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B. Pharmacy EXAMINATION, Dec. 2023

(Second Semester)

BIOCHEMISTRY THEORY

BP-203T

Time : 3 Hours

Maximum Marks : 75

Note : Attempt all questions of Section A. Attempt any *two* questions from Section B and attempt any *seven* questions from Section C.

Section A

1. What are Aldoses and Ketoses ?
2. What are essential amino acids ?
3. Write first two steps of glycolysis.
4. What is Hypercholesterolemia ?
5. Write significance of Melatonin.
6. What is difference between DNA and RNA ?
7. Define coenzyme, giving example.

8. What are compound lipids ?
9. What is uncompetitive enzyme inhibition ?
10. Define endergonic reactions. **10×2=20**

Section B

11. Describe TCA cycle and its energetics. **10**
12. Discuss β -oxidation of fatty acids. **10**
13. Explain enzyme kinetics in detail. **10**

Section C

14. Explain biological significance of ATP and cAMP. **5**
15. Discuss gluconeogenesis pathway. **5**
16. Write about inhibitors of ETC. **5**
17. How is cholesterol converted into bile acids ? Explain. **5**
18. Discuss catabolism of phenylalanine. **5**
19. Discuss translation in brief. **5**

20. How do allosteric enzyme regulators work ? Explain. **5**
21. Describe Isoenzymes. **5**
22. Write a note in Diabetes Mellitus. **5**

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B. Pharmacy EXAMINATION, Dec. 2023

(Fourth Semester)

PHARMACEUTICAL ORGANIC CHEMISTRY–III

(Theory)

BP-401T

Time : 3 Hours

Maximum Marks : 75

Note : Attempt all questions of Section A. Attempt any *two* questions from Section B and attempt any *seven* questions from Section C.

Section A

1. Write structure of (R)-2-Chlorobutane and (S)-2-Chlorobutane.
2. What is difference between enantiomer and diastereomer ?
3. Give conformational analysis of ethane.
4. What is alternating axis of symmetry ?
5. What is D and L specification of stereoisomers ?
6. Write tautomers of imidazole.
7. Give any *two* synthetic methods for pyrrole.

8. Write any *two* reactions of oxazole.
9. Discuss basicity of Pyridine.
10. What is Wolff kishner reduction ? **10×2=20**

Section B

11. What are stereospecific and stereoselective reactions ?
Discuss in detail.
12. What is asymmetric synthesis ? Explain taking suitable examples.
13. Describe methods of preparation and reactions of furan and pyrazole. **2×10=20**

Section C

14. Explain meso compounds taking suitable examples.
15. Discuss R and S system of nomenclature of optical isomers.
16. Describe atropisomerism in biphenyl compounds.
17. Discuss metal hydride reductions.
18. Describe Schmidt rearrangement along with applications.
19. Describe reactions of Isoquinolines.

20. Explain the chemistry of indole.
21. Discuss Dakin reaction along with its synthetic applications.
22. Explain synthesis and medicinal uses of purine. **7×5=35**

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B. Pharmacy EXAMINATION, Dec. 2023

(First Semester)

HUMAN ANATOMY AND PHYSIOLOGY-I

BP-101T

Time : 3 Hours

Maximum Marks : 75

Note : Question No. 1 is compulsory. Attempt any *two* questions from Section A and attempt any *seven* questions from Section B.

1. Write short notes on the following : **10×2=20**

- (a) Cell divisions
- (b) Actin
- (c) Lymph Nodes
- (d) Spinal nerve
- (e) Sinus Rhythm
- (f) Stroke volume
- (g) Myocardium
- (h) Tunica Media
- (i) SA Node
- (j) Chemoreceptors.

Section A

Note : Long answer type questions. Attempt any *two*.

2. Discuss the anatomy and physiology of loose and dense type connective tissue with their examples. **10**
3. Explain the contact dependent and synaptic intracellular signaling with examples in detail. **10**
4. Discuss the classifications of joints and discuss synovial joints with examples in detail. **10**

Section B

Note : Short answer type questions. Attempt any *seven*.

5. Write notes on the following : **7×5=35**
 - (i) Draw a well labeled diagram of heart.
 - (ii) Enumerate the various types of anemia.
 - (iii) Anatomy and Physiology of lymphatic organs.
 - (iv) Factors involved in mechanisms of blood coagulation.
 - (v) Explain the portal, systematic and pulmonary circulations in heart.
 - (vi) Draw a well labelled diagram of Eye.

- (vii) Explain the active and passive transport across cell membrane.
- (viii) Enumerate the divisions of skeletal systems in details.
- (ix) Briefly explain the disorders of heart.

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B. Pharmacy EXAMINATION, Dec. 2023

(Sixth Semester)

PHARMACEUTICAL QUALITY ASSURANCE

BP606T

Time : 3 Hours

Maximum Marks : 75

Note : Section A is compulsory. Attempt any *two* questions from Section B and any *seven* questions from Section C.

Section A

1. Discuss the following : **10×2=20**
- (a) ISO 9000
 - (b) NABL
 - (c) Elements of QbD
 - (d) QSEM
 - (e) Waste disposal
 - (f) Sterile area
 - (g) GLP
 - (h) SOP
 - (i) Distribution records
 - (j) Materials management.

Section B

2. Describe purchase specifications and maintenance of stores for raw materials. **10**
3. What do you understand by the process of harmonization ? Discuss briefly the ICH stability testing guidelines. **10**
4. Describe the importance of Good Laboratory Practices. Give the brief description of the protocols for non-clinical laboratory studies. **10**

Section C

5. Discuss in detail the principles of TQM. **5**
6. Write a note on quality control test for containers. **5**
7. Explain the steps involved in ISO 14000 registration. **5**
8. Write a note on the importance and scope of validation. **5**
9. How do you calibrate a pH meter ? Describe briefly. **5**
10. What do you understand by quality audit and quality review ? Discuss briefly. **5**

11. What do you understand by ‘complaints’ and how are they evaluated ? **5**
12. Write a note on sanitation and environmental control. **5**
13. Discuss briefly the handling of return goods. **5**

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B. Pharm. EXAMINATION, Dec. 2023

(Fourth Semester)

PHARMACOLOGY-I

BP-404T

Time : 3 Hours

Maximum Marks : 75

Note : Section A is compulsory. Attempt any *two* questions from Section B. Attempt any *seven* questions from Section C. Answer all parts of a question at one place only.

Section A

1. (a) Define pharmacokinetics and pharmacodynamics.
- (b) What are essential drugs ?
- (c) Define partial agonist. Write its one example.
- (d) What are various phases of clinical trials ?
- (e) Write *two* examples of drugs used in treatment of myasthenia gravis.
- (f) Write *four* uses of diazepam.
- (g) Write *four* neurotransmitters of central nervous system.

- (h) Write *two* examples of peripherally acting muscle relaxants.
- (i) Write mechanisms of action and uses of selegiline.
- (j) What is neurolept analgesia ? 10×2=20

Section B

- 2. Explain factors modifying drug action. 10
- 3. Classify neuromuscular blockers with suitable examples. Explain their mechanisms of action and uses. 10
- 4. Classify general anesthetics with suitable examples. Explain their mechanisms of action. Also write the properties of an ideal general anesthetic. 10

Section C

- 5. Describe pharmacokinetic drug interactions with suitable examples. 5
- 6. Write short notes on enzyme induction and inhibition with suitable examples. 5
- 7. Classify sympatholytic drugs with suitable examples. Also write their uses. 5
- 8. Explain mechanisms of action and uses of sodium valproate and phenobarbitone. 5

- 9. Write examples, mechanisms of action of drugs used in treatment of Alzheimer's disease. 5
- 10. Differentiate between competitive and non-competitive antagonists. Also write their examples. 5
- 11. Write a short note on G-protein coupled receptors. 5
- 12. Explain pharmacological actions and clinical uses of Ethyl Alcohol. 5
- 13. Classify neuroleptics with suitable examples. Write the mechanisms of action of each class of these drugs and also write their uses. 5

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B. Pharm. EXAMINATION, Dec. 2023

(Sixth Semester)

PHARMACOLOGY–III

BP-602T

Time : 3 Hours

Maximum Marks : 75

Note : Section A is compulsory. Attempt any *two* questions from Section B. Attempt any *seven* questions from Section C. Answer all parts of a question at one place only.

Section A

1. (a) What are nasal decongestants ? Write their *two* examples.
- (b) Write mechanisms of action and use of salbutamol.
- (c) What is ORS ? Name its different components.
- (d) Define carminatives. Write its two examples.
- (e) Write *two* examples of macrolide antibiotics.
- (f) Write examples of sulfonamides used to treat eye infections.
- (g) Write *two* examples of antiviral drugs used for treatment of COVID-19.
- (h) Write *two* examples of protein drugs.

- (i) Define genotoxicity and circadian rhythm.
(j) Write *two* antagonists of morphine. **10×2=20**

Section B

2. What are laxatives and purgatives ? Classify these drugs with suitable examples. Explain the mechanisms of action of each class of these drugs. Also write their uses. **10**
3. Explain the problems that may arise due to use of antimicrobial agents. Also write the objectives of combined use of antimicrobial drugs. **10**
4. Classify anti-amoebic drugs with suitable examples. Explain their mechanisms of action and uses. **10**

Section C

5. Write mechanisms of action and uses of metoclopramide and dextromethorphan. **5**
6. Write mechanisms of action and uses of omeprazole and ethambutol. **5**
7. Explain mechanisms of action and antibacterial spectrum of cefpodoxime and chloramphenicol. **5**
8. Write mechanisms of action and uses of albendazole and griseofulvin. **5**

9. Classify immunosuppressive drugs with suitable examples. Explain their uses. **5**
10. Write examples, mechanisms of action and uses of alkylating agents. **5**
11. Write clinical symptoms and management of poisoning due to organophosphorus compounds. **5**
12. What is COPD ? Write a short note on the drugs used for treatment of this disorder. **5**
13. Write a short note on appetite stimulants and emetics. **5**