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VO—05—2022

FACULTY OF SCIENCE AND TECHNOLOGY

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

JUNE/JULY, 2022

HUMAN ANATOMY AND PHYSIOLOGY—II

Paper BP-201T

(Tuesday, 26-07-2022)

Time : 9.30 a.m. to 1.15 p.m.

Time—2.30 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) Draw neat labelled diagram of nerve cell.
- (b) Give composition and functions of cerebrospinal fluid.
- (c) Give composition and functions of saliva.
- (d) What is BMR ? How is it calculated ?
- (e) Write changes occur at puberty in male and female.
- (f) What is Tidal volume and Vital capacity.
- (g) Give formation and role of ATP and creatinine phosphate.
- (h) Write functions of thyroid and parathyroid gland.
- (i) Draw neat labelled diagram of kidney.
- (j) What is Gene ? Give role of DNA in protein synthesis.

P.T.O.

2. Answer the following (any *two*) : 2×10=20
- (a) Explain in detail structure and functions of various parts of Brain.
 - (b) Draw neat labelled diagram of lungs. Explain in detail mechanism of respiration and regulation of respiration.
 - (c) Describe in detail anatomy and physiology of various parts of female reproductive system.
3. Answer the following (any *seven*) : 7×5=35
- (a) Write in detail functions of hormones secreted by pituitary gland.
 - (b) Explain physiology of urine formation.
 - (c) Discuss in detail process of spermatogenesis and oogenesis.
 - (d) Explain role of kidney in acid-base balance and RAS.
 - (e) What is reflex activity ? Write anatomy and physiology of spinal cord.
 - (f) Explain in detail structure and functions of Liver.
 - (g) Explain in detail mechanical and chemical digestion in GIT.
 - (h) Write structure and functions of various parts of male reproductive system.
 - (i) Draw neat labelled diagram of pancreas. Explain in detail anatomy and physiology of Endocrine Pancreas.

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VO—13—2022

FACULTY OF SCIENCE AND TECHNOLOGY

B. Pharm. (Second Semester) EXAMINATION

JUNE/JULY, 2022

(CBCS/PCI)

PHARMACEUTICAL ORGANIC CHEMISTRY-I

(Thursday, 28-7-2022) (BP202T) Time : 9.30 a.m. to 1.15 p.m.

Time— 3.45 Hours

Maximum Marks—75

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

(ii) Draw structure and reaction whenever necessary.

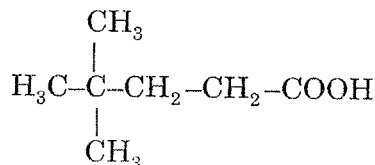
(iii) Figures to the right indicate full marks.

1. Answer all the following questions :

10×2=20

(a) Draw sp^3 hybridisation of alkanes.

(b) Write IUPAC name of :

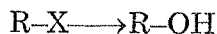


(c) Draw Z and E isomeric structure of alkenes.

(d) Define cumulated and isolated dienes with suitable example.

(e) Draw structure and write pharmaceutical uses of chloroform and Iodoform.

(f) Write example for following general reaction :



P.T.O.

(g) Which one of the following is more reactive :



(h) Write IUPAC name of acetone and hexamine.

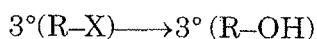
(i) Draw structure of amide and write its IUPAC name.

(j) Write pharmaceutical applications of studying organic chemistry with suitable examples.

2. Write answers in detail any *two* :

2×10=20

(a) Write reaction, mechanism, stereochemistry and factors affecting on conversion of



as a nucleophilic substitution reaction.

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

(i) Saytzeff rule

(ii) Hofmann rule

(iii) Markovnikov's rule

(iv) Anti-Markovnikov's rule.

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

3. Write answer of the following any *seven* :

7×5=35

(a) Write reaction and mechanism of free radical addition to alkanes.

(b) What is effect of 1, 2 and 1, 4 addition on dienes.

- (c) Write any *five* characteristic reactions of alkyl halides.
- (d) Write Lucas test and Victor-Mayer test to differentiate 1°, 2° and 3° alcohols.
- (e) Write reaction of aldol and crossed aldol condensation.
- (f) Write uses and draw structures of following :
- (i) ethylene diamine
 - (ii) citric acid
 - (iii) hexamine
 - (iv) glycerol
 - (v) Paraffin.
- (g) Draw structure of 1°, 2° and 3° amine. Add a note to differentiate the same.
- (h) Define and classify different types of isomers with suitable example.
- (i) Draw structure of following IUPAC name continue :
- (a) 4-ethyl-2-methyl hexane
 - (b) 2, 3 butandiol
 - (c) 1, 4 butadiene
 - (d) 2-methyl-2-methoxypropane
 - (e) N-methyl-methanamine.

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VO—21—2022

FACULTY OF SCIENCE AND TECHNOLOGY

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

JUNE/JULY, 2022

(CBCS PSI)

BIOCHEMISTRY

(Saturday, 30-7-2022)

(BP203T)

Time : 9.30 a.m. to 1.15 p.m.

Time—3.45 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* questions :

10×2=20

(a) What is Bioenergetics ?

(b) Draw structure of cholesterol.

(c) What is reducing and non-reducing sugar ?

(d) Define :

(i) Anabolism

(ii) Catabolism.

(e) What are Ketone bodies ?

(f) Define :

(i) Enzyme

(ii) Co-enzymes.

P.T.O.

- (g) What is hypercholesterolemia and gout ?
- (h) Draw the structure of glycogen.
- (i) What is enthalpy and entropy ?
- (j) What is homopolysaccharides ?
2. Answer any *two* of the following : 2×10=20
- (a) Explain in detail DNA replication by semiconservative model.
- (b) Discuss in brief urea cycle and its disorders.
- (c) What are Biomolecules ? Enlist and classify them with suitable examples.
3. Solve any *seven* of the following : 7×5=35
- (a) Discuss about inhibitors of ETC (Electron Transport Chain) and substrate level phosphorylation.
- (b) Discuss exergonic and endergonic reaction.
- (c) Explain properties of genetic codes.
- (d) Discuss factors affecting enzymes activity.
- (e) Explain any *one* disorder of lipid metabolism.
- (f) Discuss in short De Novo synthesis of palmitic acid.
- (g) What is enzyme inhibition ? Explain competitive and non-competitive enzyme inhibition.
- (h) Give the flow chart of gluconeogenesis.
- (i) Define lipids. Classify them with suitable examples.

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FACULTY OF SCIENCE AND TECHNOLOGY

B. Pharm. (Second Semester) EXAMINATION

JUNE/JULY, 2022

(CBCS PCI)

PATHOPHYSIOLOGY

Paper BP-204T

(Tuesday, 2-8-2022)

Time : 9.30 a.m. to 1.15 p.m.

Time—3.45 Hours

Maximum Marks—75

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

(ii) Draw neat labelled diagram whenever necessary.

(iii) Answer to the point only.

1. Answer the following :

20

- (a) Define the terms Atropy and Hypertropy.
- (b) What are Respiratory Acidosis and Respiratory alkalosis ?
- (c) Enlist the causative factors of inflammation.
- (d) Define inflammatory mediators and give its examples.
- (e) Write clinical manifestations of urinary tract infection.
- (f) What is Jaundice ?
- (g) Write clinical manifestations of Leprosy.
- (h) Write caustive organism of Typhoid and Meningitis.
- (i) What is Schizophrenia ?
- (j) Define iron deficiency and megaloblastic anemia.

P.T.O.

2. Answer the following (any *two*) : 10×2=20
- (a) Discuss in detail etiopathogenesis of cancer.
 - (b) Write the etiopathogenesis of :
 - (i) Asthma
 - (ii) Tuberculosis.
 - (c) Write etiology, pathogenesis, clinical manifestations and treatment of Hypertension and Atherosclerosis.
3. Answer the following (any *seven*) : 5×7=35
- (a) Write the mechanism of inflammation.
 - (b) Write the pathogenesis of Irreversible cell injury.
 - (c) Explain positive and negative feedback mechanism with *one* example.
 - (d) Write etiopathogenesis of depression.
 - (e) Define diabetes mellitus and write its types and clinical manifestations.
 - (f) Write etiopathogenesis of peptic ulcers.
 - (g) Write, definition, etiology, pathogenesis and clinical manifestations of Rheumatoid Arthritis.
 - (h) Write the mechanism of wound healing.
 - (i) Enlist types of Epilepsy and write its etiopathogenesis.