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AM—31—2024

FACULTY OF PHARMACY

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

MARCH, 2025

HUMAN ANATOMY AND PHYSIOLOGY

Paper–II

(Wednesday, 12-3-2025) **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 a neat labelled diagram wherever necessary.

(*iii*) Answer to the point only.

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

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

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

(*c*) Define the term puberty and menopause.

(*d*) Define the term BMR.

(*e*) Write the functions of Liver.

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

P.T.O.

(g) Write the functions of calcitonin and PTH.

(h) Give the composition of Gastric juice.

(i) Define the term chromosomes and genes.

(j) Enlist the neurotransmiter involved in CNS.

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

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

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

(c) Draw a well labelled diagram of pituitary gland and write the physiological role of pituitary gland.

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

(a) Explain in detail about protein synthesis.

(b) Write a short note on menstrual cycle.

(c) Explain in detail mechanism of respiration.

(d) Write the physiology of urine formation.

(e) Write a short note on fertilization.

(f) Explain in detail anatomy and physiology of stomach.

(g) Write the mechanism of RAAS (Renin-angiotensin-aldosterone system) in fluid balance.

(h) Explain in detail anatomy and physiology of pancreas.

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

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AM—35—2024

FACULTY OF SCIENCE AND TECHNOLOGY

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

MARCH, 2025

PHARMACEUTICAL ORGANIC CHEMISTRY

Paper–I

(Saturday, 15-3-2025) **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*) What are the functional isomers ?

(*b*) What is meant by conjugated dienes ?

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

(*i*) Paraldehyde

(*ii*) Acetyl salicylic acid

(*iii*) Glycerol

(*iv*) Vanilin.

P.T.O.

(*d*) Define and classify Amines with suitable examples.

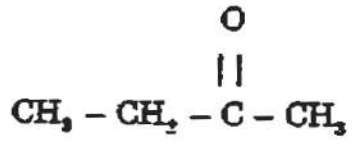
(*e*) Complete the following chemical reactions :

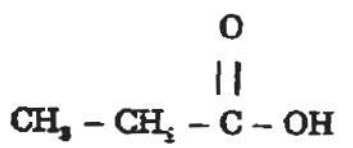
(*i*) $CH_3CH_2OH \xrightarrow{[O]} ? \xrightarrow{[O]} ?$

(*ii*) $CH_3 - C \equiv N \xrightarrow[H^+]{H_2O} ? + ?$

(*f*) Write the IUPAC name of the following structure :

(*i*) $CH_3 - CH_2 - CHO$

(*ii*)


(*iii*)


(*iv*) $CH_3 - CH_2 - CH_2 - OH$.

(*g*) Write uses of Lactic acid and Citric acid.

(*h*) What is Rosenmund's reaction ?

(*i*) What is Markownikoff's rule ?

(*j*) Aromatic amines are weaker bases than aliphatic amines. Justify.

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

(*a*) Discuss in detail SN_1 and SN_2 reaction of alkyl halides.

(*b*) Discuss qualitative test of alcohol.

(*c*) Write in detail classification of organic compounds with suitable examples.

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AM—39—2024

FACULTY OF SCIENCE AND TECHNOLOGY

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

MARCH, 2025

BIOCHEMISTRY

(Tuesday, 18-3-2025) **Time : 5.00 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*) Answer to the point only.

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

(*a*) Define enthalpy and entropy.

(*b*) What is biological oxidation ?

(*c*) Give biological significance of cholesterol.

(*d*) Define essential and non-essential amino acids.

(*e*) What is Gout ?

(*f*) Enlist enzymes involved in transcription process.

(*g*) Give the therapeutic applications of enzymes.

(*h*) What is Diabetes mellitus ?

(*i*) Define Gluconeogenesis.

(*j*) What is enzyme and co-enzyme ?

P.T.O.

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

(*a*) Explain glycolysis with its energetics and significance.

(*b*) Explain β-oxidation of saturated fatty acid with energetics.

(*c*) Explain in detail protein synthesis.

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

(*a*) Describe enzyme inhibition.

(*b*) Explain properties of genetic code.

(*c*) Describe Urea cycle and its metabolic disorder.

(*d*) Discuss electron transport chain.

(*e*) Explain the classification and functions of energy rich compounds.

(*f*) Explain factors affecting enzyme activity.

(*g*) Explain formation and utilization of Ketone bodies.

(*h*) Discuss classification of lipids with suitable examples.

(*i*) Explain types and functions of RNA.

This question paper contains 2 printed pages]

AM—43—2024

FACULTY OF SCIENCE AND TECHNOLOGY

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

MARCH, 2025

PATHOPHYSIOLOGY

(Thursday, 20-3-2025) **Time : 5.00 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.

1. Answer the following : 10×2=20

(*a*) What is inflammation ?

(*b*) Define homeostasis. Give example of positive feedback system.

(*c*) What is hypoxia ?

(*d*) Enlist cardinal signs of inflammation.

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

(*f*) Give causes of CHF.

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

(*h*) Define Haemophilia.

(*i*) What is megaloblastic anemia ?

(*j*) Give treatment for osteoporosis.

P.T.O.

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

(a) Describe etiopathogenesis, clinical manifestation of Asthma and T.B.

(b) Write a note on hypertension and peptic ulcer.

(c) What is cancer ? Give the clinical sign, symptoms, pathogenesis and types of cancer.

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

(a) Explain in detail of wound healing.

(b) Write a note on Acute Renal Failure.

(c) Define diabetes mellitus. Write its etiopathogenesis.

(d) Give details about Parkinson's diseases.

(e) Explain pathophysiology of Gout.

(f) What is cirrhosis ? Explain fatty liver.

(g) Explain COPD.

(h) What is the morphology of cell injury ?

(i) Explain inflammatory Bowel diseases.