This question paper contains 2 printed pages]

SP—31—2024

FACULTY OF SCIENCE AND TECHNOLOGY

B. PHARMA (Second Semester) EXAMINATION

APRIL/MAY, 2024

HUMAN ANATOMY AND PHYSIOLOGY

Paper–II

(Wednesday, 15-05-2024) **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 *Hours* *Maximum Marks*—75

N.L. :— (*i*) *All* questions are compulsory.
(*ii*) Draw neat labelled diagram wherever necessary.
(*iii*) Figures to the right indicate full marks.
(*iv*) Answer to the point only.

1. Answer *all* the following : 10×2=20

(*a*) Enlist organs of respiratory system.

(*b*) Write a note on neurotransmitters.

(*c*) Give the function of salivary gland.

(*d*) What are the types of teeth ?

(*e*) What is oogenesis ?

(*f*) Enlist hormones of anterior pituitary gland.

(*g*) What is homeostasis ?

(*h*) Draw neat labelled diagram of Nephron.

(*i*) What is Tidal volume and vital capacity ?

(*j*) Write composition of CSF.

2. Solve any *two* of the following questions : 10×2=20

(*a*) Explain anatomy and physiology of urinary system.

(*b*) Explain Reflex mechanism with well labelled diagram.

(*c*) Explain in detail male reproductive system with well labelled diagram.

3. Solve any *seven* of the following questions : 7×5=35

(*a*) Explain the physiological roles of hormones secreated by posterior pituitary gland.

(*b*) Explain in detail structure and function of liver.

(*c*) Explain role of kidney in acid-base balance.

(*d*) Write structure and functions of various parts of female reproductive system.

(*e*) Draw a neat labelled diagram of brain with function.

(*f*) Explain formation and role of ATP.

(*g*) Explain structure and function of thyroid gland.

(*h*) Explain anatomy and physiology of lungs.

(*i*) Explain acid production cycle in stomach.

This question paper contains 4 printed pages]

SP—35—2024

FACULTY OF SCIENCE AND TECHNOLOGY

B. Pharm. (First Year) (Second Semester) EXAMINATION

MARCH/APRIL, 2024

PHARMACEUTICAL ORGANIC CHEMISTRY-I

(Friday, 17-05-2024) **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 *Hours* *Maximum Marks*—75

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Figures to the right indicate full marks.

(*iii*) Draw structures wherever necessary.

1. Answer the following questions : 10×2=20

(*a*) Write electromeric effect with example.

(*b*) Draw the structure and write the uses of formaldehyde and paraldehyde.

(*c*) What are the metamers ?

(*d*) Comment on ozonolysis of alkenes.

(*e*) Mention different types of alcohols with suitable examples.

P.T.O.

(*f*) Define the following :

(*i*) Cycloalkanes

(*ii*) Diens.

(*g*) What is effect of substituents on acidity of carboxylic acids ?

(*h*) Draw the structure of the following compounds :

(*i*) Propylene glycol

(*ii*) Salicylic acid

(*iii*) Amphetamine

(*iv*) Chloralhydrate.

(*i*) What is Wurtz reaction ?

(*j*) Write IUPAC name of the following :

(*i*) $CH_3CH_2CH_2COOH$

(*ii*)
$$CH_3CH_2\underset{\displaystyle OH}{\underset{|}{C}}HCH_3$$

(*iii*) $CH_3–CH = CH–CH_3$

(*iv*)
$$CH_3\underset{\displaystyle Cl}{\underset{|}{C}}H–\underset{\displaystyle OH}{\underset{|}{C}}H–CH_3$$

2. Attempt any *two* of the following : 2×10=20

(*a*) Explain kinetic, mechanism, stereochemistry and reactivity of S_N2 reaction.

(*b*) Explain the mechanism of Benzoin condensation and Crossed Cannizzaro Reaction.

(*c*) Discuss in detail E1 and E2 reaction.

3. Attempt any *seven* of the following : 7×5=35

(*a*) What is hybridization ? Write a note on SP^3 hybridization in alkanes.

(*b*) Describe basicity of aliphatic amines and write effect of substituent on it.

(*c*) Describe any *two* qualitative test of alcohols.

(*d*) Describe the chemical reaction (any *two*) of alkyl halides.

(*e*) Write in detail peroxide effect with suitable examples.

(*f*) Write chemical reaction for methods of preparation of carboxylic acids.

(*g*) Describe mechanism of Halogenation of Alkanes.

(*h*) Describe in detail exhaustive methylation of amines.

(*i*) Complete the following chemical reactions :

(*i*) $CH_3-CH=N-OH+4[H] \xrightarrow[Na/C_2H_5OH]{LiAlH_4} ?+?$

(*ii*) $CH_3-\overset{\overset{O}{\|}}{C}-OH \xrightarrow{LiAlH_4} ?$

(*iii*) $CH_3OH+? \longrightarrow CH_3Cl+?+HCl$

(*iv*) $CH_3CHO \xrightarrow[H_2O]{LiAlH_4} ?$

(*v*) $CH_3CHO \xrightarrow[H_2SO_4]{K_2Cr_2O_7} ?$

This question paper contains **2** printed pages]

SP—43—2024

FACULTY OF SCIENCE AND TECHNOLOGY

B. Pharma (First Year) (Second Semester) EXAMINATION

APRIL/MAY, 2024

PATHOPHYSIOLOGY

BP-204T

(Wednesday, 22-5-2024) **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 *Hours* *Maximum Marks*—75

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Figures to the right indicate full marks.

(*iii*) Answer to the point only.

1. Answer the following questions : 10×2=20

(*a*) What is megaloblastic anemia ?

(*b*) Give pathophysiology of atherosclerosis.

(*c*) Give the reason for cell swelling.

(*d*) What is the condition of Myocardial infarction ?

(*e*) What is Hepatitis ?

(*f*) Which are the disorders of sex hormones ?

(*g*) Give the treatment for Gout.

P.T.O.

(*h*) Define homeostasis and give its components.

(*i*) Which are the infectious diseases ?

(*j*) Give the causative agent of Malaria.

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

(*a*) Write a note on Diabetes.

(*b*) Write a note on sexually transmitted diseases and give its pathogenesis and treatment.

(*c*) Write a note on hypertension and peptic ulcer.

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

(*a*) Define Schizophrenia. Mention positive and negative symptoms of it.

(*b*) Explain Inflammatory Bowel diseases.

(*c*) Discuss pathogenesis of TB.

(*d*) Write in detail vascular events involved in the process of Inflammation.

(*e*) What is the morphology of cell injury ?

(*f*) Explain acute and chronic renal failure.

(*g*) Give pathophysiology of CHF.

(*h*) What is cancer ? Give its pathogenesis.

(*i*) Explain chronic obstructive pulmonary diseases.

This question paper contains **2** printed pages]

SP—39—2024

FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharma (First Year) (Second Semester) EXAMINATION

APRIL/MAY, 2024

BIOCHEMISTRY

(Monday, 20-5-2024) **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 *Hours* *Maximum Marks*—75

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Figures to the right indicate full marks.

(*iii*) Answer to the point only.

1. Solve *all* the questions : 10×2=20

(*a*) What is endergonic and exergonic reaction ?

(*b*) What is Allosteric inhibition ?

(*c*) Define :

(*i*) Anabolism

(*ii*) Catabolism.

(*d*) Draw structure of cholesterol.

(*e*) Give the properties of enzymes.

(*f*) What is enzyme induction and Repression ?

P.T.O.

(*g*) Enlist enzymes involved in protein synthesis.

(*h*) What is oxidative phosphorylation ?

(*i*) What is fatty liver and obesity ?

(*j*) Enlist properties of genetic codes.

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

(*a*) Explain in detail enzyme inhibition.

(*b*) What is metabolism ? Explain TCA cycle with its energetics.

(*c*) Explain Urea cycle and its metabolic disorders.

3. Solve any *seven* of the following : 7×5=35

(*a*) Explain in detail DNA Replication.

(*b*) Discuss β-oxidation of fatty acid.

(*c*) Explain factors affecting enzyme activity.

(*d*) Explain HMP pathway.

(*e*) Explain gluconeogenesis pathway.

(*f*) What is heteropoly saccharides ? Give classification of carbohydrate.

(*g*) Explain classification of enzymes according to IUB.

(*h*) What is glycogen storage disease ? Explain any *one*.

(*i*) Discuss mechanism of enzyme action.

This question paper contains **2** printed pages]

PP—31—2023

FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharm. (First Year) (Second Semester) EXAMINATION

NOVEMBER/DECEMBER, 2023

HUMAN ANATOMY AND PHYSIOLOGY–II

Paper BP201T

(Wednesday, 27-12-2023) **Time : 10.00 a.m. to 1.00 p.m.**

Time—Three Hours *Maximum Marks*—75

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Answer to the point only.

(*iii*) Draw a neat labelled diagram wherever necessary.

1. Answer to all the questions : 10×2=20

(*a*) Give composition and functions of CSF.

(*b*) Enlist different ventricles of brain.

(*c*) Give composition of saliva.

(*d*) Enlist the functions of creatine phosphate.

(*e*) Define lung volumes and lung capacities.

(*f*) Draw a neat labelled diagram of nephron.

(*g*) Classify endocrine hormones with suitable examples.

(*h*) Enlist the functions of pineal gland.

(*i*) Define the term pregnancy and parturition.

(*j*) Enlist the role of sex hormones.

P.T.O.

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

(*a*) Draw a neat labelled diagram of brain. Discuss in detail various sensory area and motor areas of cerebral cortex.

(*b*) Describe in detail anatomy and physiology of stomach and liver.

(*c*) Describe in detail anatomy and physiology of Female Reproductive System.

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

(*a*) Write a note on anatomy and physiology of Brain Stem.

(*b*) Write a note on electrophysiology of brain.

(*c*) Discuss in short about digestion of protein in GIT.

(*d*) Give a note on anatomy and physiology of Pancrease.

(*e*) Write about transport of respiratory gases.

(*f*) Write a note on physiology of urine formation.

(*g*) Discuss about anatomy and physiology of Thyroid gland.

(*h*) Discuss in detail various phases of menstrual cycle.

(*i*) Write a short note on physiology of respiration.

14445558ABC43A011FA3019622556500

This question paper contains **3** printed pages]

PP—35—2023

FACULTY OF PHARMACEUTICAL SCIENCE AND TECHNOLOGY

B.Pharm. (Second Semester) EXAMINATION

NOVEMBER/DECEMBER, 2023

PHARMACEUTICAL ORGANIC CHEMISTRY–I

Paper BP202T

(Friday, 29-12-2023) **Time : 10.00 a.m. to 1.00 p.m.**

Time—Three Hours *Maximum Marks—75*

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Draw structure(s) and write reaction(s) wherever necessary.

(*iii*) Figures to the right indicate full marks.

1. Answer all the questions : 10×2=20

(*a*) Write the structure and uses of acetic acid and lactic acid.

(*b*) How do you differentiate aldehydes and ketones by chemical test ?

(*c*) Define metamerism with example.

(*d*) Give the reason why Trimethyl amine is less basic than dimethylamine.

(*e*) Write the structure of :

(*i*) 1, 3 butadiene

(*ii*) 2, 4, 6 Tribromo aniline.

P.T.O.

(*f*) Give an example of Diels Alder reaction.

(*g*) Explain the stability of alkenes with an example.

(*h*) Give the structure and uses of Iodoform and Chloroform.

(*i*) Write a method for conversion of carboxylic acid to acid halide.

(*j*) Define electromeric effect with an example.

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

(*a*) Define elimination reaction. Discuss the kinetics and mechanism of E_1 and E_2 reaction with suitable example.

(*b*) Explain the reaction and mechanism of Perkin condensation and aldol condensation.

(*c*) (*i*) Define and classify carbocation. Add a note on stability of carbocation.

(*ii*) Differentiate between SN_1 and SN_2 reactions.

3. Solve any seven of the following : 7×5=35

(*a*) Why carboxylic acid are acidic in nature ? Write the effect of electron withdrawing group on acidity.

(*b*) What is hybridization ? Write a note on sp_3 hybridization in alkanes.

(*c*) What are aliphatic amines ? Explain any *three* chemical reactions of aliphatic amine.

(*d*) Give any *four* chemical reactions of alkyl halides.

(*e*) What are carbonyl compounds ? Give any *three* general reactions of ketones.

(*f*) How do you distinguish primary, secondary and tertiary alcohols by chemical tests ?

(*g*) Write the general rules for IUPAC nomenclature of alkanes.

(*h*) Explain the reaction and mechanism of Cannizzaro reaction.

(*i*) Write structure of :

(*i*) Salicylic acid

(*ii*) Ethanolamine

(*iii*) Benzaldehyde

(*iv*) Methyl alcohol

(*v*) Dichloromethane.

This question paper contains **2** printed pages]

PP—39—2023

FACULTY OF SCIENCE AND TECHNOLOGY (PHARMACEUTICAL SCIENCE)

B.Pharm. (Second Semester) EXAMINATION

JANUARY, 2024

BIOCHEMISTRY

Paper–(BP-203T)

(Monday, 01-01-2024) **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 *Hours* *Maximum Marks*—75

N.B. :— (*i*) Draw diagram/structure wherever required.

(*ii*) Figures to the right indicate full marks.

1. Attempt *all* of the following : 10×2=20

(*a*) Define Carbohydrate.

(*b*) Why is sucrose known as invert sugar ?

(*c*) Write a note on tertiary structure of protein.

(*d*) Define Saponification number.

(*e*) What is diabetes ?

(*f*) Draw the structure ATP.

(*g*) What is meant by ketone bodies ?

(*h*) Define transamination.

(*i*) Draw the structure of purine.

(*j*) Define transcription.

P.T.O.

2. Attempt any *two* of the following : 2×10=20

(*a*) Define biomolecules. Give their characters. Explain different biomolecules with their functions.

(*b*) Discuss glycolysis. Explain stepwise pathway of glycolysis. Give its energetic and significance.

(*c*) Explain factors affecting enzyme activity and write a note on reversible enzyme inhibitor with example.

3. Attempt any *seven* of the following : 7×5=35

(*a*) Write a note on isoenzyme, NAD and NADP.

(*b*) Explain DNA replication.

(*c*) Discuss the functions of different Biomolecules.

(*d*) Explain ETC with its mechanism.

(*e*) Differentiate between Glycolysis and HMP shunt.

(*f*) What are lipids ? Explain various disorders of lipids.

(*g*) Analyze the relationship between energy, enthalpy and entropy.

(*h*) Prepare a note on mechanism of enzyme action.

(*i*) Write a note on polymerase chain reaction.

This question paper contains **2** printed pages]

PP—43—2023

FACULTY OF SCIENCE AND TECHNOLOGY
(PHARMACEUTICAL SCIENCES)
B.Pharm. (Second Semester) EXAMINATION
JANUARY, 2024

PATHOPHYSIOLOGY

(BP–204T)

(Wednesday, 03-01-2024) **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 *Hours* *Maximum Marks*—75

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Answer to the point only.

1. Answer *all* of the following : 10×2=20

(*a*) Define Homeostasis.

(*b*) Write down sign and symptoms of Hypertension.

(*c*) Enlist various neurological diseases.

(*d*) What is haemophilia ?

(*e*) Explain arteriosclerosis

(*f*) Give causes of anemia.

(*g*) Enlist chemical mediators of inflammation.

(*h*) Give sign and symptoms of Epilepsy.

(*i*) Enlist drugs used in treatment of gout.

P.T.O.

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

(*a*) What is cancer ? Give etiology and pathogenesis of cancer.

(*b*) Write etiology and pathogenesis of asthma and chronic obstructive pulmonary disease.

(*c*) Write down pathogenesis of Hypertension and Angina pectoris.

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

(*a*) Write a short note on goitre.

(*b*) Explain in brief pathophysiology of Atherosclerosis.

(*c*) Explain in detail about Atrophy and Hypertrophy.

(*d*) What is cell alkalosis and cell acidosis ?

(*e*) Differentiate between acute and chronic renal failure.

(*f*) Outline about Parkinsonism disease.

(*g*) Explain in detail about peptic ulcer.

(*h*) Outline treatment of tuberculosis.

(*i*) What are sexually transmitted diseases ? write a note on AIDS.

CADFC176CD987EDAE149CA8EDDCF0CF4

This question paper contains 2 printed pages]

DP—31—2022

FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharm. (First Year) (Second Semester) EXAMINATION

MARCH/APRIL, 2023

HUMAN ANATOMY AND PHYSIOLOGY-II

Paper-BP-201-T

(Friday, 17-03-2023) **Time : 10.00 a.m. to 1.00 p.m.**

Time— Three Hours *Maximum Marks—75*

N.B. :— (*i*) Answer to the point only.

(*ii*) Draw a neat labelled diagram wherever necessary.

(*iii*) *All* questions are compulsory.

1. Answer all the questions : 10×2=20

(*a*) Draw a neat labelled diagram of neuron.

(*b*) Define Neurotransmitters and enlist any *two* neurotransmitters.

(*c*) Write the functions of liver.

(*d*) Define the term BMR.

(*e*) Write the functions of calcitonin and PTH.

(*f*) Give the composition of normal urine.

(*g*) Define the terms chromosomes and genes.

(*h*) Give composition of gastric juice.

(*i*) Define the term Tidal volume and vital capacity.

(*j*) Define puberty and menopause.

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

(*a*) Draw a neat labelled diagram of pituitary gland and write the physiological role of pituitary gland.

(*b*) Discuss in detail digestion and absorption of carbohydrates, proteins and fats in GIT.

(*c*) Describe in detail the anatomy and physiology of Male Reproductive System.

P.T.O.

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

(*a*) Draw a neat labelled diagram of spinal cord and write in short about reflex activity.

(*b*) Write the physiology of urine formation.

(*c*) Write the mechanism of respiration.

(*d*) Write a note on menstrual cycle.

(*e*) Draw a neat labelled diagram of pancreas and write its functions.

(*f*) Write in brief on protein synthesis.

(*g*) Write the mechanism of RAAS in fluid balance.

(*h*) Write a short note on fertilization and spermatogenesis.

(*i*) Draw a neat labelled diagram of stomach and write its anatomy and physiology.

Total No. of Printed Pages:2

SUBJECT CODE NO:- DP-35
FACULTY OF SCIENCE & TECHNOLOGY
B.Pharm (Sem-II)
Examination March 2023
Pharmaceutical Organic chemistry –I

[Time: 3:00 Hours] **[Max. Marks:75]**

Please check whether you have got the right question paper.

N.B
1) All questions are compulsory
2) Write reactions examples & draw structures wherever necessary

Q.1 Answer the following question in short 2X10=20

i) Draw structure of organic compounds containing carbon & nitrogen as structural backbone (or) skeletes.
ii) Write IUPAC name & draw structure of salicylaldehyde
iii) Draw structure of 2,3 dimethyl benzamide
iv) Write a note on stability of dienes with example
v) Write crossed Aldol condensation reaction
vi) Draw structure & uses of vanillin & glycerol
vii) Write reaction for conversion of
  a) Alkanes to alkenes
  b) Alkenes to alkanes
viii) Write a note on hybridization & its types with example
ix) Write a reaction for conversion of acids to amines
x) Draw sp^3 hybridisation of alkanes

Q.2 Write answers of the following questions in detail (any 02) 20

1) Write reactions for conversion of
  a) Alkanes to alcohol
  b) Alkanes to carboxyllic acid
  c) Alcohol to aldehydes
  d) Acids to amines
  e) Alkenes to aldehyde & ketones

2) Write nucleophilic substation reaction for tertiary alkyl helps interms of its mechanism . stercochemistry & stability
3) Compare animo Unimolecular & bimolecular elimination reactions interms of kinetics mechanism & evidences , Saytzeff's rule

Q.3 Write answers of the following (any 7) 5X7=35

1) Write reaction & mechanism of halogenation of alkanes
2) Write in detail about reaction to differentiate different alcohols
3) Write a note on acidity of carboxylic acids
4) Write reactions to differentiate types of amines

5) Write a note on basicity of amines
6) Define & classify isomers with example
7) Write reactions for preparation of alkanes from aldehyde or ketone
8) Write reaction & mechanism for markovnikovis reaction & peroxide effects
9) Write any 05 reactions of alkenes

This question paper contains 2 printed pages]

DP—39—2022

FACULTY OF SCIENCE AND TECHNOLOGY

B. Pharm. (Second Semester) EXAMINATION

MARCH/APRIL, 2023

BIOCHEMISTRY

Paper-BP-203-T

(Thursday, 23-03-2023) **Time : 10.00 a.m. to 1.00 p.m.**

Time— Three Hours *Maximum Marks—75*

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Figures to the right indicate full marks.

(*iii*) Draw diagram/structure wherever necessary.

1. Answer all the following questions : 10×2=20

(*a*) What is reducing sugar and non-reducing sugar ?

(*b*) Draw structure of cholesterol.

(*c*) Define (*a*) Anabolism and (*b*) Catabolism

(*d*) Give biological significance of protein.

(*e*) What do you mean by exergonic and endergonic reaction ?

(*f*) What is Ketoacidosis ?

(*g*) Enlist factors affecting enzyme activity.

(*h*) Define enzyme and co-enzyme.

(*i*) Differentiate between Fats and Oils.

(*j*) What is Bioenergetics ?

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

(*a*) Explain in detail about DNA replication by semiconservative model.

(*b*) Discuss urea cycle and its disorders.

(*c*) What is Biomolecules ? Classify with suitable examples.

P.T.O.

3. Attempt any *seven* of the following : 7×5=35

(*a*) Discuss De-NOVO synthesis of palmitic acid.

(*b*) Define lipids. Classify them with suitable examples.

(*c*) Explain ETC.

(*d*) Discuss about energy rich compound and its types.

(*e*) Discuss TCA Cycle.

(*f*) Explain factors affecting enzyme activity.

(*g*) Discuss steps involved in protein synthesis.

(*h*) How β-oxidation of fatty acid works ? Explain with its energetics.

(*i*) Differentiate between glycogenosis and gluconeogenesis.

This question paper contains 2 printed pages]

DP—43—2022

FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharm. (Second Semester) EXAMINATION

MARCH/APRIL, 2023

PATHOPHYSIOLOGY

Paper BP204T

(Saturday, 25-3-2023) **Time : 10.00 a.m. to 1.00 p.m.**

Time—Three Hours *Maximum Marks—75*

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Answer to the point only.

1. Answer the following : 10×2=20

(*a*) Define the term cell injury.

(*b*) Enlist cardinal signs of inflammation.

(*c*) What is Hypoxia ?

(*d*) Enlist various infectious diseases.

(*e*) Write down clinical manifestations of typhoid.

(*f*) Explain Hypertrophy and Hyperplasia.

(*g*) Write a note on Gonorrhea.

(*h*) Enlist various causes of COPD.

(*i*) What is Megaloblastic Anemia ?

(*j*) Enlist sign and symptoms of Epilepsy.

P.T.O.

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

(*a*) What is Cancer ? Enlist various types of cancer. Give its clinical sign and symptoms and pathogenesis.

(*b*) Describe in detail about etiopathogenesis, causes and treatment of Hypertension.

(*c*) Explain in detail etiopathogenesis, clinical manifestations of Asthma and Tuberculosis.

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

(*a*) Explain etiopathogenesis of peptic ulcer.

(*b*) Write down sign and symptoms and treatment of Alzheimer's Disease.

(*c*) Explain positive and negative feedback mechanism.

(*d*) Define diabetes mellitus. Write its etiopathogenesis.

(*e*) Explain in detail about wound Healing.

(*f*) Write in detail about pathogenesis of atherosclerosis.

(*g*) Give causes of Jaundice, Hepatitis, Liver Cirrhosis.

(*h*) Explain in detail about Parkinson's disease.

(*i*) Explain pathophysiology of Gout.

This question paper contains **2** printed pages]

CO—4—2019

FACULTY OF SCIENCE AND TECHNOLOGY

B. Pharm. (First Year) (Second Semester) EXAMINATION

OCTOBER/NOVEMBER, 2019

HUMAN ANATOMY AND PHYSIOLOGY–II

Paper BP-201-T

(Thursday, 28-11-2019) **Time : 10.00 a.m. to 1.00 p.m.**

Time—Three Hours *Maximum Marks*—75

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Draw neat labelled diagram wherever necessary.

(*iii*) Figures to the right indicate full marks.

1. Solve all the following questions : 10×2=20

(*a*) Draw neat labelled diagram of neuron.

(*b*) Define menarch and menopause.

(*c*) Enlist role of ATP and creatinine phosphate.

(*d*) Write the role of parathrohormone and calcitonin.

(*e*) Give composition of saliva and its functions.

(*f*) Define lung volume and lung capacities.

(*g*) Write the changes occur in male during puberty.

(*h*) Write role of DNA in protein synthesis.

(*i*) Give normal and abnormal component of urine.

(*j*) Define the term peptic ulcer and pancreatitis.

P.T.O.

2. Solve any *two* of the following : 2×10=20

(*a*) Describe in detail anatomy and physiology of male reproductive system.

(*b*) Discuss in detail digestion of carbohydrates, protein and fats in gastro-intestinal track.

(*c*) Describe in detail anatomy and physiology of hormones secreted by pituitary gland.

3. Solve any *seven* of the following : 7×5=35

(*a*) Write the physiology of spermatogenesis.

(*b*) Explain in detail structure and functions of spinal cord.

(*c*) Describe anatomy and physiology of stomach.

(*d*) Explain in detail mechanism of respiration.

(*e*) Discuss physiology of urine formation.

(*f*) Write anatomy and physiology of thyroid gland.

(*g*) Write anatomy and physiology of cerebellum.

(*h*) Write a note on anatomy and physiology of liver.

(*i*) Write the role of kidney in acid-base balance.

This question paper contains **3** printed pages]

CO—09—2019

FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharm. (Second Semester) EXAMINATION

OCTOBER/NOVEMBER, 2019

PHARMACEUTICAL ORGANIC CHEMISTRY-I

(POC-I) (BP-202T)

(Saturday, 30-11-2019) **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 *Hours* *Maximum Marks*—75

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Draw structure and reaction wherever necessary.

(*iii*) Figures to the right indicate full marks.

1. Answer *All* the questions : 10×2=20

(*a*) Write any *one* qualitative test for amine indentification and differentiation.

(*b*) Draw sp^2 hybridization of ethene.

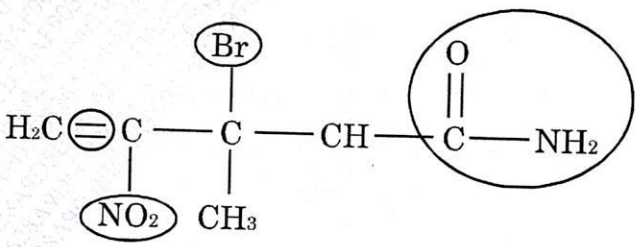
(*c*) Explain in brief about Inductive effect.

(*d*) Draw the structure of 1°, 2° and 3° alcohol.

(*e*) Write the reaction of :

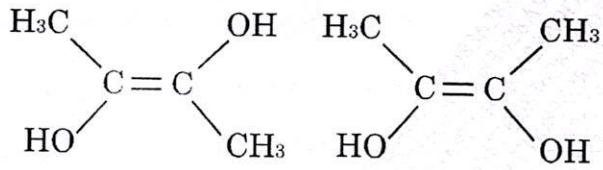
$$R - X \rightarrow R - OH.$$

(*f*) Draw IUPAC name :



P.T.O.

(*g*) Which one is more stable isomer of the following :



(*h*) Write nucleophilic addition of aldehyde and ketone.

(*i*) Write reaction of diene and dienophiles in terms of bond formation and bond breaking.

(*j*) Write IUPAC names of :

(*i*) Formaldehyde

(*ii*) Benzaldehyde.

2. Solve any *two* of the following : 2×10=20

(*a*) Write reaction, mechanism, stereochemistry and factors affecting on conversion of 1° alkyl halide into 1° alcohol as a nucleophilic substitution reaction.

(*b*) Explain unimolecular elimination reaction in terms of the following :

(*i*) Reaction

(*ii*) Mechanism

(*iii*) Kinetics

(*iv*) Stability of product.

(*c*) Write notes on the following :

(*i*) Acidity of carboxylic acid and effect of substituent.

(*ii*) Basicity of amine and effect of substituent.

3. Solve any *seven* of the following : 7×5=35

(*a*) How will you obtain aldehyde and ketone by ozonolysis process on alkene ?

(*b*) Write comparative stability of product formation in terms of the following rules with suitable example :

(*i*) Markovnikov's rule

(*ii*) Anti-Markovnikov's rule.

(*c*) Draw the structure of given IUPAC names of the following :

(*i*) 3-Amino benzoic acid

(*ii*) 2-chloro-3-nitro-butanal

(*iii*) 5-Bromo-4-methyl-hex-3-en-2–ol

(*iv*) 3-methyl pentanamide

(*v*) Methyl-2-nitro-butanoate.

(*d*) Write any *five* preparation reactions of alkyl halide.

(*e*) Draw the structure and uses of :

(*i*) Paraffin

(*ii*) Glycerol

(*iii*) Citric acid

(*iv*) Ethylene diamine

(*v*) Hexamine.

(*f*) Write reaction of Aldol condensation and Cannizzaro's reaction.

(*g*) Write any *five* reactions of alcohols.

(*h*) Define and classify different types of isomerism with suitable example.

(*i*) Write example of the following general reactions :

(*i*) $R\text{–}CHO \longrightarrow R\text{–}COOH$

(*ii*) $R\text{–}\overset{\overset{O}{\|}}{C}\text{–}R \longrightarrow R\text{–}COOH$

(*iii*) $R\text{–}OH \longrightarrow R\text{–}COOH$.

This question paper contains **2** printed pages]

CO—14—2019

FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharm. (First Year) (Second Semester) EXAMINATION

OCTOBER/NOVEMBER, 2019

BIOCHEMISTRY

Paper BP–203T

(Tuesday, 3-12-2019) **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 *Hours* *Maximum Marks*—75

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Figures to the right indicate full marks.

(*iii*) Answer to the point only.

1. Solve *all* the questions : 2×10=20

(*a*) Differentiate between DNA and RNA.

(*b*) Define :

(1) Saponification value

(2) Acid value.

(*c*) What is ketogenesis ?

(*d*) Enlist various factors affecting enzyme activity.

(*e*) What is DNA polymerases ?

(*f*) What is Nucleotides ?

(*g*) Draw the structure of α-glucose and β-fructose.

(*h*) Define metabolism.

(*i*) What is enzyme and co-enzymes ?

(*j*) Define Redox potential.

P.T.O.

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

(*a*) What is enzyme inhibition ? Explain competitive and non-competitive enzymes inhibition. Write a note on Allosteric inhibition.

(*b*) Explain Transcription and Translation process in detail.

(*c*) Discuss in detail β-oxidation of palmitic acid with its energentics.

3. Solve any *seven* of the following : 7×5=35

(*a*) Discuss mechanism of enzyme action.

(*b*) Explain properties of genetic codes.

(*c*) Discuss the concept of free energy.

(*d*) Describe in short synthesis of ketone bodies.

(*e*) Explain classification of enzyme with suitable examples.

(*f*) Give the flow chart of gluconeogenesis pathway.

(*g*) Discuss substrate level phosphorylation.

(*h*) Explain ulcer cycle. Urea cycle

(*i*) What is heteropolysaccharides ? Give the classification of carbohydrates.

This question paper contains 2 printed pages]

CO—19—2019

FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharm. (PCI) (Second Semester) EXAMINATION

NOVEMBER/DECEMBER, 2019

PATHOPHYSIOLOGY

BP204T

(Thursday, 5-12-2019) **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 *Hours* *Maximum Marks*—75

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Draw neat labelled diagram wherever necessary.

(*iii*) Answer to the point only.

1. Answer the following : 10×2=20

(*a*) What is Adaptation and Homeostasis ?

(*b*) What is metabolic acidosis and metabolic alkalosis ?

(*c*) Write sign and symptoms of inflammation.

(*d*) Enlist various inflammatory mediators.

(*e*) Write causitive agents of syphilis and gonorrhoea.

(*f*) What is stroke ? Write its types.

(*g*) Give clinical manifestations of Govt.

(*h*) What is osteoporosis ?

(*i*) Enumerate various types of anaemia.

(*j*) Write causative agent and treatment of Typhoid and Leprosy.

P.T.O.

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

(*a*) Discuss in detail etiology, clinical manifestation, pathogenesis and treatment of Viral Hepatitis.

(*b*) Explain in detail pathogenesis of :

(*i*) Peptic ulcer

(*ii*) Inflammatory bowel diseases.

(*c*) Describe in detail etiology, clinical manifestation, pathogenesis, prevention and treatment of AIDS.

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

(*a*) Write the pathogenesis of reversible cell injury.

(*b*) Explain the principle of wound healing in the skin.

(*c*) Discuss etiology, pathogenesis and treatment of diabetes mellitus.

(*d*) Write in detail mechanism of acute and chronic inflammation.

(*e*) Write etiology, pathogenesis and treatment of Tuberculosis.

(*f*) Explain pathogenesis and clinical manifestations of parkinsons disease.

(*g*) Write pathogenesis and treatment of congestive heart failure.

(*h*) Explain etiopathogenesis of rheumatoid arthritis.

(*i*) Write pathogenesis and etiology of cancer.

This question paper contains **2** printed pages]

CO—03—2019

FACULTY OF PHARMACEUTICAL SCIENCE AND TECHNOLOGY

B.Pharmacy (First Year) (Second Semester) EXAMINATION

MARCH/APRIL, 2019

HUMAN ANATOMY AND PHYSIOLOGY-II

[BP-201T]

(Tuesday, 23-4-2019) **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 *Hours* *Maximum Marks*—75

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Write to the point only.

(*iii*) Figures to the right indicate full marks.

1. Solve all the following : 10×2=20

(*a*) What are neurotransmitters ?

(*b*) Define absorption and digestion.

(*c*) Give role of ATP.

(*d*) Enlist upper and lower respiratory organ.

(*e*) Draw a neat labelled digram of nephron.

(*f*) Write role of parathyroid hormone.

(*g*) Define menarche and menopause.

(*h*) Give composition of urine.

(*i*) Define peptic ulcer ?

(*j*) Give composition and functions of pancreatic juice.

2. Solve any *two* of the following : 2×10=20

(*a*) Draw neat labelled diagram of brain. Explain anatomy and physiology of cerebral cortex.

(*b*) Describe in detail anatomy and physiology of thyroid hormone.

(*c*) Discuss in detail about female reproductive system.

P.T.O.

3. Solve any *seven* of the following : 7×5=35

(*a*) Discuss about oogenesis.

(*b*) Discuss about importance of Genetics.

(*c*) Write anatomy and physiology of adrenal gland.

(*d*) Give anatomy and physiology of liver.

(*e*) Write anatomy and physiology of Hypothalamus.

(*f*) Draw neat labelled diagram of neuron. Discuss in detail the mechanism of conduction of nerve impulses ocross nerve fibre.

(*g*) Discuss about various phases of gastric secretion.

(*h*) Write about various phases of menstrual cycle.

(*i*) Write about Renin-angiotensin system.

This question paper contains 2 printed pages]

CO—15—2019

FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharm. (First Year) (Second Semester) EXAMINATION

MARCH/APRIL, 2019

PATHOPHYSIOLOGY

(BP-204-T)

(Tuesday, 30-4-2019) **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 *Hours* *Maximum Marks*—75

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Draw neat labelled diagram wherever necessary.

(*iii*) Figures to the right indicate full marks.

1. Answer the following questions : 10×2=20

(*a*) Define adaptation and homeostasis.

(*b*) What is calcification ?

(*c*) What are Metaplasia and dysplasia.

(*d*) Mention cardinal sign of inflammation.

(*e*) Enlist the various inflammatory mediators.

(*f*) What is Thalassemia.

(*g*) What are hypo and hypothyroidism.

(*h*) Write clinical manifestation of UTI.

(*i*) What is Gout ?

(*j*) Give causes of syphillis and Gonorrhoea.

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

(*a*) Describe in detail etiopathogenesis, clinical manifestation and treatment of AIDS.

(*b*) Explain in detail etiopathogenesis, clinical manifestation and treatment of viral hepatitis and IBD.

(*c*) Discuss in detail pathogenesis of cell injury.

P.T.O.

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

(*a*) Explain basic mechanism involved in inflammation.

(*b*) Write etiopathogenesis of diabetes mellitus.

(*c*) Explain pathophysiology and treatment of Atherosclerosis.

(*d*) What is Asthma ? Write its pathogenesis and clinical manifestation.

(*e*) Write etiopathogenesis of epilepsy.

(*f*) Write etiology, pathogenesis, clinical manifestation and treatment of Rheumatoid Arthritis.

(*g*) Write etiology and pathogensis of cancer.

(*h*) Explain pathophysiology and treatment of Tuberculosis.

(*i*) Explain pathogenesis and treatment of Parkinson's disease.

B8DDC27F8159D352AC3F15298D5867A4

This question paper contains **2** printed pages]

CK—03—2018

FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharm. (I Year) (II Semester) EXAMINATION

NOVEMBER/DECEMBER, 2018

HUMAN ANATOMY AND PHYSIOLOGY-II

(BP 201 T)

(Tuesday, 4-12-2018) **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 *Hours* *Maximum Marks*—75

N.B. :— (*i*) Answer all the questions.

(*ii*) Answer to the point only.

(*iii*) Draw neat labelled diagram wherever necessary.

1. Answer all the questions : 10×2=20

(*a*) Draw neat labelled diagram of brain.

(*b*) Give composition of CSF.

(*c*) Define digestion. Distinguish between chemical and mechanical digestion.

(*d*) Give composition and function of Gastric juice.

(*e*) What is tidal volume and vital capacity ?

(*f*) What is GFR ? Give its normal value.

(*g*) Give the role of parathormone.

(*h*) Write the functions of insulin.

(*i*) Give the various changes that occur at puberty in female.

(*j*) Define the term fertilization and menstruation.

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

(*a*) Draw a neat labelled diagram of Neuron. Discuss in detail the mechanism at conduction of nerve impulses across the nerve fibre.

(*b*) Describe in detail digestion and absorption of carbohydrates, proteins and fats occurring in gastrointestinal tract.

(*c*) Explain in detail anatomy and physiology of pituitary gland and thyroid gland.

P.T.O.

7×5=35

3. Answer the following (any *seven*) :

(*a*) Explain various sensory and motor areas of cerebrum.

(*b*) Write in brief on electroencephalogram.

(*c*) Discuss in detail anatomy and physiology of salivary gland.

(*d*) Enlist organs of digestive system. Discuss various phases of gastric secretion.

(*e*) Write in brief about transport of respiratory gases.

(*f*) Draw neat labelled diagram of respiratory system. Describe in detail structure and functions of lung.

(*g*) Write a note on Remin-Angiotensin system.

(*h*) Write the role of glucocorticoids and mineralocorticoids.

(*i*) Write in brief about spermatogenesis.

This question paper contains **3** printed pages]

CK—06—2018

FACULTY OF PHARMACEUTICAL SCIENCE

B. Pharmacy (Second Semester) EXAMINATION

NOVEMBER/DECEMBER, 2018

PHARMACEUTICAL ORGANIC CHEMISTRY—I

(Friday, 7-12-2018) **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 *Hours* *Maximum Marks*—75

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Write reaction and draw structures wherever necessary.

(*iii*) Figures to the right indicate full marks.

1. Write answers of the following questions : 10×2=20

(*i*) Write reaction of Aldol condensation.

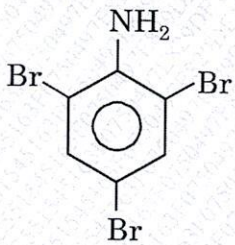
(*ii*) Write a note on Inductive effect

(*iii*) Write the Hinsberg test reaction.

(*iv*) Write the reaction to differentiate aldehydes and ketones.

(*v*) Write IUPAC nomenclature for :

(*a*)



(*b*) $CH_3(CH_2)_4$—CH = CH—COOH

(*vi*) Draw structure and write uses of :

(*a*) Glycerol

(*b*) Salicylic acid.

(*vii*) Write reaction of halide exchange.

(*viii*) Write HV2 reaction (α-halogenation)

(*ix*) Write a note on sp^2 hybridization with suitable example.

(*x*) Write reaction of Diene with Dienophile.

P.T.O.

2. Write answer of any *two* of the following : 10×2=20

(*i*) Write in detail reaction, mechanism, stereochemistry, kinetic and factors affecting on S_N2.

(*ii*) Write in detail classification of organic compounds. Draw general structure with example and IUPAC name of each class.

(*iii*) Write explanation of E_1 reaction in the following aspects :

(*a*) Reaction

(*b*) Mechanism

(*c*) Kinetics

(*d*) Factors affecting

(*e*) Evidences

(*f*) Orientation.

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

(*i*) Write in detail about acidity of carboxylic acids. Add a note on effect of electron withdrawing and releasing groups.

(*ii*) Write any *two* tests for differentiation of 1°, 2° and 3° alcohols.

(*iii*) Enlist and explain different classes of isomers with example.

(*iv*) Write reaction of free radicals with :

(*a*) Alkanes

(*b*) Alkenes.

(*v*) Write use and draw structure of :

(*a*) Chloroform

(*b*) Ethyl alcohol

(*c*) Acetone

(*d*) Acetic acid

(*e*) Ethylene diamine.

(*vi*) Write a note on basic nature of amines and effect of susbtitution on the same.

(*vii*) Write any *five* reactions for preparation of alcohols.

(*viii*) Write the following reactions in detail :

(*a*) 1° and 2° alcohols → carboxyllic acid

(*b*) alcohols → alkanes

(*c*) amines → alkanes

(*d*) carbonyl compounds → alcohols

(*e*) Alt and ketones with HCN → ?

(*ix*) Write the following reactions :

(*a*) Ozonolysis of alkenes

(*b*) Markownikoff's reaction.

51545163F0750497E829DE1BC37481C5

This question paper contains **2** printed pages]

CK—9—2018

FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharm. (First Year) (Second Semester) EXAMINATION

NOVEMBER/DECEMBER, 2018

BIOCHEMISTRY

Paper BP-203T

(Monday, 10-12-2018) **Time : 10.00 a.m. to 1.00 p.m.**

Time—Three Hours *Maximum Marks—75*

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Figures to the right indicate full marks.

(*iii*) Your answers should be specific to the questions asked.

(*iv*) Draw neat and well labelled diagrams wherever necessary.

1. Answer all the questions : 10×2=20

(*i*) Name purine and pyrimidine bases present in nucleosides.

(*ii*) Define the term enzymes and allosteric enzymes.

(*iii*) What are aldoses and ketoses ? Give examples of each.

(*iv*) Give structure of sulphur containing amino acids.

(*v*) Give the difference between DNA and RNA.

(*vi*) What are exergonic reaction and endergonic reaction ?

(*vii*) What are phospholipids ?

(*viii*) What is Electron Transport Chain (ETC) ?

(*ix*) Write the structure of cholesterol.

(*x*) Enlist any *two* essential and non-essential Amino acids.

P.T.O.

2. Solve any *two* of the following : 2×10=20

(*i*) Explain in detail glycolysis with its energetics and significance.

(*ii*) Discuss enzyme inhibition with graphical representation.

(*iii*) Explain in detail β-oxidation of fatty acid.

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

(*i*) Explain high energy compounds and classify it.

(*ii*) Explain in detail urea cycle.

(*iii*) Give the synthesis of ketone body.

(*iv*) Explain in detail classification of enzymes.

(*v*) Discuss in detail DNA replication.

(*vi*) Explain the terms Hyperbilirubinemia and Jaundice.

(*vii*) Classify carbohydrate and give its importance.

(*viii*) Explain disorders of lipid metabolism.

(*ix*) Give structure and function of coenzyme NAD.

51545163F0750497E829DE1BC3EF6972

This question paper contains 2 printed pages]

CK—12—2018

FACULTY OF SCIENCE AND TECHNOLOGY

B. Pharm. (Second Year) (Second Semester) EXAMINATION

NOVEMBER/DECEMBER, 2018

PATHOPHYSIOLOGY

(BP204T)

(Wednesday, 12-12-2018) **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 *Hours* *Maximum Marks*—75

N.B. :— (*i*) Answer all questions.

(*ii*) Answer to the point only.

(*iii*) Draw a neat labelled diagram wherever necessary.

1. Answer *All* the questions : 10×2=20

(*a*) What are calcifications ?

(*b*) Enlist the cardinal sign of inflammation.

(*c*) What is irreversible cell injury ?

(*d*) What is stroke ?

(*e*) What is myocardial infarction ?

(*f*) What are Inflammatory mediators ? Write any *two* examples.

(*g*) Enlist sign and symptomes of Leprosy.

(*h*) Define the terms Syphilis and Gonorrhea.

(*i*) What is Gout ? Enlist its symtomes.

(*j*) What is sickle cell anemia ?

P.T.O.

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

(*a*) Write etiology, pathophysiology, clinical manifestations and treatment of :

(*a*) AIDS

(*b*) Peptic Ulcers.

(*b*) Describe in detail mechanism of Inflammation.

(*c*) Write the pathogenesis of cell injury.

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

(*a*) What are the adoptive changes in cell injury.

(*b*) Write, etiology, pathophysiology, clinical manifestations and treatment of Hypertension.

(*c*) Write etopathogenesis, clinical manifestations and treatment of Asthma.

(*d*) Define Diabetes mellitus. Write its etiology pathophysiology, clinical manifestations and treatment.

(*e*) Write etiology, pathophysiology, clinical manifestations and treatment of Depression.

(*f*) Write etiology, pathophysiology, clinical manifestations and treatment of Inflammatory Bowel disease.

(*g*) Write etiopathogenesis of cancer.

(*h*) Write etiopathogenesis, clinical manifestation and treatment of Typhoid.

(*i*) Write etiopathogenesis of Rheumatoid Arthritis.

This question paper contains 2 printed pages]

DH—2—2018

FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharm. (First Year) (Second Semester) EXAMINATION

MARCH/APRIL, 2018

HUMAN ANATOMY AND PHYSIOLOGY

Paper II (BP-201T)

(Saturday, 21-4-2018) **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 *Hours* *Maximum Marks*—75

N.B. :— (*i*) Answer *All* the questions.

(*ii*) Answer to the point only.

(*iii*) Draw neat labelled diagram wherever necessary.

1. Answer *all* the questions : 10×2=20

(*a*) What are neurotransmitter ? Give its *two* examples.

(*b*) Give functions of creatinine phosphate.

(*c*) Mention various ventricles of brain.

(*d*) Give composition and function of saliva.

(*e*) Define lung volumes and lung capacities.

(*f*) Draw neat labelled diagram of Nephron.

(*g*) What are Goitre and Grave's disease.

(*h*) Enlist hormones secreted by adrenal gland.

(*i*) Define menarch and menopause.

(*j*) Give the various changes that occur at puberty in male.

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

(*a*) Draw a neat labelled diagram of brain. Describe in detail anatomy and physiology of cerebrum and brain stem.

(*b*) Describe in detail digestion and absorption of carbohydrates, proteins and fats occurs in gastro-intestinal tract.

(*c*) Distinguish between male and female reproductive system. Describe in detail anatomy and physiology of female reproductive system.

P.T.O.

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

(*a*) Discuss in detail the mechanism of conduction of nerve impulses across the nerve fibres.

(*b*) Write a brief note on electro-encephalograph.

(*c*) Draw neat labelled diagram of liver. Discuss on its structure and function.

(*d*) Discuss in detail anatomy and physiology of stomach.

(*e*) Discuss in detail about mechanism of respiration.

(*f*) Draw neat labelled diagram of respiratory system. Describe in detail structure and functions of lung.

(*g*) Write a note on renin-angiotensin system.

(*h*) Discuss on anatomy and physiology of thyroid gland.

(*i*) Write in brief about menstrual cycle.

8E095368DAF9B1E9AEEF0E2E86BF5463

This question paper contains 3 printed pages]

DH—4—2018

FACULTY OF PHARMACEUTICAL SCIENCE

B.Pharm. (First Year) (Second Semester) EXAMINATION

MARCH/APRIL, 2018

PHARMACEUTICAL ORGANIC CHEMISTRY—I

(Tuesday, 24-4-2018) **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 *Hours* *Maximum Marks*—75

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Write reaction, mechanism and stereochemistry wherever necessary.

(*iii*) Figures to the right indicate full marks.

1. Answer the following : 10×2=20

(*a*) Enlist different derivatives of carboxylic acids.

(*b*) Discuss the electromeric effect.

(*c*) Write the structure of the following :

(*i*) Ethylenediamine

(*ii*) Benzaldehyde.

(*d*) Discuss Lucas test.

(*e*) Discuss the stability of alkene.

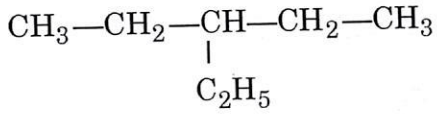
(*f*) What is Diel-Alder ?

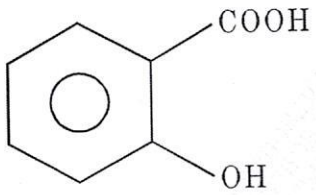
(*g*) Explain "Basicity of amines".

(*h*) Define alkyl halide. Classify with suitable example.

P.T.O.

(*i*) Give the IUPAC names of the following :

(*i*) 

(*ii*) 

(*j*) Discuss Saytzeff's orientation with an example.

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

(*a*) Give the reaction, mechanism, stereochemistry and evidence of E_1 and E_2 reactions.

(*b*) Write the reaction and mechanism of benzoin condensation and Perkin reaction.

(*c*) Classify organic compounds on the basis of structural and functional group.

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

(*a*) What are dienes ? Classify with suitable example. Discuss stability of conjugated dienes.

(*b*) Enlist the various qualitative tests for alcohols. Explain any *two* tests.

(*c*) Define hybridization. Explain sp^3 and sp^2 hybridization of alkane and alkene respectively.

(*d*) Write methods of preparations of alkyl halides.

(*e*) Write short notes on :

(*i*) Inductive effect

(*ii*) Markownikoff's and Anti-Markownikoff's rule.

(*f*) Explain S_N1 reaction with mechanism and gives the factors affecting on S_N1 and S_N2 reaction.

(*g*) Write the structure and give the uses of the following compounds :

(*i*) Chloroform

(*ii*) Vanilin

(*iii*) Ethanolamine

(*iv*) Propylene glycol

(*v*) Acetyl salicylic acid.

(*h*) Write the methods of preparations of carbonyl compounds.

(*i*) Write short notes on :

(*i*) Allylic rearrangement

(*ii*) Acidity of carboxylic acid.

1FE20F46E547546477BDB23E782BF1ED

This question paper contains 2 printed pages]

DH—6—2018

FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharm. (First Year) (Second Semester) EXAMINATION

MARCH/APRIL, 2018

BIOCHEMISTRY

(Thursday, 26-4-2018) **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 *Hours* *Maximum Marks*—75

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Figures to the right indicate full marks.

(*iii*) Answer to the point only.

(*iv*) Draw neat labelled diagram wherever necessary.

1. Solve *all* the questions : 10×2=20

(*a*) Differenciate between Purines and Pyrimidines.

(*b*) Enlist factors affecting Enzyme activity.

(*c*) Define Iodine Number and Saponification value.

(*d*) Give the confirmatory test for polysaccharides.

(*e*) What are essential and non-essential amino acids ?

(*f*) Write a short note on Electron Transport Chain (ETC).

(*g*) What are biomolecules ?

(*h*) Give the biological significance of protein.

(*i*) What are fatty acids ? Write its function.

(*j*) What is biological oxidation ?

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

(*a*) Name the various pathways of Glucose metabolism. Give in detail about TCA cycle.

(*b*) Describe the process of replication in detail.

(*c*) Give classification of biomolecules along with its biological significance.

P.T.O.

3. Solve any *seven* of the following : 7×5=35

(*a*) Discuss about inhibitors of ETC (Electron Transport Chain) and Oxidative Phosphorylation.

(*b*) Give an account of factors affecting enzymatic activity.

(*c*) Write short notes on :

(*i*) Transamination

(*ii*) Deamination

(*iii*) Decarboxylation with examples.

(*d*) Write short note on Energy Rich Compounds.

(*e*) Give the significance of ATP and Cyclic AMP.

(*f*) Write short notes on :

(*i*) Atherosclerosis

(*ii*) Gout.

(*g*) Explain in detail classification of enzymes and give its properties.

(*h*) Explain in brief structure of DNA and its biological significance.

(*i*) Give the flow chart of β-oxidation of fatty acid.

137A1992CF91109DAF82396F3C0C028B