

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) (BP201T) 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 secreted 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.

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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) (BP-202T) 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.

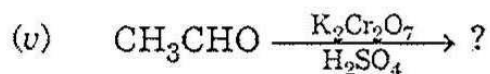
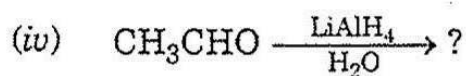
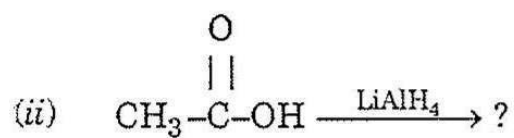
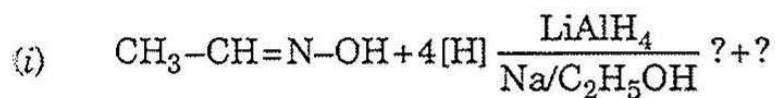
1. Answer the following questions : 10×2=20
- (a) Write electromeric effect with example.
- (b) Draw the structure and write the uses of formaldehyde and paraldehyde.
- (c) What are the metamers ?
- (d) Comment on ozonolysis of alkenes.
- (e) Mention different types of alcohols with suitable examples.

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) $\text{CH}_3\text{CH}_2\text{CH}_2\text{COOH}$
 - (ii) $\begin{array}{c} \text{CH}_3\text{CH}_2\text{CHCH}_3 \\ | \\ \text{OH} \end{array}$
 - (iii) $\text{CH}_3\text{-CH} = \text{CH-CH}_3$
 - (iv) $\begin{array}{c} \text{CH}_3\text{CH-CH-CH}_3 \\ | \quad | \\ \text{Cl} \quad \text{OH} \end{array}$

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 :



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FACULTY OF SCIENCE AND TECHNOLOGY

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

APRIL/MAY, 2024

BIOCHEMISTRY

(Monday, 20-5-2024)

(BP 203T)

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.

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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.