide

C) Glibenclamide D) Acarbose

3) For non-volatile drug according to ferguson principle relative super saturation

A) St/so B) Pt/po

C) So/st D) None

4) Tetracycline undergo epimerization at C-4 between pH-4 and 8 to give

A) Isotetracycline B) Epitetracycline

C) Nortetracycline D) None of these

5) Niclosamide is used in the treatment of

A) Cestode disease B) Nematode disease

C) Trematode disease D) All of the above

6) _____ drug inhibits protein synthesis.

A) Emetine B) Acetazolamide

C) Quinine D) Paracetamol

7) Metronidazole binds to
   A) DNA B) RNA
   C) Cytoplasm D) None of these

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

9) Identify the high celling diuretics of below
   A) Mannitol B) Furosemide
   C) Spirinolactone D) Acetazolamide

10) Hydrochlorothiazide is synthesized from
   A) 3-chloroaniline B) 5-chloroaniline
   C) Aniline D) None of these

11) _____ used in luminal amoebicides.
   A) Diloxanide furoate B) Emetine
   C) Digitalis D) Aspirin

12) The heterocyclic ring is present in thiabendazole is
   A) Benthiazole B) Thiazole
   C) Benzimidazole D) Furan

13) Penicillin on degradation in acid medium forms
   A) Penicillamine B) Penilloic acid
   C) Penicillo-aldehyde D) All

14) Primary site of action of thiazide diuretics in the nephron is
   A) Proximal tubule B) Loop of henle
   C) Distal tubule D) Convulated tubule

15) One of the following drug is belongs to Carbonic Anhydrase inhibitors class
   A) Spironlactone B) Mannitol
   C) Methazolamide D) Xipamide

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

   1) Write a note on Hydrogen bonding.

   2) Explain different theories of receptors.

   3) Classify anti-amoebic agents. Explain role of azoles in amoebiasis.

   4) Explain “Sulphonylureaes as oral hypoglycemic agent”.

   5) Classify diuretics. Write structure, MOA and uses of Furocemide.

   6) Explain anthelmintic agent in GIT nematode infection.

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

   1) Write a different forces involved in drug receptor interaction.

   2) Explain in detail on Phase I Metabolism process.

   3) Outline the synthesis and uses of Niclosamide, Metronidazole, Hydrochlorthiazide.

   4) Discuss conversion of Tetracycline to :

      a) 4-epitetracyclin by epimerization,

      b) Anhydrotetracyclin,

      c) Isotetracyclin,

      d) Chelate comp

      Give MOA of Tetracycline.

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Seat No.	

Set P

B. Pharmacy (Semester – V) Examination, 2018
(CGPA)
PHARMACEUTICAL ANALYSIS – III

Day and Date : Saturday, 12-5-2018 Total Marks : 70

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

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

1) In spectrofluorimeter light source is _____

A) Mercury vapour lamp B) Xenon arc lamp

C) Both A) and B) D) H2 lamp

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

A) Scattering

B) Atomic absorption spectrophotometer

C) Luminescence

D) Absorbance

3) The commonly used detector in the UV spectrophotometer is _____

A) Photomultiplier tube B) Thermocouple

C) Bolometer D) Littro Prisms

4) _____ is used for dispersing the incident radiation in UV spectroscopy.

A) Nicol Prism B) Diffraction grating

C) Both A) and B) D) None

5) UV-Visible spectroscopy is a type of _____

A) Atomic absorption spectroscopy

B) Atomic emission spectroscopy

C) Molecular spectroscopy

D) Magnetic spectroscopy

6) Electromagnetic radiation in the wavelength range 2.5 to 15 micron is _____

A) UV spectrum B) I.R.
C) X – ray D) Visible

7) _____ solvent does not absorb UV radiation.

A) Water B) Heptene
C) Ethylene D) All of above

8) Reciprocal wavelength is _____

A) Speed B) Wave number
C) Frequency D) Velocity

9) 1A° = _____

A) 10^{-4} cm B) 10^{-1} cm
C) 10^{-4} centipoises D) 10^{-8} cm

10) The U.V. radiation has more energy than _____

A) Microwave B) Gamma ray
C) Both A) and B) D) None

11) Absorbtion of energy by ground state atoms in gaseous state forms the basis of _____

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

12) Sample to be analyzed by atomic absorption must be vaporized or atomized by using _____

A) Flame atomiser B) Non flame atomizers
C) A) and B) D) None

13) _____ is used as detector in AAS.

A) PVC B) PMT
C) Silicon crystal D) Ruby crystal

14) _____ interferences occurs in AAS.

A) Spectral B) Chemical
C) None D) A) and B)

15) _____ °C temp. is achieved from acetylene and air.

A) 2600 B) 2200
C) 45000 D) 2800

2. Answer **any five** : **(5×5=25)**

1) Illustrate EMS.

2) Enlist various methods of assay of substances in multi component samples. Derive simultaneous equation method.

3) What do you mean by fluorescence and phosphorescence ? Draw a neat labeled diagram of filter fluorimeter.

4) Write a note on instrumental parameter required for spectroscopic measurements.

5) Enlist various atomizer used in AAS. Discuss in detail total consumption burner.

6) Give applications of flame photometry.

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

1) Draw neat labelled diagram of a double beam UV Spectrophotometer. Explain the detector and sources used in UV Spectrophotometer.

2) Discuss principle, instrumentation and working of AAS with a neat labelled diagram.

3) Explain in detail energy level diagram. Give advantages of fluorescence spectroscopy.

4) Give in detail factors affecting fluorescence intensity.

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SLR-TA – 36

Seat No.	

Set P

B. Pharmacy (Semester – V) (CGPA) Examination, 2018
PHARMACOLOGY – I

Day and Date : Tuesday, 15-5-2018 Max. Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

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

1) Therapeutic Index is calculated as
   A) ED/LD B) LD/ED
   C) ED50/LD50 D) LD50/ED50

2) Physiological antagonist
   A) has affinity and intrinsic activity
   B) has affinity but no intrinsic activity
   C) has neither affinity nor intrinsic activity
   D) produces opposite pharmacological effects

3) _____ deals with the study of drugs upon microorganisms and parasites living and multiplying in a living organism.
   A) Microtherapy B) Chemotherapy
   C) Pharmacotherapeutics D) Pharmacodynamics

4) Essential drugs are selected considering their
   A) relevance to public health B) safety and efficacy
   C) comparative cost effectiveness D) all the three

5) The pressor response of adrenaline is reversed to depressor response in Dale's vasomotor reversal by Dihydroergotamine which is
   A) a Beta1 blocker B) a Beta2 blocker
   C) an Alpha blocker D) both alpha and beta blocker

6) Cyproheptadine is an antagonist of
   A) only serotonin B) only acetylcholine
   C) only histamine D) all the three

7) Vasodilatation of vascular smooth muscle produced by 'epinephrine' is mediated via

A) B_1 receptor B) B_2 receptor

C) α_1 receptor D) α_2 receptor

8) _____ is not a cholinomimetic natural alkaloid.

A) Arecholine B) Pilocarpine

C) Muscarine D) Methacholine

9) _____ is a/are nasal decongestant(s).

A) Phenylephrine B) Xylometazoline

C) Phenyl propanolamine D) All the three

10) Adrenaline is coadministered with local anesthetics (LA) because,

A) Adrenaline increases BP

B) Local anesthetics prolong the adrenaline activity

C) LAs are toxic

D) Adrenaline prolongs the local anesthetic activity

11) _____ is an agent which has affinity and intrinsic activity.

A) Ligand B) Agonist

C) Antagonist D) Inverse agonist

12) Histamine is present in

A) Mast cells B) Brain cells

C) Both A and B D) Neither A nor B

13) Which of the route of administration gives 100% bioavailability ?

A) intravenous B) sublingual C) inhalation D) oral

14) Drugs that cause bronchodilator include all of the following except

A) Theophylline B) Ephedrine

C) Cromolyn D) Ipratropium bromide

15) Angiotensin – II is not involved in

A) insulin release B) maintainance of BP

C) aldosterone release D) electrolyte balance

2. Solve **any five** : **(5×5=25)**

A) Write a note on essential drug concept.

B) Define receptor. Enlist different receptor families.

C) Classify adrenergic neurone blockers with examples.

D) What do you mean by the terms pharmacokinetics, antagonist, prodrug, side effects and duration of action ?

E) Give the physiological role of Leukotrienes and Platelet Activating factor.

F) Discuss neurohumoral trarnsmission at sympathetic, post ganglionic nerve endings.

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

A) Discuss in detail drug toxicity in man.

B) Explain the term pharmacodynamics. Discuss the mechanisms of drug action and enlist the factors modifying drug action.

C) What is organophosphorus compound poisoning ? Discuss in detail the symptoms, care and its treatment.

D) Classify antihistaminic drugs and give their pharmacology.

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SLR-TA – 37

Seat No.	

Set P

B.Pharmacy (Semester – V) Examination, 2018
BIOTECHNOLOGY (CGPA Pattern)

Day and Date : Thursday, 17-5-2018 Max. Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

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

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

1) _____ proposed an idea that separate X and Y chromosomes determine sex.
   a) Louis Pasteur b) Fleming
   c) Wilson and Stevens d) Earnst Seyler

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

3) _____ developed BCG vaccine in 1908.
   a) Chain Weizmann b) Selman Waksman
   c) William Kolhe d) Calmette and Guerin

4) Identify the purine base present in DNA.
   a) Adenine b) Cytosine
   c) Guanine d) Both a) and c)

5) Sparger is used in fermentation for addition of
   a) Antifoaming agent b) Antimicrobial agents
   c) Sterile air d) Sterile medium

6) *Agrobacterium tumefaciens* is soil borne _____ bacteria.
   a) Gram positive b) Gram negative c) Both a) and b) d) None of these

7) Identify the strains used for commercial production of vitamin B_{12}.
   a) *Streptomyces olivaceus* b) *Streptomyces griseus*
   c) *Streptomyces albidoflavus* d) All of these

8) An enzyme that cleaves DNA at specific site is called
   a) Restriction ribonuclease b) Restriction endonuclease
   c) Trypsin d) *E.Coli* DNA ligase

9) _____ does not require aeration during their production by fermentation technology.
   a) Penicillin b) Streptomycin c) Dextran d) Cobalamine

10) PCR is useful in the diagnosis of
   a) HIV b) Fever c) Diabetes d) None of these

11) Northern blotting technique is used for the confirmation of
   a) DNA b) RNA
   c) Both DNA and RNA d) Proteins

12) Identify an enzyme not to be used in disaggregation of tissues in animal cell culture.
   a) Catalase b) Trypsin c) Collagenase d) Pronase

13) _____ is an example of cytokinine.
   a) Kinetin b) Zeatin
   c) 6-benzyl amino purine d) All of these

14) _____ extract is most commonly used for growth of animal cell and it's substituted by mixture of amino acids.
   a) Chick embryo b) Liver c) Spleen d) Bone marrow

15) _____ is mainly used for cell division and root initiation in cultured tissues.
   a) Gibberellin b) Cytokinin c) Abscisic acid d) Auxin

2. Answer **any five** of the following questions : **(5×5=25)**
   1) Discuss future scope of biotechnology in pharmaceutical industry.
   2) Explain construction of conventional fermenter with neat labelled diagram.
   3) Write a note on cryopreservation technique with their applications.
   4) Add a note on electroporation with their merits and demerits.
   5) Explain plasmid as a vector.
   6) Describe artificial media used in animal tissue culture.

3. Answer **any three** of the following questions : **(3×10=30)**
   1) Explain in detail different bioconversion reactions with special reference to steroids.
   2) Discuss in detail requirements for establishing tissue culture laboratory.
   3) Describe any two blotting techniques with their applications.
   4) Discuss insulin production by r-DNA technology.

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SLR-TA – 38

Seat No.	

Set **P**

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

Day and Date : Friday, 4-5-2018 Max. Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

1. MCQ's : **15**

1) Aerosols are suspension of liquid globule for solid particle in
   a) Gas vehicle b) Liquid molecule
   c) Ointment base d) Aqueous solution

2) The rate of sedimentation of flocculated suspension is
   a) Low b) High c) Unknown d) Uncontrolled

3) Higher zeta potential gives deflocculated type suspension a result in
   a) Sedimentation b) Transparent form
   c) Cake form d) Brittle form

4) To identify the emulsion type which of the following test are conducted
   a) Dye test b) Dilution test
   c) Conductivity test d) All the above

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

6) Fine droplet from lung spray are produced by using
   a) Atomizer b) Nebulizer c) Propellant d) Sprayer

7) Propellant used for topical aerosol is
   a) Propane b) Nitrous oxide
   c) Trichloromono fluro methane d) n-Butane

8) One of the following apparatus is used to determine the particle size by gravity sedimentation
   a) Pylerometer b) Ostwald viscometer
   c) Andreasen apparatus d) None of the above

9) Which of the following fatty acid used in water removable cream as emulsifier ?
   a) Steric acid b) Palmitic acid
   c) Both a) and b) d) None of the above

10) Proportion of oil water and gum in emulsion containing volatile oil should be
a) 1 : 1 : 1 b) 2 : 1 : 1 c) 2 : 2 : 1 d) 1 : 2 : 2

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

12) In the preparation of vanishing creams which types of bases are used generally
a) Absorption base b) Water removable base
c) Hydrocarbon base d) None of the above

13) Nature of propellant is determined by
a) Karl Fisher method b) Gas chromatography
c) UV method d) None

14) Water soluble base is also known as
a) Greasy ointment base b) Greaseless ointment base
c) Both a) and b) d) None

15) Dip tube of aerosol container is made up from
a) Polypropylene b) Glass
c) Stainless steel d) Aluminium

2. Solve **any five** : **(5×5=25)**

1) Define ointment. Write in detail ointment bases.
2) Define gel and jellies, write stability testing and rheology of gel.
3) Write a note on eye mascara.
4) Write an note on suspension aerosol and dry powder aerosol.
5) Classify cosmetics and write their examples.
6) Write a note on Metered dose aerosol.

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

1) Define aerosol. Write application of aerosol, write in detail quality control test for aerosol.
2) Define suspension. Write in detail evaluation of suspension.
3) Define Lipstick. Write in detail ingredients and problems encountered in lipstick formulation.
4) Define creams, write in detail evaluation of Creams.

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SLR-TA – 39

Seat No.	

Set P

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

Day and Date : Monday, 7-5-2018 Max. Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

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

1) Two equal size bean shaped cells in stomata are known as _____
   A) Stone cells B) Aeranchyma cells
   C) Guard cells D) Acicular cells

2) Millions test is positive for _____
   A) Cotton B) Silk C) Jute D) Both A and C

3) Stage micrometer is not used in determination of _____
   A) Stomatal number B) Stomatal index
   C) Vein-islet number D) Vein-let termination number

4) *Azadirchta indica* belonging to _____ family.
   A) Malvaceae B) Moraceae C) Meliaceae D) Apocynaceae

5) Haridra is synonym of _____
   A) Hirda B) Behda C) Turmeric D) Podophyllum

6) _____ contains ketone as a functional group in their structure.
   A) Fenchone B) Muskone C) Menthol D) Both A and B

7) Agarose and agaropectin are important constituents of _____
   A) Amylum B) Indian gum
   C) Indian psyllium D) Japanese isinglass

8) Identify the drug belonging to phenol volatile oil.
   A) Fennel B) Clove C) Cassia D) Mentha

9) Isabgol consist of _____ parts of the plant.
   A) Seed B) Fruit C) Husk D) Both A and C

10) Identify wax obtained from animal origin.
   A) Bees wax B) Spermaceti wax
   C) Japan wax D) Both A and B

P.T.O.

11) Resins contains all of the following except _____
A) Esters B) Alcohol C) Phenol D) Ether

12) Myristic acid is an active constituent of _____
A) Shark liver oil B) Cod liver oil C) Ceraflava D) Castor oil

13) Identify the drug belonging to Moraceae family.
A) Gunny B) Himalayan May Apple
C) Haridra D) Cannabis

14) Select the drug not belonging to tannin class.
A) Hirda B) Behda C) Peppermint D) Catechu

15) _____ produces dark colouration with ferric chloride solution.
A) Clove B) Cassia C) Catechu D) All of these

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

1) Discuss cultivation, collection and processing of fennel fruit.
2) Write identification tests of vegetable gelatin.
3) Give importance of volatile oil with suitable examples.
4) Write a note on carbohydrate fibres.
5) Write a note on Insect flower.
6) Define lipids. Write any four qualitative chemical tests used for detection of fixed oils and fats.

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

1) Discuss pharmacognostic scheme of pale catechu.
2) Define resins. Classify with suitable examples. Write a note on cannabis.
3) Discuss carbon fixation pathway leading to primary and secondary metabolites.
4) Write biological source, active constituents with their structure and uses of any one crude drug of the following classes :
a) Containing arabin as active constituent
b) Containing curcumin as active constituent
c) Containing Vitamin A as active constituent
d) Containing muskone as active constituent
e) Containing nocotine as active constituent

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SLR-TA – 40

Seat No.	

Set **P**

B.Pharm. (Semester – VI) (CGPA) Examination, 2018
MEDICINAL CHEMISTRY – II

Day and Date : Friday, 11-5-2018 Max. Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

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

1) Isoniazide inhibits
   A) Xanthine oxidase B) GABA
   C) Mycolase synthase D) Choline esterase

2) The long acting sulphonamide is
   A) Sulphamethoxazole B) Sulphadiazine
   C) Sulphacetamide D) Sulphadoxine

3) _____ is used as Quinoline antibacterial agent.
   A) Metronidazole B) Niclosamide
   C) Norfloxacine D) Nimusulide

4) Identify which group present at C-4 position of sulphonamide.
   A) Amino B) Nitro C) Methyl D) Acetyl

5) Griseofulvin shows action by interfering with
   A) Mitosis B) Meiosis
   C) Peptide synthesis D) Protein synthesis

6) Which of the following ring is present in Sulphamethoxazole ?
   A) Pyridine B) Oxazole
   C) Iso-oxazole D) Thiazole

7) Amantidine used as antiviral agent by inhibiting
   A) Uncoating of the influenza B) RNA synthesis
   C) Xanthine oxidase D) DNA gyrase

8) Cardiotoxicity is major drawbacks for use of _____ anticancer drug.
   A) Cisplatin B) Doxorubicine
   C) Nitrosoureas D) 5-fu

9) Which one is alkylating agent ?
A) Thioguanin B) Mitomycine C) Tacrolimus D) Doxorubicine

10) _____ drug inhibits DNA gyrase enzyme.
A) Sulphasalzine B) Sparfloxacine
C) Stavudine D) Trimethoprime

11) Mechanism of action of Tenofovir is
A) Uncoating inhibitor B) Reverse transcriptase inhibitor
C) Adsorption inhibitor D) Protease inhibitor

12) _____ is a starting material for synthesis of Amantidine.
A) 1-bromoadmantane B) Rimantidine
C) 2-bromoadmantane D) Tromatidine

13) Chloroquine is derivatives of
A) 8-aminoquinoline B) 9-aminoacridine
C) 4-aminoquinoline D) 3-aminoquinoline

14) Which of the following drug is used in candidiasis ?
A) Griseofulvin B) Thioacetazone
C) Tolnaftate D) Tolbutamide

15) The sugar that is inherent in nucleic acid RNA and DNA is
A) Glucose B) Digitoxose C) Ribose D) Sucrose

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

1) Discuss DOT therapy in anti T. B. treatment.
2) Explain the term “reverse transcriptase inhibitors”.
3) Draw the structure, SAR and MOA of 5 FU.
4) What is combination therapy ?
5) Explain SAR and MOA of Nalidixic acid used as Quinoline antibacterial agent.
6) Describe viral replication process and classify with e.g.

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

1) Outline synthesis and uses of chloroquine, acyclovir, amantidine, isoniazide.
2) Explain the life cycle of malarial parasite and classify anti malarial drugs with e.g.
3) Classify anti-neo plastic agent giving suitable e.g. Explain MOA of alkylating agent.

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SLR-TA – 41

Seat No.	

Set P

B.Pharmacy (Semester – VI) (CGPA) Examination, 2018
PHARMACEUTICAL ANALYSIS – IV

Day and Date : Monday, 14-5-2018 Max. Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

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

1) Nujol is _____

a) Hexachlorobutadine b) Mineral oil

c) Perfluorokerosene d) Flurolube

2) The glass electrode used in pH measurement is _____

a) Metal-Metal oxide electrode b) Membrane electrode

c) Ion selective electrode d) None of above

3) The unit of measurement of conductance is _____

a) Ohms b) Amperes

c) Mhos d) Mill volts

4) A target material used in production of X-rays is _____

a) Potassium b) Copper

c) Aluminum d) Sodium

5) X-ray spectral lines K_{α} doublet arises from transition of electrons from _____

a) M shell to K shell b) L shell to K shell

c) L shell to M shell d) M shell to L shell

6) IR spectra appear as dip in curve rather than maxima as in UV visible spectra because it is plot of _____

a) % Absorbance Vs Wave Number b) % Transmittance Vs Concentration

c) % Absorbance Vs Concentration d) % Transmittance Vs Wave Number

7) If the position of atom changes with respect to original bond axis is called as _____

a) Stretching b) Rocking

c) Scissoring d) Bending

8) Crystal structure can be studied by using _____

a) X-ray absorption method b) X-ray diffraction method

c) X-ray fluorescence method d) X-ray emission method

9) Which of the following can be detected by using X-ray diffraction method ?

a) Polymer characterization b) Tooth enamel

c) Detection of Na and K in Urine d) Both a) and c)

10) The electro chemical method used to measure the electromotive force is called as _____

a) Potentiometry b) Conductometry

c) Polarography d) Amperometry

11) Which is the example for Weak Acid Vs Strong Base ?

a) HCl Vs NaOH b) CH_3COOH Vs NaOH

c) HCl Vs NH_4OH d) CH_3COOH Vs NH_4OH

12) The conductivity of solution changes due to _____

a) Change in number of ions b) Mobility of ions

c) Both a) and b) d) Concentration of ions

13) Which of the following electrode can be used as both reference and indicator electrode ?

a) Glass electrode b) Hydrogen electrode

c) Saturated calomel electrode d) Antimony electrode

14) Calibration of IR can be done by using _____

a) Polyethelene b) Polyporylene

c) Polyphenyl d) Polysterene

15) The region below 1500 cm^{-1} is called as _____

a) Infrared active region b) Functional group region

c) Finger print region d) Dipole moment region

2. Answer **any 5** : **(5×5=25)**

   1) Write a note on particle size distribution by using X-ray techniques.

   2) Define specific rotation, molar refraction, specific refractive index increment. Add a note on factors affecting refractive index.

   3) Enlist different types of electrodes in potentiometer. Add a note on normal hydrogen electrode.

   4) What are the requirements of molecule to absorb IR radiations ?

   5) Explain finger print region. Add a note on different vibrational modes.

   6) How will you identify the substance by using IR ?

3. Answer **any 3** : **(3×10=30)**

   1) Explain the instrumentation of X-ray diffraction. Add a note on production of X-rays.

   2) Explain different types of conductometric titrations.

   3) Explain TG curve. Add a note on factors affecting TG curve.

   4) Explain the factors influencing vibrational frequencies. Add a note on detectors used in IR.

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SLR-TA – 42

Seat No.	

Set P

B.Pharmacy (Semester – VI) (CGPA) Examination, 2018
PHARMACOLOGY – II

Day and Date : Wednesday, 16-5-2018 Max. Marks : 70
Time : 10.30 a.m. to 1.30 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) Identify a diuretic showing highest degree of Hypokalemia among the following
   a) Furosemide b) Hydrochlorothiazide
   c) Acetazolamide d) Indapamide

2) Doubling of plasma concentrations of Digoxin may occur upon concurrent use of Quinidine because _____
   a) Reduced Tissue binding of Digoxin
   b) Reduced Renal and Biliary Clearance of Digoxin
   c) Reduced Digoxin Metabolism
   d) Both (a) and (b)

3) A newer beta blocker which has become popular as an antihypertensive is _____
   a) Celiprolol b) Atenolol c) Acebutalol d) Nebivolol

4) Drug peak related adverse effects of Nifedipine can be reduced by following precautions EXCEPT
   a) Smaller starting doses
   b) Use of daily doses in divided fractions
   c) Use of retard formulations
   d) By using it every alternate day

5) The drugs included in _____ class of anti-arrhythmics have the highest propensity to induce an arrhythmia themselves.
   a) Class IA b) Class IB c) Class IC d) Class II

6) _____ is rare but the most serious adverse effect of statins.
   a) Rise in serum transaminases b) Myopathy
   c) Bowel upset d) Sleep disturbances

7) _____ is the safest anticoagulant in pregnancy.
   a) Warfarin b) Phenindione c) Heparin d) Dicumarol

8) A thrombolytic capable of causing hypersensitivity reactions is
   a) Urokinase b) Streptokinase c) Alteplase d) Reteplase

9) Longer acting beta adrenergic agonists used as bronchodilators include
   a) Phenylephrine b) Salbutamol c) Salmetrol d) Terbutalin

10) A mast cell stabilizer useful as a prophylactic in bronchial asthma is
   a) Montelukast b) Ketotifen c) Budesonide d) Tiotropium

11) Cramping abdominal pain is an adverse effect observed with
   a) Castor Oil and Senna b) Ispapagula and Bran
   c) Racecadotril d) Liquid Paraffin

12) Anti-androgenic effects are seen with
   a) Cimetidine b) Ranitidine c) Roxatidine d) Famotidine

13) Omeprazole is activated at pH of _____ before it binds with the proton pumps.
   a) <9 b) 7 c) <5 d) >9

14) Specific antidote for OPC poisoning is _____ if treatment is started early; however _____ is routine use antidote for the OPC poisoning.
   a) Fomepizole; Ethanol b) Pralidoxime; Atropine
   c) Doxapram; Naloxone d) Amphetamine; Flumazenil

15) Emesis should not be tried in case of poisoning with _____
   a) Belladona b) Corrosive substance
   c) Morphine d) OPC

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

A) 'Diuretics are classified according to their potency'. Explain.

B) List out different classes of antiemetics with specific examples.

C) Outline the treatment of shock with special reference to use of Positive Inotropic Agents.

D) Write mechanism of action and adverse effects of Castor Oil and Liquid Paraffin.

E) Enumerate different classes of anti-arrhythmic drugs with appropriate examples.

F) Describe manifestations, first aid and management of OPC poisoning.

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

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

B) Describe the strategies for drug use in asthma in a classified manner. Write an account on use of Bronchodilators in termination of an ongoing attack of asthma.

C) Write mechanism of action and adverse effects of Organic Nitrates and Quinidine.

D) Classify antihypertensive drugs with examples. Explain use of antihypertensive depending on staging of hypertension.

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SLR-TA – 43

Seat No.	

Set P

B.Pharmacy – III (Semester – VI) (CGPA Pattern) Examination, 2018
CLINICAL PHARMACOLOGY

Day and Date : Friday, 18-5-2018 Max. Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

1. MCQ : **(1×15=15)**

1) Obesity affect pharmacokinetic and pharmacodynamics of sedative agent due to which of following
   a) Decrease in lean body mass
   b) Increase in glomerular filteration rate
   c) Increase in cardiac output
   d) Increase in plasma protein binding

2) Down regulation of receptor can occur as a consequence of
   a) Continuous use of agonist
   b) Continuous use of antagonist
   c) Chronic use of CNS depressant
   d) None of above

3) High clearance drug are
   a) Depend on blood flow
   b) Not depend on blood flow
   c) Depend on bile flow
   d) Not depend on bile flow

4) Microsomal enzyme induction can be a cause of
   a) Tolerance
   b) Physical dependence
   c) Psychological dependence
   d) Idiosyncrasy

5) The side effect of drug which has been used as therapeutic effect in another condition is
   a) Constipation caused by codeine
   b) Cough caused by captopril
   c) Uterine stimulation caused by quinine
   d) Diarrhea caused by ampicillin

P.T.O.

6) Which of the following is the type B (Unpredictable) adverse drug reaction ?
   a) Side effect
   b) Toxic effect
   c) Idiosyncrasy
   d) Physical dependence

7) Which of the following is not one of the principles set forth in the Belmont Report ?
   a) Justice
   b) Beneficience
   c) Freedom
   d) Respect of person

8) Microdosing studies are done before start of
   a) Phase I b) Phase II c) Phase III d) Phase IV

9) What is the purpose of phase I clinical trials ?
   a) To select a lead compound from lead series
   b) To identify a target population
   c) To establish the safety of administration to humans
   d) To test whether the proposed drug actually works

10) Prior to subject participation in the trial, the _____ should be signed and personally dates by the subject.
   a) Protocol
   b) Clinical trail agreement
   c) IRB approval report
   d) Written informed consent form

11) The major purpose of Randomization in clinical trials is to
   a) Facilitate double blinding
   b) Help ensure that study subject are representative of general population
   c) Reduce selection bias in allocation of treatment
   d) None of above

12) The null hypothesis
   a) Is the opposite of research hypothesis
   b) Provides, when rejected, support for the research hypothesis
   c) Is a tool in the reasoning process
   d) All of above

13) The period of pregnancy during which drug administered to mother result in either all or none response
   a) Conception to 17 day of gestation
   b) 18 to 55 days of gestation
   c) 56 days onwards
   d) None of above

14) What do you mean by poly pharmacy ?
   a) Many drugs prescribed in patients
   b) Drugs taken from many pharmacies
   c) Drugs prescribed in many patients
   d) None of above

15) Pharmacovigilance is relating to detection, assessment, understanding and prevention of
   a) Adverse effect
   b) Drug interaction
   c) Unethical practice
   d) None of above

2. Answer **any five** : **(5×5=25)**

1) Explain in detail Nuremberg code.
2) Define side effect, Idiosyncrasy, Teratogenicity, Supersensitivity and Intolerance with example.
3) Describe factor which contributing to occurrence of drug interaction.
4) Write note on use of drug in pediatrics population.
5) Write note on Ethical principle in clinical trials.
6) Write note on Meta-analysis.

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

1) Explain in detail Pharmacovigilance and safety data reporting.
2) Write note on dosage adjustment in liver and kidney disease.
3) Explain in detail phases of clinical trial and types of clinical trail.
4) Discuss the case study of Bronchial asthma and acute myocardial infarction.

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Seat No.	

Set P

B.Pharm. (Semester – VII) (CGPA) Examination, 2018
STERILE DOSAGE FORMS

Day and Date : Thursday, 3-5-2018 Max. Marks : 70
Time : 3.00 p.m. to 6.00 p.m.

I. MCQ's : **(1×15=15)**

1) Which is permitted limit for solid content in WFI ?
   a) 0.1 ppm b) 10 ppm c) 0.2 ppm d) 100 ppm

2) Isotonicity of an injections can be calculated by
   a) Freezing point method
   b) Molar concentration method
   c) Molecular weight
   d) Both a) and b)

3) To make isotonic opthalmic solution how much % of basic acid is needed ?
   a) 5 b) 0.9 c) 4 d) 1.9

4) _____ is/are the toxicity modifier in sterile preparations.
   a) NaCl b) Boric acid
   c) Dextrose d) All of the above

5) Which of the following is concerned with particle aggregation in parenteral suspension ?
   a) Injectability b) Syringe ability c) Zeta potential d) All of these

6) The cold DOP test is useful for the evaluation of
   a) HEPA b) Temperature sensitivity
   c) Blowers d) All of these

7) Reduction of microbial population by 90% is known as
   a) z-value b) f-value c) D-value d) N-value

8) As per GMP, for dilution of disinfectant which kind of water should be used _____
   a) SWFI b) WFI c) Distilled water d) All of these

9) pH of human tear is
   a) 1 to 3 b) 3 to 4.5 c) 5.5 to 6.1 d) 7.1 to 7.6

10) Viscocity enhancer in opthalmic preparation is _____
a) PVA b) Povidone c) Dextran d) Macrogel

11) Suspensions should never be administer by _____ route.
a) Iv b) Im c) Subcutaneous d) Endodermal

12) Which one of used for the formulation of LVP and need not to be sterile at the time of formulation ?
a) WFI b) SWFI
c) Bacteriostatic WFI d) All of these

13) Which of the following may not be additive in LVP ?
a) Preservative b) Buffers c) Co-solvent d) None of these

14) Which of the following routes provides maximum bioavailability ?
a) Iv b) Im c) Oral d) Subcutaneous

15) A clarity test in parenteral formulation is intended to control which of the following ?
a) Opacity b) Colour c) Solubility d) Particulate matter

II. Solve **any five** : **(5×5=25)**

1) Give an idea about large volume parenterals.
2) Write a note on parenteral packaging.
3) Discuss sterility testing.
4) Write a note on SUPAC guidelines.
5) Discuss merits and demerits of parenteral formulations.
6) Discuss ocular bioavailability.

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

1) Discuss majors to be utilized for the environmental control in parenteral manufacturing.
2) Give in detail account of parenteral processing.
3) Discuss different methods of sterilization and environmental validation.
4) Discuss FFS technology in parenteral formulations.

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Seat No.	

Set P

B. Pharmacy (Semester – VII) Examination, 2018
(CGPA)
PHARMACEUTICAL JURISPRUDENCE

Day and Date : Saturday, 5-5-2018 Total Marks : 70
Time : 3.00 p.m. to 6.00 p.m.

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

1) Biologicals are tested at _____
   a) Mumbai b) Kolkata
   c) Chennai d) Kasauli

2) The education regulation is published in official gazette by
   a) Ministry of education b) Central Govt.
   c) Drug Controller d) President, Pharmacy

3) VDRL antigen is to be tested and analyzed by the _____
   a) Drug Inspector
   b) Excise Commissioner
   c) Serologist and chemical examiner
   d) Drug Controller of India

4) Chloramphenicol comes under schedule
   a) G b) H c) W d) P

5) Left hand top corner of the label of schedule X drugs contains symbol
   a) XR_x b) R_x c) RMP d) TDS

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

7) Drug by air can be imported into India through
   a) Ahmedabad b) Delhi c) Chennai d) All the above

8) Example of schedule X drug is
   a) Ciprofloxacin b) Emetine c) Quinidine d) Diazepam

9) Penalty for use of Government analyst report for advertisement is _____
   a) Rs. 5,000 b) Rs. 2,500 c) Rs. 1,000 d) Rs. 500

10) The education regulations are laid down by
   a) Central Govt. b) State Govt.
   c) Pharmacy Council of India d) Ayurvedic Council of India

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

12) Ganja as per the Narcotic drugs and Psychotropic Substances Act means
   a) Flowering and fruiting tops of Cannabis sativa
   b) Flowering and fruiting tops, leaves and seeds of Cannabis sativa
   c) Roots of Cannabis sativa
   d) All parts of Cannabis sativa

13) A list of allopathic poison are given in schedule
   a) E b) F c) G d) H

14) Government opium factory is situated at _____
   a) Delhi b) Mumbai c) Hyderabad d) Neemuch

15) No schedule _____ drugs should be supplied by way of physician sample as per the D and C Act.
   a) H b) X c) C d) J

II. Answer **any five**. **(5×5=25)**

1) Give an account of Pharmaceutical legislation in India.

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

3) Enumerate the conditions for getting import licence for import of drugs personal use.

4) What are the objectionable advertisements as per the drugs and magic remedies (Objectionable advertisements) Act ? How are they controlled ?

5) Give a brief account of retail price of formulation under DPCO.

6) What are the offences and penalties under the Narcotics drugs and psychotropic substances Act ?

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

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

2) Write the constitutions and function of Ayurvedic, Siddha and Unani drugs technical advisory board.

3) Give a detailed account of first register and subsequent registers as per Pharmacy Act.

4) What are the objectives of Narcotics drugs and Psychotropic substances Act ? Discuss manufacture, possession and sale of Narcotic and Psychotropic drugs.

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Seat No.	

Set **P**

B.Pharmacy (Semester – VII) (CGPA) Examination, 2018
MEDICINAL CHEMISTRY – III

Day and Date : Tuesday, 8-5-2018 Max. Marks : 70
Time : 3.00 p.m. to 6.00 p.m.

1. Multiple Choice Questions : **15**

1) Morphine and heroin differ from each other in respect of _____
   a) Methyl group on nitrogen
   b) Absence of double bond between C4 and C6
   c) Acetyl group at C3 and C6
   d) Absence of D ring

2) Some adrenocorticoid are referred to as Δ corticoid because of _____
   a) High amount of unsaturation in the molecule
   b) Additional double bond in ring
   c) Presence of one double bond in each ring
   d) Absence of double bond in ring A

3) Estrogen, Progestin and Testosterone contain _____ carbon in their nucleus.
   a) 19, 21, 18 b) 18, 21, 19 c) 19, 18, 21 d) 18, 19, 21

4) _____ substituent on the nitrogen of morphine shows μ antagonist activity.
   a) $– CH_2 – CH = CH_2$ b) $– CH_3$
   c) $CH_2 – CH–Ph$ d) None of above

5) Which of the following is mainly anxiolytic drugs ?
   a) Imipramine b) Lithium
   c) Chlorpromazine d) Diazepam

6) Fluoxymestrone is modification of _____
   a) testosterone b) estrone
   c) progesterone d) none

7) Barbiturate is derivative of _____
   a) Urea b) Ethylalcohol c) Opium d) None of above

8) The chemical behavior of morphine alkaloid is _____
   a) Acidic b) Basic c) Neutral d) Amphoteric

9) Which of the following is not present in opium ?
   a) Cyclasocine b) Codeine c) Thebaine d) Papaverine

10) Proton pump inhibitor like omeprazole contain following ring system _____
   a) Pyrimidine b) Benzimidazole
   c) Benzothiazole d) Indole

11) _____ molecule contain benzothiazepine nucleus.
   a) Verapamil b) Amlodipine c) Cimetidine d) None of above

12) _____ is the first morphine antagonistic drug.
   a) Nalorphine b) Naloxone c) Pentazocine d) Levorphanol

13) _____ is the selective COX-2 inhibitor.
   a) Rofecoxib b) Probenacid
   c) Diphenhydramine HCl d) Pronethazine

14) _____ is used as antigout drug.
   a) Allopurinol b) Probenacid
   c) Acetoaminophen d) Mefenamic acid

15) _____ is selective serotonin reuptakes inhibitor.
   a) Phenelzine b) Fluoxetine c) Clonazepam d) All

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

1) Classify NSAID drug and explain MOA and SAR of p-aminophenol derivative.
2) Note on drugs used in gout disease.
3) Explain in detail TCA drugs.
4) Classify anticonvulsant drug and explain SAR of long acting barbiturate.
5) Classify CNS stimulant drug and explain analeptic drugs.
6) Classify narcotic analgesic drug and explain modification in morphine nucleus.

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

1) Classify Hypnotic and Sedative drug and explain MOA and SAR of benzodiazepine.
2) Classify antihistaminic drug and explain MOA and SAR of proton pump inhibitor.
3) Classify steroid and explain in detail corpus luteum hormone in detail.
4) Write synthesis of (a) Aspirin (b) Pentobarbitol (c) Heroin (d) Phenytoin (e) Diphenhydramine.

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Seat No.	

Set P

B.Pharmacy (Semester – VII) (CGPA) Examination, 2018
PHARMACEUTICAL ANALYSIS – V

Day and Date : Saturday, 12-5-2018 Total Marks : 70
Time : 3.00 p.m. to 6.00 p.m.

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

1) In gradient elution technique which property of mobile phase is most important
   a) Viscosity b) Boiling point c) Polarity d) Specific gravity

2) Particle size of adsorbent should be in the range of _____ mesh in Column chromatography.
   a) 100-200 b) 250-350
   c) <50 d) None of the above

3) In wet packing method of column _____ is serious issue.
   a) Clarity of column b) Air bubble
   c) Dryness of bed d) Column breaking

4) In TLC _____ is added in order to enhance adhesion of adsorbent over glass.
   a) Sodium sulfate b) Copper sulfate
   c) Ferrous sulfate d) Calcium sulfate

5) In _____ Chromatography eluent moves against the gravity.
   a) TLC b) Column
   c) Radiant paper d) Descending paper

6) Paper chromatography is influenced by _____
   a) Adsorption b) Partition
   c) Ion exchange d) Affinity

7) In flame ionization detectors _____ is measured.
   a) Resistance b) Melting point
   c) Current d) Absorbance

8) In HPLC terminology, if capacity factor $K' = 0$, it is interpreted as _____ separation.
   a) High b) Moderate c) Very high d) No clear cut

9) Hydrogen bonding interactions between mobile and stationary phases are not seen in
   a) HPLC b) Column c) TLC d) GLC

10) In ODS columns in HPLC, use of less polar mobile phase will influence RT
   a) Shorten RT b) Prolong RT
   c) No influence on RT d) None

11) In which of HPLC detector, compound loses its chemical structure
   a) RI detector b) Mass spectrometers
   c) UV visible d) Fluorescence

12) Cation exchange resins comprises
   a) Neutral groups b) Basic groups
   c) Acidic groups d) None

13) In the copolymerization of Styrene and divinyl benzene, _____ is employed.
   a) Triethyl amine b) Formaline
   c) NaOH d) Benzoyl peroxide

14) Ninhydrin is used to visualize _____
   a) Amino acids b) Alkaloids
   c) Flavanoids d) Reducing sugars

15) Carrier gas is a component of _____
   a) HPLC b) Ion exchange
   c) Column d) Gas chromatography

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

1) Define chromatography and classify in detail with examples.

2) Enlist the detector of HPLC and explain with neat figure the two detectors used in HPLC.

3) List out different types of paper chromatographic techniques and explain any two.

4) Explain different techniques of preparation of TLC plates.

5) Explain both dry and wet packing of column chromatography.

6) Define the terminologies :

   a) Retention time

   b) Retention volume

   c) Visualizing agent

   d) Gradient elution

   e) Partition coefficient.

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

1) With neat labeled diagram of GC, explain columns and detectors used in GC, explain at list two in each.

2) What do you mean by ion exchange chromatography. Which are the type of ion exchange resins available and explain the preparation of cation and anion exchange resins with chemical reactions.

3) Write a note on :

   a) HETP and

   b) Factors affecting Rf.

4) Explain different developmental techniques involved in thin layer chromatography. Also write a note on gel chromatography.

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Seat No.	

Set P

B.Pharmacy (Semester – VII) (CGPA) Examination, 2018
PHARMACOLOGY – III

Day and Date : Tuesday, 15-5-2018 Max. Marks : 70
Time : 3.00 p.m. to 6.00 p.m.

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

1) Alcohol is a neuronal _____
   A) Depressant B) Rubefacient
   C) Counter irritant D) Astringent

2) Aldehyde syndrome include _____
   A) Burning sensation B) Perspiration
   C) Vomiting D) All of above

3) Disulfiram is given _____ gm on first day.
   A) 1 B) 0.75 C) 0.5 D) 0.25

4) A blood level of _____ mg/dl methanol is associated with severe poisoning.
   A) > 50 B) < 50 C) < 75 D) > 57

5) _____ is a dissociative slower acting anaesthesia.
   A) Fentany B) Ketamine C) Etomidate D) Nitrous oxide

6) _____ use is now less compelling because of the increasing employment of non-irritant anaesthetics.
   A) Diazepam B) Atropine C) Famotidine D) Pantoprazole

7) _____ is the drug of choice for emergency control of convulsions.
   A) Clobazam B) Lorazepam C) Clonazepam D) Diazepam

8) Neuroleptics are also called as _____
   A) Antipsychotics B) Antimanic
   C) Antidepressants D) Antianxiety

9) Amitriptyline belongs to _____
   A) Reversible inhibitors of MAO-A
   B) Tri-cyclic antidepressants
   C) Selective serotonin reuptake inhibitors
   D) Atypical antidepressants

10) The indication of cognition enhancers include _____
   A) Multi infarct dementia B) Dizziness
   C) Learning defects D) All of above

11) Parkinsonism is characterized by _____
   A) Rigidity B) Tremor C) Hypokinesia D) All of above

12) _____ is a synthetic opioid.
   A) Pethidine B) Morphine C) Pholcodeine D) Codeine

13) Antipsychotic drug induced Parkinsonism is treated by _____
   A) Anticholinergics B) Carbamazepine
   C) Lomotrigine D) Phenytoin

14) Respiratory centre depression can be caused by all except _____
   A) Opium B) Strychinine C) Barbiturates D) Gelsemium

15) Ethanol is contraindicated in _____
   A) Peptic ulcer B) Hyper acidity C) Liver disease D) All of above

2. Solve **any five** : **(5×5=25)**

   A) How anti anxiety drugs act ? Brief and give their limitations.

   B) Write a note on immune stimulants.

   C) What are the pharmacological effects of morphine ?

   D) Give mechanism of action and adverse effects of insulin.

   E) What are the advantages and disadvantages of nitrous oxide, ether and halothane ?

   F) Define Anesthesia, Epilepsy, Sedative, Hypnotics and Mania.

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

   A) Define and classify oral hypoglycemic agents. Discuss the complete pharmacology of Sulphonylurea.

   B) Define psychosis. Classify anti psychotics, describe the complete pharmacology of chlorpromazine.

   C) Describe detail pharmacology estrogen and androgens. Add note on drugs used for erectile dysfunction.

   D) Describe in detail the pharmacology of ethanol.

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Seat No.	

Set **P**

B.Pharm. (Semester – VII) (CGPA Pattern) Examination, 2018
PHARMACOGNOSY – III

Day and Date : Thursday, 17-5-2018 Max. Marks : 70
Time : 3.00 p.m. to 6.00 p.m.

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

1) Alkaloid papavarine present in
a) Aloe b) Opium c) Bael d) Ergot

2) Lemon and orange peel are used as source of
a) Bioflavonoids b) Volatile oil
c) Citric acid d) Steroids

3) Papaya fruit contain _____ enzyme.
a) Pepsin b) Papain c) Amylase d) Trypsin

4) Identify cardiovascular compound from marine source.
a) Laminine b) Saxitoxin c) Ara-C d) Both a) and b)

5) Alkaloid of nux vomica are used as
a) CNS stimulant b) CNS depressant
c) CVS stimulant d) CVS depressant

6) Thalleoqiune test is used for identification of
a) Ephedrine b) Morphine c) Aloin d) Quinine

7) Vasaka contains _____ type of alkaloids.
a) Indole b) Purine c) Steroidal d) None of these

8) Barbaloin is an example of _____ glycoside.
a) –O- b) –C- c) -N- d) –S-

9) Dilute lodine solution is used to stain _____
a) Fixed oil b) Volatile oil
c) Polysaccharides d) Calcium oxalate

10) Vinca leaf contains _____ type of stomata.
a) Parallel b) Irregular c) Unequal d) Right angled

11) Liquorice contains _____ type of glycosides.
a) Cardiac b) Bitter c) Flavone d) Saponin

12) Sennosides are used as
a) Constipation b) Laxative c) Cardio tonic d) Diuretic

13) Cynogenetic glycosides gives _____ on hydrolysis.
a) Benzaldehyde b) Amino acid c) Alcohol d) Acetone

14) Identify the drug belongs to family Liliaceae.
a) Aloe b) Liquorice c) Mustard d) Cinchona

15) Identify the drug belongs to peptide alkaloid.
a) Vasaka b) Datura c) Ergot d) Lobelia

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

1) Write the source and uses of Lobelia and Coca.

2) Write a note on : (a) Ephedra (b) Cinchona.

3) Write the biological source, active constituent and uses of (a) Gingko (b) Periwinkle.

4) What are bitters ? Write their role in pharmacy.

5) Explain newer medicinal agents from marine source.

6) Give the allied drugs of digitalis.

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

1) What are glycosides ? Give their properties, classification, chemistry and uses. Write hydrolysis products of *Digitalis purpurea*.

2) a) Write the biosynthetic pathway leading to formation of Atropine.
b) Add a note on cynogenetic glycosides.

3) What are alkaloids ? Write pharmacognosy of any one indole alkaloidal drugs.

4) Describe the following :
a) Soybean
b) Urokinase
c) Holothurins
d) Ashwagandha.

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Seat No.	

Set P

B.Pharm. (Semester – VIII) (New CGPA Pattern) Examination, 2018
NOVEL DRUG DELIVERY SYSTEMS

Day and Date : Friday, 4-5-2018 Max. Marks :70
Time : 3.00 p.m. to 6.00 p.m.

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

1) Lupron implant is an example of
   a) Erodible implant b) Implant pump
   c) Both a) and b) d) None of these
2) For maximum bioavailability, drug should be targeted at
   a) Stomach b) Small intestine
   c) Large intestine d) Colon
3) Wicking agent is responsible for
   a) Repelling water molecules b) Attracting water molecules
   c) Repelling drug molecules d) Attracting drug molecules
4) The specific gravity of hydro dynamically balanced DDS should be in between _____
   a) 1.300 – 1.401 b) 1.425 – 1.535 c) 1.004 – 1.010 d) 1.125 – 1.365
5) For describing drug release by diffusion, which model fitting is suitable ?
   a) Zero order b) First order
   c) Higuchi model d) Hixon-crowel model
6) A tablet which does not release promptly after ingestion is known as
   a) Extended release b) Sustained release
   c) Delayed release d) All of these
7) Hydrophillic matrices are known as
   a) Swellable systems b) Non-swellable systems
   c) Insoluble plastic systems d) All of these
8) Eudragit S-100 is soluble at pH more than
   a) 7 b) 6 c) 5 d) 4
9) Majorly Hydrophilic polymer contains _____ group.
   a) Amino b) Carboxyl c) Hydroxyl d) All of these

10) GTT indicates polymer transition from _____ state.
   a) Rubbery to glassy b) Glassy to rubbery
   c) Liquid to vapour d) None of these
11) Polymethacrylates belongs to the class of
   a) Vinyl polymers b) Cellulose esters
   c) Silicones d) Polyesters
12) Acacia is a type of polymer
   a) Polysaccharides b) Cellulose esters
   c) Silicones d) Polyesters
13) For skin DDS is the main hurdle for drug absorption
   a) Stratum corneum b) Epidermis
   c) Dermis d) Subcutaneous tissue
14) BCS class three drugs have _____ permeability and _____ solubility.
   a) High, high b) Low, high c) High, low d) Low, low
15) For the testing of dosage form pooled sample is applicable for _____
   a) Immediate release b) Extended release
   c) Sustained release d) Both a) and b)

2. Solve **any five** : **(5×5=25)**
   1) Give the advantages and disadvantages of NDDS in detail.
   2) Discuss the applications of polymers in CRDDS.
   3) Give the pre-requisites of drug candidates for NDDS.
   4) Discuss the use of ion-exchange system for taste masking of drug.
   5) Elaborate iontophoresis and sonophoresis for delivery of drug.
   6) Discuss liposomes and resealed erythrocytes as a drug delivery system.

3. Solve **any three** : **(10×3=30)**
   1) Explain colon targeted DDS.
   2) Discuss diffusion and dissolution controlled drug release approaches for designing NDDS.
   3) Discuss osmotic drug delivery systems.
   4) Compare the release monographs of different dosage forms.

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Seat No.	

Set P

B.Pharmacy (Semester – VIII) Examination, 2018
(New CGPA)
PHARMACEUTICAL BUSINESS MANAGEMENT

Day and Date : Monday, 7-5-2018 Max. Marks : 70

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

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

1) Mail order business is
   a) Wholesale trade
   b) Direct selling trade
   c) Retail trade
   d) Retail trade by post

2) The maximum number of partners allowed in case of a banking firm is
   a) 15 b) 10 c) 35 d) 40

3) Coordinating peoples to achieve organizational goals is the process of
   a) Planning
   b) Directing
   c) Management
   d) Leadership

4) A commonly used basis for segmenting consumer markets is
   a) Organizational size
   b) Demographics
   c) Product type
   d) Price

5) A wholesaler deals with items manufactured by a single company is called
   a) Stockist
   b) Retailer
   c) a and b
   d) None of these

6) 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

7) Collection, analysis and reporting of available data for any given marketing situation is classified as
   a) External database b) Outsourced database
   c) Marketing research d) Both a and b

8) Segmentation on the basis of values and attitudes and behavioral patterns is an example of
   a) Geographic location b) Cultural factor
   c) Economical factors d) Political factors

9) The market research technique is used to get
   a) Qualitative feedback b) Quantitative feedback
   c) Both a and b d) None of these

10) The documents containing the agreement in partnership business is called
   a) Letter b) Documents
   c) Partnership deed d) Partner agreements

11) Advertising is a part of _____ function.
   a) Distribution b) Selling c) Sales promotion d) None of these

12) Selling is _____ oriented.
   a) Target b) Satisfaction
   c) Attraction d) None of these

13) The psychological factors influencing consumer behaviors are
   a) Motivations, perception, learning and attitudes
   b) Culture, subculture
   c) Reference group, family, roles and status
   d) All of the above

14) Last stage in the life cycle of product is
   a) Introduction b) Growth c) Decline d) Maturity

15) A process by which manufacturers and retailer help customers to differentiate between various products in a market is called
   a) Diffusion b) Innovation c) Market testing d) Branding

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

1) What are the salient features of Joint Hindu Family business ?
2) Comment on uniqueness of medical products marketing.
3) Write importance of delegation of authority and decision making.
4) Write in a brief about application of marketing research.
5) Explain in a brief about marketing mix.
6) Write a short note on training and recruitments of professional sales representatives.

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

1) Explain the various Channels of distribution of goods from producers to consumers.
2) Define brand and explain in a brief about importance and reasons for branding.
3) Discuss in detail about market behaviors' and consumer behaviours'.
4) Explain in detail about Pharmaceutical industry scenario and Pharmaceutical market in India.

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Seat No.	

Set **P**

B.Pharm. (Semester – VIII) (New CGPA Pattern) Examination, 2018
MEDICINAL CHEMISTRY – IV

Day and Date : Friday, 11-05-2018 Max. Marks : 70
Time : 3.00 p.m. to 6.00 p.m.

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

1) Binding of quaternary nitrogen of Ach has been described _____ on enzyme.
   a) Anionic site b) Cationic site c) Electronic d) None of these

2) _____ produces metabolism of Acetylcholine.
   a) Molindone b) Acetylcholine esterase
   c) Metyrosine d) Naltrexone

3) The drug which inhibits ACE is
   a) Captopril b) Verapamil c) Atenolol d) Reserpine

4) _____ is membrane stabilizing agent.
   a) Naproxin b) Digoxin c) Atenolol d) Quinidine

5) _____ drug irreversibly inhibits Acetylcholine esterase.
   a) Hyoscine b) α-naphthol c) Isoflurophate d) Reserpine

6) _____ is a ganglionic blocking agent.
   a) Hyoscine b) Hyoscyamine
   c) Tropine d) Mecamylamine

7) _____ is calcium channel blocker.
   a) Hydralazine b) Nifedipine c) Propranolol d) Provastatin

8) _____ is HMG COA reductase inhibitor.
   a) Atorvastatin b) Atenolol c) Adrenaline d) Enalapril

9) Papaverine is inhibitor of
   a) MAO b) ACE
   c) Phosphodiesterase d) None of these

10) In Pilocarpine, there is
   a) Imidazole and Furan moiety b) Pyridine and Furan moiety
   c) Imidazole and Pyran moiety d) Pyridine and Thiophene moiety

P.T.O.

11) Prazocin contains which of the following rings
   a) Piperazinyl Quinoxaline b) Piperazinyl quinazoline
   c) Pyridyl quinoxaline d) Pyridyl quinazolines

12) _____ drug used as Nitro vasodilator.
   a) Amlodipine b) Nitroglycerin c) Salbutamol d) Procanamide

13) _____ drug used as positive inotropic agent.
   a) Amlodipine b) Guanethidine c) Digitalis d) Benzthiazole

14) _____ is not QSAR parameter.
   a) Lipophilic b) Electronic c) Steric d) Aliphatic

15) _____ is adrenergic receptor antagonist.
   a) Cholesterol b) Amiodarone c) Prazocin d) Nicotine

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

   1) Classify antihyperlipidemic drugs. Explain HMG CoA reducatase inhibitors.
   2) Classify adrenergic blocking agents. Give SAR of β-adrenergic receptor antagonist.
   3) Outline the synthesis of Methyldopa and Salbutamol.
   4) Write a note on Free Wilson analysis.
   5) Explain SAR, Chemistry and MOA of Cardiac glycoside.
   6) Explain neuromuscular and ganglionic blocking agents.

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

   1) Enlist varies QSAR parameters. Explain in brief lipophilic, electronic and steric parameters of QSAR.
   2) Classify cholinergic agents. Write SAR, biosynthesis and metabolism of Acetylcholine.
   3) Explain biosynthesis and metabolism of Norepinephrine. Write SAR of adrenergic agonist and drug affecting catecholamine biosynthesis.
   4) Classify Antihypertensive agent. Explain in detail ACE inhibitors.

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Seat No.	

Set P

B.Pharm. (Semester – VIII) (New – CGPA) Examination, 2018
PHARMACEUTICAL ANALYSIS – VI

Day and Date : Monday, 14-5-2018 Total Marks : 70
Time : 3.00 p.m. to 6.00 p.m.

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

1) Nuclei having spin quantum number _____ zero, shows NMR phenomenon.
   A) > (greater than) B) = (equals to)
   C) < (less than) D) None of these

2) The chemical shift delta ppm value for aldehydic proton is _____
   A) 6 – 8 B) 4 – 6 C) 9.5 – 10 D) 11 – 12

3) Multiplicity of the peak in NMR spectroscopy is given by _____ rule.
   A) (M + 1) B) (M – 1) C) (n – 1) D) (n + 1)

4) Hydrolytic resistance test is carried out for _____ packaging material.
   A) Plastic B) Glass
   C) Rubber closure D) Aluminium foil

5) Reducing substance test is carried out for _____ packaging material.
   A) Plastic B) Rubber closure
   C) A) and B) D) Glass

6) Number of signals for 1,3-dibromopropane is _____
   A) 3 B) 2 C) 4 D) 6

7) _____ is not a component of mass spectrometry instrument.
   A) Ion source B) Detector
   C) Sample inlet system D) Magnet

8) Molecular ion peak in the mass spectrum gives information about _____ of the analyte sample.
   A) Isotope B) Mass
   C) Molecular formula D) Empirical formula

9) Which of the followings are the components of quality management system ?
   A) Quality assurance B) Quality control
   C) Good manufacturing practice D) All of these

P.T.O.

10) _____ is the most frequently occurring value in a series of a observation.
A) Mode B) Mean C) Median D) Standard deviation

11) _____ is a ability to elicit tests that are directly or by a well defined mathematical transformations proportional to the concentration of analyte in sample within a given range.
A) Accuracy B) Specificity C) Linearity D) Range

12) Revalidation is carried out when there is a _____
A) Change in equipment B) Change in procedures
C) Change in formulae D) All of these

13) _____ validation is the process by which it is established by laboratory studies that the performance characteristics of the method meet the requirements for the intended analytical applications.
A) Analytical method B) Process
C) Equipment D) Product

14) Standard deviation is obtained by taking
A) Square of the variance B) Square root of the median
C) Square standard error of mean D) Square root of the variance

15) What is the median of the data 7, 2, 4, 3, 2, 5, 10, 1, 12, 8 ?
A) 4 B) 5.5 C) 4.5 D) 5

2. Answer **any five** of the following questions : **(5×5=25)**
1) Write a note on f-test.
2) Draw a neat labeled diagram of mass spectrometer. Give its principle.
3) What is chemical shift ? Why TMS is used as internal standard ?
4) Write on process validation.
5) What is packaging material ? Describe grammage and carton drop test.
6) Write on solvents used in NMR spectroscopy. Enlist applications of NMR spectroscopy.

3. Answer **any three** of the following questions : **(3×10=30)**
1) Write on various parameters used in validation of analytical method as per ICH.
2) Explain with suitable diagram MALDI and electrospray ionization as an ion source in mass spectrometry.
3) Explain with suitable examples spin-spin coupling. Draw the structure of organic sample having molecular formula $C_4H_7O_2Br_2$ with NMR signals at 10.97 δ as singlet, 2.0 δ as quintet and 1.0 δ as triplet.
4) Write on general rules of fragmentation and types of ions produced in mass spectrometry.

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Seat No.	

Set P

B.Pharmacy (Semester – VIII) Examination, 2018
(New CGPA Pattern) PHARMACOLOGY – IV

Day and Date : Wednesday, 16-5-2018 Max. Marks : 70
Time : 3.00 p.m. to 6.00 p.m.

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

1) Which antibiotic is primarily bacteriostatic but becomes bactericidal at higher concentrations ?
   A) Erythromycin B) Tetracycline
   C) Chloramphenicol D) Ampicillin

2) Cross-resistance is more commonly seen between
   A) Bacteriostatic and bactericidal drugs
   B) Chemically or mechanistically related drugs
   C) Antibacterial and antiviral drugs
   D) Narrow-spectrum and broad-spectrum

3) The most important reason for highly restricted use of penicillin G injections in present day therapeutics is its
   A) Narrow spectrum of activity
   B) Potential to cause hypersensitivity reaction
   C) Short duration of action
   D) Neurotoxicity

4) Chloramphenicol belongs to the class of
   A) Macrolide antibiotics B) Nitroimidazoles
   C) Nitrobenzene derivative D) Aminoglycosides

5) *Mesna* is administered with cyclophosphamide and ifosphamide to
   A) Potentiate their cytotoxic action
   B) Retard their renal excretion
   C) Block their emetic action
   D) Ameliorate cystitis caused by them

P.T.O.

6) Which one of the following is having least nephrotoxic property ?

A) Neomycin B) Streptomycin

C) Kanamycin D) Framycetin

7) Select the group of antibiotics having an antimalarial effect

A) Aminoglycosides B) Tetracyclins

C) Carbapenems D) Penicillins

8) The sensitive Mycobacteria convert Isoniazid in to an active metabolite by enzyme

A) Aminoglycosidase B) Penicillinase

C) Catalase-peroxidase D) Mycolic acid syntheses

9) Select the drug of choice for the treatment of extraluminal amebiasis

A) Iodoquinol B) Metronidazole

C) Diloxanide D) Tetracycline

10) Streptomycin binds to _____ and inhibits protein synthesis.

A) 50S ribosomal subunit

B) Interphase of 30S-50S ribosomal subunits

C) 30S ribosomal subunit

D) 80S ribosome

11) Select the cell cycle nonspecific antineoplastic drug.

A) Vincristine B) Bleomycin

C) Methotrexate D) 5-Fluorouracil

12) Dizziness, nausea, omiting, diarrhoea, abdominal pain and sinus bradycardia are dose-related reactions of

A) Terbinafine B) Primaquine

C) Mefloquine D) Pyrimethamine

13) All of the following antiviral drugs are the analogs of nucleosides, EXCEPT

A) Acyclovir B) Zidovudine

C) Saquinavir D) Didanozine

14) Dapsone has the same mechanism of action as that of

A) Mefloquine B) Tetracycline

C) Erythromycin D) Sulfonamides

15) Clavulanic acid is combined with amoxicillin because

A) It kills bacteria that are not killed by amoxicillin

B) It retards renal excretion of amoxicillin

C) It counteracts the adverse effects of amoxicillin

D) It inhibits beta lactamases that destroy amoxicillin

II. Answer **any five**. **(5×5=25)**

1) Classify antileprotic drugs and write the mechanism of action of dapsone.

2) Write the mechanism of action of vinca alkaloids and taxanes.

3) Name the topical and systemic aminoglycoside antibiotics and write their shared toxicities.

4) What are macrolide antibiotics ? And write its mechanism of action.

5) Write the advantages and disadvantages of the combined use of antimicrobial agents.

6) What is tuberculosis ? Write the mechanism of action of isoniazid.

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

1) Classify anticancer drugs with examples and write mechanism of action and uses of alkylating agents.

2) What are beta-lactam antibiotics ? Classify penicillin with suitable examples and explain how penicillin-G act as a bactericidal agent.

3) What are general toxicities of cytotoxic drugs ? Write the mechanism of development of microbial resistance towards antimicrobial agents.

4) Write the mechanism of action and uses of tetracyclines and sulfonamides.

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Seat No.	

Set **P**

VIII Semester B.Pharmacy (New CGPA) Examination, 2018
HERBAL TECHNOLOGY

Day and Date : Friday, 18-5-2018 Max. Marks : 70
Time : 3.00 p.m. to 6.00 p.m.

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

1) Method used for preparation of Asava and Arista is
   A) Sandhana B) Sodhana
   C) Marana D) Both A) and B)

2) Particle size for Ayurvedic churna is
   A) 85-100 B) 10-20 C) 40-60 D) 100-120

3) Avaleha is _____ type of Ayurvedic formulation.
   A) Solid B) Semisolid C) Liquid D) Semi liquid

4) More chances of toxicity, transformation and adultration are commonly found in
   A) Monoherbal B) Polyherbal
   C) Health foods D) None

5) Ideal time for collection of barks is
   A) After maturation B) In summer
   C) Post Rain Season D) Winter

6) _____ is determined by angle of repose in preformulation.
   A) Bulk density B) Flow properties
   C) Particle size D) None

7) Quality of herbal medicinal product is complies with
   A) GMP B) GLPC C) GACP D) All of above

8) Washability of colour and colour stability are the _____ parameters of hair colourents.
   A) Physical B) Chemical C) Biological D) Performance

9) Herbal cosmetics of Emulsion type are either _____ type.
   A) Monophasic B) Biphasic
   C) Triphasic D) Polyphasic

P.T.O.

10) Batch manufacturing record is comes under _____ Schedule.
A) M B) H C) U D) Q

11) Raw material analysis is essential to satisfy
A) Safety B) Quality C) Efficacy D) Quantity

12) Disintegration test is used for evaluation of
A) Vati B) Churna
C) Leha D) Taila

13) Eugenol is extracted by_____ method of extraction.
A) Infusion B) Decoction
C) Percolation D) Liquid liquid extraction

14) HPLC comes under which evaluation parameter ?
A) Physical B) Chemical C) Organoleptic D) Biological

15) Powdered herbs in coca butter base designed for rectal administration are known as
A) Suppositories B) Liniments
C) Salves D) Gutika

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

1) Enlist the methods of processing of herbs and explain in detail about post harvesting.
2) Define Herbal cosmetics, imported herbal preparation.
3) Explain principles behind monoherbal preparations with merits.
4) Explain in detail about evaluation of arista.
5) Write a note on QC of herbal cosmetic.
6) Write herbal regulatory requirements in India.

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

1) Give classification of hair care products and explain about QC of hair shampoo.
2) Write detailed methods of processing of herbs.
3) Define and explain in detail about
a) Taila-method of preparation b) Asava-evaluation.
4) Define herbal medicine and explain advantages and limitations of herbal medicines.

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