

**B.PH 404**

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**II/IV B. PHARMACY (SUPPLY) DEGREE EXAMINATIONS,  
FEBRUARY-2022**

**Fourth Semester**

**APPLIED BIOCHEMISTRY AND CLINICAL PATHOLOGY**

Time : **Three Hours**

Maximum : **70 Marks**

**SECTION - A**

**Answer any FOUR Questions.**

**4x10 = 40 M**

1. a) Classify enzymes with examples. Write in detail on the role of pH on activity of an enzyme.  
b) Write a short note on lock and key model of enzyme action.
2. a) Explain how amino acids can be used for energy production in our body ?  
b) Discuss the biological significance of urea cycle.
3. a) With a note of ketone bodies.  
b) Explain why fatty acids are considered as high energy substances ?
4. a) Write the biochemical role of sodium and chloride.  
b) Discuss the significance of folic acid.
5. Discuss the method used for estimation of the following constituents in blood. Add a note on their significance in disease diagnosis.  
a) Bile pigments.  
b) Creatinine.
6. a) Write a note on detoxification mechanisms in our body.  
b) Discuss the role of platelets in health and disease.

**SECTION - B**

**Answer any TEN Questions.**

**10x3 = 30 M**

7. Write the chemical tests used for detection of glucose in urine.

**[ P.T.O.]**

8. Write biological significance of HMP pathway.
9. Outline the pathway for metabolism of glycine.
10. What is non-competitive enzyme inhibition ? Give examples.
11. Write short notes on protein turnover.
12. Why do we call glucose as abnormal constituents of urine ?
13. Outline the method used for identification of calcium in urine.
14. Write the relation between HMG CoA reductase and cholesterol biosynthesis.
15. Write in brief on hypercholesterolemia.
16. What are essential fatty acids ? Give examples.
17. Write in brief on NADH.
18. Write in brief on biological role of folic acid.



**II/IV B.PHARMACY (Supply) DEGREE EXAMINATIONS, JANUARY-2020****Fourth Semester****B.PHARMACY****APPLIED BIOCHEMISTRY AND CLINICAL PATHOLOGY****Time: Three Hours****Maximum marks:70****PART-A****Answer any FOUR Questions****4X10=40M**

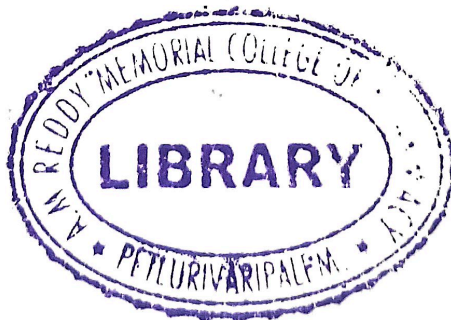
1. Write in detail on classification, properties and chemical reactions of carbohydrates.
2. Write short notes on
  - a) HMP Pathway
  - b) Ketogenesis
3. Write short notes on
  - a) Urea cycle
  - b) Metabolism of tryptophan.
4. Classify enzymes with examples. Write in detail on oxidoreductase enzymes. Add a note on mechanisms of enzyme action.
5. Explain the principle and procedure involved in the estimation of the following. Add a note on their diagnostic importance.
  - a) Blood glucose
  - b) Urine creatinine.
6. Write in detail on
  - a) Phosphate metabolism
  - b) Oil-soluble vitamins.

**PART-B****Answer any TEN Questions****10X3=30M**

7. Write chemical reactions used for identification of lipids.

**P.T.O**

8. Write in brief on hormonal regulation of glucose metabolism.
9. Write short notes on enzyme inhibitors.
10. Explain why lipids are considered as high energy foods?
11. Explain the significance of enzyme inhibitors in pharmacy.
12. Write short notes on the importance of sodium and chloride in our body.
13. Why protein is an abnormal constituent of urine?
14. Write the principle and significance of urine calcium estimation.
15. Write in brief on significance of abnormalities in lymphocytes in disease diagnosis
16. Discuss the importance of serum potassium levels.
17. Write in brief on bile salts.
18. What are liver function tests?



**SECTION-A**

**Answer any FOUR Questions**

**4X10=40M**

1. What are carbohydrates? Classify them with examples. Write in brief on glycolysis as a key biochemical pathway for energy production from glucose.
2. Write short notes on
  - a) Chemical reactions of amino acids
  - b) Urea cycle
3. Discuss the biochemical importance of
  - a) Fatty acid biosynthesis
  - b) Cholesterol metabolism
4. Define and classify enzymes. Write short notes on mechanism of enzyme action and their significance in drug discovery.
5. With a neat sketch explain electron transport chain.
6. Write in detail on liver function tests.

**SECTION-B**

**Answer any TEN Questions**

**10X3=30M**

7. Explain the importance of HMP pathway.
8. Discuss the role of adrenalin in glucose metabolism.
9. Write short notes on essential amino acids.
10. Explain the metabolism of phenyl alanine.
11. Explain the role of pH on enzyme activity.
12. Write short notes on the importance of water in our body.
13. Why urea is a normal constituent of urine?
14. Write the principle and significance of urine glucose estimation.
15. Write in brief on significance of abnormalities in platelets in disease diagnosis.
16. Discuss the importance of serum  $Ca^{+2}$  levels.
17. Write in brief on bile salts.
18. What are ketone bodies? Explain their importance.

**II/IV B.PHARMACY DEGREE EXAMINATIONS, JUNE-2017****Fourth Semester****B.PHARMACY****APPLIED BIOCHEMISTRY & CLINICAL PATHOLOGY****Time: Three Hours****Maximum marks:70****SECTION-A****Answer any FOUR questions****4X10=40M**

1. Classify lipids with examples? Add a note on beta oxidation of fatty acids?
2. Discuss about various steps involved in HMP pathway? Add a note on its significance?
3. Explain about the biochemical role of pancreatic hormones?
4. What are essential and non essential amino acids? Add a note on metabolism of phenyl alanine?
5. Classify enzymes with examples? Add a note on enzyme inhibition?
6. Discuss about the estimation of BUN, SGOT and SGPT in blood?

**SECTION-B****Answer any TEN questions****10X3=30M**

7. Write short notes on ketone bodies?
8. Explain briefly about glycogenolysis?
9. Write about the significance of Urea cycle?
10. Write short notes on biochemical role of vitamin C?
11. Explain briefly about Phase I Oxidation reactions?
12. Write briefly about Parathyroid hormone?
13. Explain briefly about the role of RBC in health and disease?
14. Write short notes on glycosuria and hematuria?
15. Write short notes on the role of co-enzymes?
16. Explain briefly about qualitative analysis of albumin and bile salts?
17. Write short notes on composition of intracellular fluid?
18. Write short notes on hyperlipidemia?

**III/IV B.PHARMACY DEGREE EXAMINATIONS, NOVEMBER-2016**

**(4<sup>th</sup> Semester)**

**B.PHARMACY**

**APPLIED BIOCHEMISTRY & CLINICAL PATHOLOGY**

**Time: Three Hours**

**Maximum marks:70**

**SECTION-A**

**Answer any FOUR questions. (4 x 10=40 M)**

1. Classify carbohydrates with examples? Add a note on glycogen storage disease?
2. Discuss in detail about various steps involved in Glycolysis?
3. Explain about the biosynthesis of cholesterol? Add a note on hyperlipidemia?
4. What are essential amino acids? Discuss in detail about Urea cycle?
5. Discuss in detail about the factors affecting enzyme action?
6. Discuss about the estimation of glucose in blood and urine?

**SECTION-B**

**Answer any TEN questions. (10 x 3=30 M)**

7. Write short notes on ketogenesis?
8. Explain briefly about gluconeogenesis?
9. Write briefly about deamination?
10. Write short notes on biochemical role of Vitamin A?
11. Explain briefly about Phase II metabolic reactions?
12. Write briefly about Thyroxine?
13. Explain briefly about the role of platelets in health and disease?
14. Write short notes on proteinuria and hematuria?
15. Write short notes on the structure of enzymes?
16. Explain briefly about qualitative analysis of bile salts and bile pigments?
17. Write short notes on composition of blood?
18. Write short notes on CYP 450 enzymes?

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**II/IV B.PHARMACY DEGREE EXAMINATIONS, JUNE/JULY- 2016**  
Fourth Semester

**(Paper-IV): APPLIED BIOCHEMISTRY AND CLINICAL PATHOLOGY**

Time: Three Hours

Maximum marks: 70

**SECTION-A**

Answer any FOUR questions.

4x10=40M

All questions carries equal marks.

1. Write short notes on
  - a. HMC CoA Reductase enzyme.
  - b. Diabetes
2. What is Kerb's cycle? Explain various steps involved in it with special emphasis on energy transaction.
3. Explain the role of amino acid metabolism in the biosynthesis of cell-signalling molecules.
4. What are genetic mutations and how do they occur? Write in detail on their role in health and disease.
5. Discuss the biochemical importance of
  - a. Creatine
  - b. Polyunsaturated fatty acids
6. Write in brief on
  - a. Jaundice
  - b. Role of cholesterol in Atherosclerosis

**SECTION-B**

Answer any TEN questions.

10x3=30M

7. Write in brief on glycolysis
8. Discuss the role of adrenaline on metabolism of glucose and fatty acids.
9. Write short notes on biological significance of glycogenesis.
10. Write in brief on the biochemical importance of Vitamin B12.
11. Discuss the mechanisms of enzyme action.
12. Write short notes on the importance of lymph fluid.
13. Write the principle and significance of serum glucose estimation.
14. Write the biochemical role of K<sup>+</sup> and Cl<sup>-</sup>.
15. Explain why protein and glucose are considered as abnormal constituents of urine?
16. Write in brief on structure of DNA.
17. Write in brief on beta-oxidation of fatty acids.
18. Outline the biosynthesis of pyrimidine nucleotides.



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**II/IV B.PHARMACY DEGREE EXAMINATIONS, JUNE-2018**

**Fourth Semester**

**APPLIED BIOCHEMISTRY AND CLINICAL PATHOLOGY**

**Time: Three Hours**

**Maximum marks:70**

**SECTION-A**

**Answer any FOUR Questions**

**4X10=40M**

1. Explain the following
  - a) Fatty acid metabolism gives more energy than carbohydrate metabolism
  - b) Krebs cycle not only provides ATP but also starting materials for other biosynthetic pathways.
2. What is a lipid? Explain various functions of lipids in an animal cell. Write in detail on ketone bodies.
3. Write a note on the classification and chemistry of amino acids. Briefly write on the role of amino acid metabolism in cellular communication?
4. Define and classify enzymes? Explain various factors affecting enzyme action.
5. What are vitamins? Write in detail on the biochemical role of folic acid and Vit B12.
6. What is lipid profile test? Explain its clinical significance.

**SECTION-B**

**Answer any TEN Questions**

**10X3=30M**

7. Differentiate reducing and non-reducing sugars.
8. What are the factors controlling gluconeogenesis?
9. With a neat diagram explain lipid redistribution pathways in humans.
10. Write brief note on the cofactors involved in the oxidative phosphorylation.
11. Explain the functioning of pyruvate dehydrogenase enzyme complex.
12. Write the principle and significance of SGOT and ALT assays.
13. Explain the biochemical role of cholesterol.

**P.T.O**

14. Write in brief on the role of adrenalin on lipid metabolism.
15. What are bile pigments? Write briefly on their clinical significance.
16. Explain why glucose is considered as an abnormal constituent in urine?
17. Differentiate co-enzyme and co-factor with examples.
18. Write a short note on the role of platelets in health and disease.

