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PM—31—2025

FACULTY OF PHARMACEUTICAL SCIENCES

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

JUNE, 2025

HUMAN ANATOMY AND PHYSIOLOGY-II

Paper BP201T

(Wednesday, 18-06-2025) **Time : 2.00 p.m. to 5.00 p.m.**

Time—3 Hours *Maximum Marks—75*

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

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

(*iii*) Answers to the point only.

1. Answer the following : 10×2=20

(*a*) Define the following terms :

Receptor; synapse.

(*b*) Write the role of BMR.

(*c*) What are energetics ?

(*d*) Draw a neat well labelled diagram of pancreas.

(*e*) What is pineal gland ?

P.T.O.

(f) What is artificial respiration ?

(g) Define parturition and pregnancy.

(h) What are/is Goitre and Grave's disease ?

(i) Explain in short about neuroglia.

(j) What is action potential ?

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

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

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

(c) Discuss in detail the mechanism of conduction of nerve impulses across the nerve fibres and write the properties of nerve fibre.

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

(a) Discuss about importance of genetics.

(b) Draw a neat well labelled diagram of neuron. Write the functions of afferent and efferent nerve tracts.

(c) Write in brief regulation of respiration.

(d) Discuss in short about digestion of proteins in GIT.

(e) Write a short note on resuscitation methods.

(f) Discuss the hormones of pancreas and their roles.

(g) Write the anatomy and physiology of salivary gland.

(h) Explain in short disorders involved in GIT.

(i) Write anatomy and physiology of cerebellum.

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PM—35—2025

FACULTY OF SCIENCE AND TECHNOLOGY

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

JUNE, 2025

PHARMACEUTICAL ORGANIC CHEMISTRY-I

Paper-BP202T

(Friday, 20-06-2025) **Time : 2.00 p.m. to 5.00 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 reaction for synthesis of 2-Butene from 1-Butene.

(*b*) Discuss saytzeff's orientation with example.

(*c*) Write HVZ reaction (α-halogenation).

(*d*) Discuss the inductive effect.

(*e*) Arrange the following compounds in order of increasing acidity :

(*i*) Fluoroacetic acid

(*ii*) Chloroacetic acid

(*iii*) Bromoacetic acid

(*iv*) Iodoacetic acid.

P.T.O.

(*f*) Draw the structure of :

(*i*) 2, 2-Dimethylpropane

(*ii*) 3-Ethyl-4-fluorohexane.

(*g*) Write the reaction of pyrolysis of alkane.

(*h*) Why aldehydes are more reactive than ketones towards addition reaction ?

(*i*) What is Diels-Alder reaction ?

(*j*) Draw structure and write uses of the following :

(*i*) Ethanolamine

(*ii*) Amphetamine.

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

(*a*) Explain reaction, mechanism, kinetics, stereochemistry, potential energy diagram and factors affecting S_N2 reaction. What is Walden inversion in S_N2 reaction ?

(*b*) Classify organic compounds on the basis of structure and functional group.

(*c*) Explain the reaction, mechanism, stereochemistry and evidences of E_1 and E_2 reactions.

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

(*a*) Write the methods for preparation of carbonyl compounds.

(*b*) Explain basicity of amines. Add a note on effect of substituents on the basicity.

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

(*d*) Discuss about Cannizzaro reaction and crossed Cannizzaro reaction.

(*e*) Explain qualitative tests to distinguish between 1°, 2° and 3° alcohols.

(*f*) Explain acidity of carboxylic acids. Add a note on effect of substituents on the acidity.

(*g*) Write short notes on :

(*i*) Electromeric effect

(*ii*) Markonikoff's and Anti-Markonikoff's orientation.

(*h*) Draw structure and write uses of the following compounds :

(*i*) Trichloroethylene

(*ii*) Benzyl alcohol

(*iii*) Benzaldehyde

(*iv*) Salicylic acid

(*v*) Tartaric acid.

P.T.O.

(*i*) Complete the following reactions :

(*i*) $R-\overset{\overset{O}{\|}}{C}-OH + NaOH \longrightarrow ?$

(*ii*) $CH_3-\overset{\overset{O}{\|}}{C}-OH + PCl_5 \longrightarrow ?$

(*iii*) $R-\overset{\overset{O}{\|}}{C}-OH + R'-OH \xrightarrow{H_2SO_4} ?$

(*iv*) $R-NH_2 + HCl \longrightarrow ?$

(*v*) $R-NH_2 + CHCl_3 + 3KOH \longrightarrow ?$

This question paper contains 2 printed pages]

PM—33—2025

FACULTY OF SCIENCE & TECHNOLOGY

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

JUNE, 2025

PHARMACEUTICAL ANALYSIS

Paper I (BP-203T)

(Thursday, 19-06-2025) **Time : 2.00 p.m. to 5.00 p.m.**

Time—3 *Hours* *Maximum Marks*—75

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

(*ii*) Answer to the point only.

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

1. Solve the following : 10×2=20

(*a*) Enlist sources of impurites.

(*b*) Give the principle of Iodometry.

(*c*) Define Molarity & Normality.

(*d*) Give applications of Polarography.

(*e*) What do you mean by diazotisation titration ?

(*f*) Give difference between Mohr's methold and Volhard's method.

(*g*) Write Ilkovic equation.

P.T.O.

(*h*) Sketch a neat labelled diagram of conductivity cell.

(*i*) Write example of primary standard used in redox titration.

(*j*) Enlist types of error.

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

(*a*) What do you mean by acid-base titration ? Explain theories involved in acid-base indicators.

(*b*) Write construction, working and applications of glass electrode.

(*c*) Define primary standard with examples. Give ideal properties of primary standard.

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

(*a*) Write construction and working of standard hydrogen electrode.

(*b*) Write advantages and disadvantages of dropping mercury electrode.

(*c*) Explain Volhard's method with example.

(*d*) Explain types of EDTA titration.

(*e*) Write classification of non-aqueous solvent with example.

(*f*) Write estimation of calcium gluconate.

(*g*) Discuss steps involved in Gravimetry.

(*h*) Write applications of potentiometry.

(*i*) Explain various methods of minimization of error.

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PM—43—2025

FACULTY OF SCIENCE AND TECHNOLOGY

B. Pharm. (Second Semester) EXAMINATION

JUNE, 2025

PATHOPHYSIOLOGY

Paper-BP-204T

(Wednesday, 25-06-2025) **Time : 2.00 p.m. to 5.00 p.m.**

Time—3 *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 pathophysiology.

(*b*) Write a short note on Diabetes.

(*c*) Enlist various infectious diseases.

(*d*) Write about wound healing.

(*e*) Write a short note on Hypertrophy.

P.T.O.

(*f*) What is cell swelling ?

(*g*) Write sign and symptoms of COPD.

(*h*) Define pathophysiology.

(*i*) Write about inflammation.

(*j*) Explain peptic ulcer.

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

(*a*) Discuss in detail about acute and chronic penal failure.

(*b*) Describe in detail about etiopathogenesis, treatment and prevention of tuberculosis.

(*c*) Enlist various cardiovascular diseases. Give a detailed accounts of Hypertension and Angina.

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

(*a*) Give in detail about Hepatitis.

(*b*) What is cancer ? Give its etiopathogenesis.

(*c*) Write in detail about cell injury.

(*d*) Compare positive and negative feedback mechanism.

(*e*) Give pathophysiology of Atherosclerosis.

(*f*) Explain in detail about Asthma.

(*g*) Write a short note about Thalasemia.

(*h*) Give accounts of AIDS.

(*i*) Write about alcoholis liver disease.