

FIRST B.N.Y.S. DEGREE EXAMINATION

PAPER I - BIO-CHEMISTRY

Q.P. Code : 821501

Time: Three Hours

Maximum : 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Explain in detail about the folic acid metabolism and deficiency manifestations.
2. Explain in detail about the formation and structure of cholesterol and fatty acid oxidation.

II. Short Notes:

(10 x 5 = 50)

1. Overall turnover of water metabolism in our body.
2. Fatty Liver.
3. Dietary habits and diseases.
4. Regulation of Blood sugar level.
5. Write about the regulation of Calcium.
6. Urea clearance and creatinine clearance test.
7. Colorimetry.
8. Gas liquid chromatography.
9. Classification of Monosaccharides according to structure.
10. Riboflavin metabolism.

III. Short Answers:

(10 x 2 = 20)

1. Protamines.
2. Gout.
3. Recommended dietary allowance of Vitamin D.
4. Sources of Iron.
5. Eicosanoids.
6. Structure of Cyanocobalamin.
7. Define Glycolysis.
8. Galactose.
9. Hay's test.
10. Structure of Insulin.

FIRST B.N.Y.S. DEGREE EXAMINATION

PAPER I – BIOCHEMISTRY

Q.P. Code : 821501

Time: Three Hourss

Maximum : 100 Marks

Answer All questions

I. Essay Questions: (2 x 15 = 30)

1. Elaborate Embden-Meyerhof pathway of Glycolysis with flow chart.
2. Elaborate the chemistry of lipids with suitable examples.

II. Short Notes: (10 x 5 = 50)

1. Explain phospholipids.
2. Renal function tests.
3. Explain the functions of haemoglobin.
4. Explain Urea cycle.
5. Write a note on sunshine vitamin.
6. Write about basal metabolic rate.
7. Explain serum electrophoresis.
8. Explain about iron absorption and storage.
9. Write a note on replication.
10. Explain vitamin B12.

III. Short Answers: (10 x 2 = 20)

1. What is oxidation and reduction?
2. Define stereoisomerism.
3. What is prostaglandin?
4. What is mucopolysaccharide?
5. What is High Density Lipoprotein?
6. Define enzymes.
7. Name the buffer systems.
8. What is collagen?
9. Explain beriberi.
10. What is malnutrition and starvation?

FIRST B.N.Y.S. DEGREE EXAMINATION

PAPER I – BIO - CHEMISTRY

Q.P. Code : 821501

Time: Three Hours

Maximum : 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Explain in detail about the pH of blood and write a note on role of the kidney and lungs in maintaining the pH of blood.
2. Explain in detail about copper and zinc metabolism.

II. Write Notes on:

(10 x 5 = 50)

1. Different types of chromatography.
2. Explain about the structure of collagen, haemoglobin and myoglobin.
3. Biological importance of nucleic acid.
4. Explain about transcription, translation and recombination.
5. Write a note on cofactors and activators.
6. Write a note on rickets.
7. DNA damage and repair.
8. Write a note on pyridoxine metabolism.
9. Biological oxidation.
10. Lipotropic features and fatty liver.

III. Short Answers on:

(10 x 2 = 20)

1. Cephalin and lecithin.
2. Ketoacidosis.
3. Oncogenes.
4. Aliphatic amino acids.
5. Amino acid pool.
6. Iodine-deficiency.
7. Arachidonic acid.
8. Types of RNA.
9. Colorimetry.
10. Electrophoresis

FIRST B.N.Y.S. DEGREE EXAMINATION

PAPER I – BIO - CHEMISTRY

Q.P. Code : 821501

Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on:

(2 x 15 = 30)

1. Describe briefly about the disorders of carbohydrate metabolism, regulation of blood sugar and significance of glucose tolerance test.
2. Explain briefly about the energy metabolism and add a note on
 - a) Dietary habits and diseases.
 - b) Biochemistry of starvation.

II. Write Notes on:

(10 x 5 = 50)

1. Biosynthesis of lecithin and cephalin
2. Detoxification mechanisms of liver.
3. Urea clearance and creatinine clearance.
4. Write short on iron metabolism.
5. Biological oxidation.
6. Write a short note on arsenic, mercury and metal toxicity.
7. Regulation of metabolic pathways of carbohydrate.
8. Write note on cyanogobalamine.
9. Metabolism of galactose.
10. Disposal of ammonia.

III. Short Answers on:

(10 x 2 = 20)

1. Sources of iron.
2. Classification of minerals.
3. Glycogenolysis.
4. GOUT.
5. Difference between Kwashiorkor and Marasmus.
6. Recommended dietary allowance of vitamin C.
7. Eicosanoids.
8. Amphipathic lipids.
9. Protamines.
10. Ribosomal RNA.

FIRST B.N.Y.S. DEGREE EXAMINATION

PAPER I – BIO - CHEMISTRY

Q.P. Code : 821501

Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on:

(2 x 15 = 30)

1. Explain in detail about the Principles of Colorimetry, Paper chromatography and Electrophoresis.
2. Explain in detail about the Electrolytes in Body and Water Metabolism.

II. Write Notes on:

(10 x 5 = 50)

1. Digestion and Absorption of carbohydrates.
2. Compare the Structure of Hemoglobin and Myoglobin.
3. Denaturation of Proteins.
4. Stereoisomerism of proteins
5. Purines and Pyrimidine metabolism.
6. Glucose Tolerance Test.
7. Functions and Formation of Prostaglandins.
8. Lipotropic Factors.
9. Disorders of Amino acids Metabolism.
10. Utilisation of Ketone bodies.

III. Short Answers on:

(10 x 2 = 20)

1. Creatinine Clearance Test.
2. Protein Energy Malnutrition.
3. Define Peptides.
4. Acids, Bases and Buffers.
5. Write a note on Nucleic acids.
6. What is Albumin?
7. Define Jaundice.
8. Define Vitamins.
9. Triacylglycerol.
10. What is Pellagra? Which deficiency it will happen?

FIRST B.N.Y.S. DEGREE EXAMINATION

PAPER I – BIO - CHEMISTRY

Q.P. Code : 821501

Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Essay Questions:

(2 x 15 = 30)

1. Explain briefly about the breakdown of tissue proteins, amino acid pool and general metabolism of amino acids.
2. Briefly explains about the abundant sources, metabolism, transport and deficiency manifestations of calcium and phosphorus.

II. Write Notes on:

(10 x 5 = 50)

1. Write a note on lipogenesis and synthesis of fatty acids.
2. Urea cycle.
3. Biological importance of peptides and structure of insulin.
4. Short note on structure of protein coagulation and denaturation of proteins.
5. Diagnostic importance enzyme and isoenzymes.
6. Functions of immunoglobulins.
7. Post transcription modification.
8. Formation of glutamate and glutamine.
9. Role of the kidney and lungs in maintaining PH of blood.
10. Active and facilitated diffusion.

III. Short Answers on:

(10 x 2 = 20)

1. Define composition of triglycerol.
2. Neutral lipids.
3. Co- Factors.
4. Degradation of heme.
5. Difference between the replication and transcription.
6. Ketosis.
7. Sphingolipids.
8. Haemoglobin.
9. Fatty liver.
10. Write a structure of DNA.

[LL 1501]

OCTOBER 2017

Sub. Code: 1501

FIRST B.N.Y.S. DEGREE EXAMINATION
PAPER I – BIO - CHEMISTRY

Q.P. Code : 821501

Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Essay Questions:

(2 x 15 = 30)

1. Define Vitamins, its classification; give a brief account on source, biochemical function, recommended dietary allowances, sources and deficiency of VITAMIN A.
2. Describe in detail about Liver function test and kidney function test, explain the diagnostic importance of these tests.

II. Write Notes on:

(10 x 5 = 50)

1. Define buffer. Write about blood buffer.
2. What are amino acids, its classification and add notes on the amino acid pool?
3. Define chromatography? Explain about paper chromatography.
4. Write about Denaturation of proteins.
5. Write about Iron, its absorption, transport and storage.
6. Write a short note on water turnover and balance.
7. Write about nutritional importance of proteins. Explain about protein energy malnutrition?
8. Write about the structure, function and types of RNA.
9. Write normal blood sugar level and write about glucose tolerance test and its importance?
10. Explain about Fatty liver?

III. Short Answers on:

(10 x 2 = 20)

1. What is transcription?
2. Define Enzymes.
3. What is GOUT?
4. What are Essential fatty acids?
5. Define Gluconeogenesis.
6. Define Electrolytes.
7. Define osmosis.
8. Write any two functions of phospholipids.
9. What is myoglobin?
10. What is Hyper vitaminosis?

[LM 1501]

MAY 2018

Sub. Code: 1501

**FIRST B.N.Y.S. DEGREE EXAMINATION
PAPER I – BIO - CHEMISTRY**

Q.P. Code : 821501

Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Essay Questions:

(2 x 15 = 30)

1. What are minerals? Its classification? Its functions and give a detail account on biochemical function, daily requirements, sources, absorption, plasma level, regulation and disorders of calcium?
2. Define Glycolysis? Explain about the Embden Meyerhof pathway, add a detail note on disorders of carbohydrate metabolism?

II. Write Notes on:

(10 x 5 = 50)

1. Write normal and abnormal composition of urine.
2. Explain about calorimetry.
3. What are peptides? Its biological importance?
4. Write about Vitamin B12.
5. Write about the structure and functions of myoglobin and haemoglobin.
6. Explain about jaundice.
7. What is a balanced diet? Explain about any one nutritional disorder?
8. Explain about the biological oxidation.
9. Explain about the role of kidney in regulation of blood pH.
10. Define nucleic acids? Its classification and explain the structure of DNA.

III. Short Answers on:

(10 x 2 = 20)

1. What are lipotropic factors?
2. What is Cystinuria?
3. Beri – Beri - Which deficiency?
4. Write about the importance of mineral fluorine.
5. Define replication.
6. Define starvation.
7. Action of vitamin antagonists.
8. What is ketosis?
9. Write about the functions of polysaccharides.
10. What are co-enzymes?

[LN 1501]

OCTOBER 2018

Sub. Code: 1501

FIRST B.N.Y.S. DEGREE EXAMINATION

PAPER I – BIO - CHEMISTRY

Q.P. Code : 821501

Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Essay Questions:

(2 x 15 = 30)

1. Explain Embden Meyerhof Pathway and Citric Acid Cycle.
2. Explain in detail about Amino Acid and its classification.

II. Write Notes on:

(10 x 5 = 50)

1. Explain Diabetes mellitus and GTT.
2. Write a short note on Phospholipids.
3. Explain Urea cycle.
4. Explain Chromatography.
5. Explain Steroids.
6. Explain Vitamin D.
7. Write a short note fat.
8. Define enzymes and classification.
9. Explain structure and function of Haemoglobin.
10. Define Jaundice and its classification.

III. Short Answers on:

(10 x 2 = 20)

1. Calciferol.
2. Wilson Disease.
3. Dextrin.
4. Niacin.
5. Fructosuria.
6. Why vitamin A is considered a hormone?
7. Genes.
8. Gangliosides.
9. Peptides.
10. Wax.

[LO 1501]

MAY 2019

Sub. Code: 1501

FIRST B.N.Y.S. DEGREE EXAMINATION

PAPER I – BIO - CHEMISTRY

Q.P. Code : 821501

Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Essay Questions:

(2 x 15 = 30)

1. Explain in detail about Monosaccharide and stereoisomerism.
2. Explain Vitamin A in detail and Wald's Visual Cycle.

II. Write Notes on:

(10 x 5 = 50)

1. Write in detail about Chromatography.
2. Structure of DNA.
3. Functions of immunoglobulins.
4. TCA Cycle.
5. Explain Nitrogenous bases.
6. Write a short note on Fat.
7. Explain Ketogenesis.
8. Write a short note on Iron.
9. Biological Oxidation.
10. Kidney Function Test.

III. Short Answers on:

(10 x 2 = 20)

1. Iodine Number.
2. Hypervitaminosis.
3. Avidin.
4. Oncogenes.
5. Jaundice.
6. Pantothenic Acid.
7. BMR.
8. Sphingolipids.
9. Genes.
10. Difference between Kwashiorkor and Marasmus.

[LP 1501]

OCTOBER 2019

Sub. Code: 1501

FIRST B.N.Y.S. DEGREE EXAMINATION

PAPER I – BIO - CHEMISTRY

Q.P. Code : 821501

Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Essay Questions:

(2 x 15 = 30)

1. Explain in detail on regulation of blood sugar, glucose tolerance tests and diabetes mellitus.
2. Explain liver function tests in detail.

II. Write Notes on:

(10 x 5 = 50)

1. Properties and classification of proteins.
2. Fatty liver and lipo tropic factors.
3. Explain polysaccharides and its functions.
4. Write about Vitamin B12.
5. Explain Glycogenesis.
6. Formation of Ketone bodies.
7. Biological importance of peptides.
8. Electrolytes and water metabolism.
9. Role of Kidneys in maintaining PH of blood.
10. Write notes on Vitamin A.

III. Short Answers on:

(10 x 2 = 20)

1. Prostaglandins and Leukotrienes.
2. Write about Beriberi.
3. Structure of Haemoglobin and its functions.
4. Write about fatty acids and its classification.
5. Gouty arthritis.
6. Iodine and its importance.
7. What are plasma proteins?
8. Write about Invert sugar.
9. What is Thalassemia?
10. What are Nucleic acids?

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[BNYS 0321]

MARCH 2021

Sub. Code: 1501

(MAY & AUGUST 2020 SESSION)

B.N.Y.S. DEGREE EXAMINATION

FIRST YEAR (From the academic year 2013-14) – PART I

PAPER I – BIO - CHEMISTRY

Q.P. Code : 821501

Time: Three Hours

Answer ALL questions

Maximum : 100 Marks

I. Essay Questions:

(2 x 15 = 30)

1. Define starvation. Explain in detail on the biochemistry of starvation.
2. Explain in detail on amino acid pool, and Urea cycle.

II. Write Notes on:

(10 x 5 = 50)

1. Functions of Immunoglobulins.
2. Explain Clearance tests.
3. Define Basal metabolic rate. Write its importance and the factors affecting BMR.
4. Water metabolism and its regulation.
5. Explain Glycolysis.
6. Write about Vitamin D.
7. Structure of DNA.
8. Diagnostic importance of enzymes and Isoenzymes.
9. Write notes on Colorimetry.
10. Explain Phospholipids.

III. Short Answers on:

(10 x 2 = 20)

1. Essential amino acids.
2. Specificity of enzymes.
3. What are Oligosaccharides?
4. Write about Fluorine.
5. Coagulation and denaturation of proteins.
6. Protein energy malnutrition.
7. What is Replication?
8. Sick cell anaemia.
9. Acidosis and alkalosis.
10. Structure of haemoglobin.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[BNYS 1021]

**OCTOBER 2021
(OCTOBER 2020 SESSION)**

Sub. Code: 1501

**B.N.Y.S. DEGREE EXAMINATION
FIRST YEAR – PART I
(For the candidates admitted from the academic year 2013-14)
PAPER I – BIO-CHEMISTRY
*Q.P. Code: 821501***

Time: Three Hours

Answer ALL questions

Maximum: 100 Marks

I. Essay Questions: (2 x 15 = 30)

1. Explain the structure, synthesis and breakdown of Cholesterol.
2. Explain in detail about Nucleic Acid, Purines and Pyrimidine Bases.

II. Write Notes on: (10 x 5 = 50)

1. Explain BMR.
2. Write a short notes on Electrophoresis.
3. Explain the structure of Protein.
4. Write a note on Ascorbic Acid.
5. Koop's theory of β oxidation of Fatty Acid.
6. Explain steroids.
7. Liver Function Test.
8. Write a note on Calcium.
9. Explain Polysaccharides.
10. Gluconeogenesis.

III. Short Answers on: (10 x 2 = 20)

1. Iodine Deficiency.
2. Anaemia.
3. Fatty Liver.
4. Ketosis.
5. Co-Enzymes.
6. Van Den Bergh reaction.
7. Bitot's Spot.
8. Rancidity.
9. Hyper Vitaminosis.
10. Protamines.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[BNYS 0322]

**MARCH 2022
(FEBRUARY 2021 & MAY 2021 SESSIONS)**

Sub. Code: 1501

**B.N.Y.S. DEGREE EXAMINATION
FIRST YEAR – PART I
(For the candidates admitted from the academic year 2011-12)
PAPER I – BIO-CHEMISTRY
Q.P. Code: 821501**

Time: Three Hours

Answer ALL questions

Maximum: 100 Marks

I. Essay Questions: (2 x 15 = 30)

1. Describe the citric acid cycle. How is it regulated? What is its amphibolic role?
2. What are fatty acids and its classification? Explain about the Beta oxidation of fatty acids, and add a note on essential fatty acids.

II. Write Notes on: (10 x 5 = 50)

1. Write about Vitamin B1, its functions, sources, absorption and regulation.
2. Explain about regulation of blood glucose.
3. Explain about the disorders of Acid base balance.
4. Explain about Vitamin K, its sources, functions and deficiency.
5. Explain about water metabolism.
6. Define protein. Explain about the coagulation and denaturation of proteins.
7. Define carbohydrates, classification and its nutritional importance.
8. Explain about the structure of cell membrane.
9. What is BMR? Factors affecting BMR and its importance?
10. Define nucleotides. Disorders of purine metabolism.

III. Short Answers on: (10 x 2 = 20)

1. What is normal serum level of the following?
(a) Cholestrol (b) Bilirubin (c) Fasting Glucose (d) Creatinine.
2. What is anti diabetogenic hormone? Where is it secreted?
3. Write any two functions of Prostaglandin.
4. Write any two functions of anti sterility vitamin.
5. What is Immunoglobulin?
6. What are Chylomicrons?
7. Explain sickle cell anemia.
8. What is anti oxidants?
9. Functions of Leukotrienes.
10. Electrophoresis.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[BNYS 0522]

MAY 2022

Sub. Code: 1501

(AUGUST 2021 & OCTOBER 2021 SESSIONS)

B.N.Y.S. DEGREE EXAMINATION

FIRST YEAR – PART I

(For the candidates admitted from the academic year 2011-12)

PAPER I – BIO-CHEMISTRY

Q.P. Code: 821501

Time: Three Hours

Answer ALL questions

Maximum: 100 Marks

I. Essay Questions:

(2 x 15 = 30)

1. Describe the metabolism of iron in the body.
2. Define electrophoresis. Give classification, principle and applications of electrophoresis.

II. Write Notes on:

(10 x 5 = 50)

1. Purine salvage pathway.
2. Biological oxidation.
3. Liver function tests.
4. Gout.
5. Functions of immunoglobulin.
6. Denaturation of proteins.
7. Write about Vitamin K.
8. Explain phospholipids.
9. Nitrogenous bases.
10. Urea cycle.

III. Short Answers on:

(10 x 2 = 20)

1. Thalassemia.
2. Mutation.
3. Anion gap.
4. Serum triglycerides.
5. Myoglobin.
6. Cardiac markers.
7. Antioxidants.
8. Hydrolysis.
9. Scurvy.
10. Histamine.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[BNYS 1022]

**OCTOBER 2022
(FEBRUARY 2022 & MAY 2022 SESSIONS)**

Sub. Code: 1501

**B.N.Y.S. DEGREE EXAMINATION
FIRST YEAR – PART I
(For the candidates admitted from the academic year 2011-12)
PAPER I – BIO-CHEMISTRY
Q.P. Code: 821501**

Time: Three Hours

Answer ALL questions

Maximum: 100 Marks

I. Essay Questions: (2 x 15 = 30)

1. Outline the biosynthesis and degradation of Heme. Add a note on its clinical significance.
2. Explain in detail on Krebs cycle and write a note on its energetics and regulation.

II. Write Notes on: (10 x 5 = 50)

1. Define enzymes and its classification.
2. Write about the properties and stereoisomerism of monosaccharides.
3. Explain the types of RNA with its structure and function.
4. Explain Compound lipids.
5. Beta Oxidation of Fatty acids.
6. Write about Vitamin K.
7. Write notes on Oxidative Phosphorylation.
8. Explain Paper Chromatography.
9. Digestion and absorption of carbohydrates.
10. Post-Transcriptional modifications.

III. Short Answers on: (10 x 2 = 20)

1. Essential Fatty acids.
2. What are Oncogenes?
3. Lactose intolerance.
4. Cofactors and coenzymes.
5. Myoglobin and its structure.
6. What is Ketoacidosis?
7. Lipotropic factors.
8. What are simple lipids?
9. Hemosiderosis and Hemochromatosis.
10. What are purine bases?

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[BNYS 0323]

MARCH 2023

Sub. Code: 1501

(AUGUST 2022 & OCTOBER 2022 EXAM SESSIONS)

B.N.Y.S. DEGREE EXAMINATION

FIRST YEAR – PART - I

(For the candidates admitted from the academic year 2011-12)

PAPER I – BIO-CHEMISTRY

Q.P. Code: 821501

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Essay Questions:

(2 x 15 = 30)

1. Explain in detail about the nucleic acid and nucleotides. Describe in detail about the Purine and pyrimidine Metabolism.
2. Describe briefly about the iron metabolism and Deficiency of Iron.

II. Write Notes on:

(10 x 5 = 50)

1. Functions of Carbohydrate.
2. Different types of Monosaccharides.
3. Structure of Glucose.
4. Dehydration and Osazone formation of Monosaccharides.
5. Structure of insulin
6. Cellulose.
7. Glycoproteins.
8. Properties of Triacylglycerol.
9. Sphingomyelin.
10. Post-Transcriptional Modification.

III. Short Answers on:

(10 x 2 = 20)

1. What are simple Lipids?
2. Protamines.
3. Structure of Cyanocobalamin.
4. Hays test.
5. Diabetes Mellitus.
6. What is Collagen?
7. Explain Beri beri.
8. Define Enzymes.
9. What is Prostaglandins?
10. Define Stereoisomerism.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[BNYS 0923]

**SEPTEMBER 2023
(MAY 2023 EXAM SESSION)**

Sub. Code: 1501

**B.N.Y.S. DEGREE EXAMINATION
FIRST YEAR – PART I
(For the candidates admitted from the academic year 2011-12)
PAPER I – BIO-CHEMISTRY**

Q.P. Code: 821501

Time: Three Hours

Answer ALL questions

Maximum: 100 Marks

I. Essay Questions: (2 x 15 = 30)

1. Define lipids. Classify lipids with suitable examples and mention its functions.
2. Describe sources, functions, deficiency and manifestations of Ascorbic acid.

II. Write Notes on: (10 x 5 = 50)

1. Protein energy malnutrition.
2. Electrolytes and water metabolism.
3. Define enzyme and classify it.
4. Derivatives of hemoglobin.
5. Electron transport chain.
6. Regulation of gluconeogenesis.
7. Transport of cholesterol.
8. Transamination.
9. Metabolism in starvation.
10. Jaundice.

III. Short Answers on: (10 x 2 = 20)

1. Dextrin.
2. Oncogenes.
3. Invert sugar.
4. Niacin.
5. Gouty arthritis.
6. Hemosiderin.
7. Atherosclerosis.
8. Ketosis.
9. Leukotrienes.
10. Avidin.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[BNYS 0124]

JANUARY 2024

Sub. Code: 1501

(JUNE 2023 / OCTOBER 2023 EXAM SESSIONS)

B.N.Y.S. DEGREE EXAMINATION

FIRST YEAR PART - I

(For the candidates admitted from the academic year 2011-12)

PAPER I – BIO-CHEMISTRY

Q.P. Code: 821501

Time: Three Hours

Answer ALL questions

Maximum: 100 Marks

I. Essay Questions:

(2 x 15 = 30)

1. Explain in detail on the biochemical changes of starvation and add a note on importance of basal metabolic rate.
2. Define proteins. Explain in detail on its structure and classification.

II. Write Notes on:

(10 x 5 = 50)

1. Explain catabolism of amino acids.
2. Clearance Tests.
3. Write about Vitamin K, its chemistry, biochemical functions, RDA, dietary sources and deficiency symptoms.
4. Immunoglobulin, its structure, types and functions.
5. Write about phospholipids.
6. Regulation of blood sugar and Glucose tolerance test.
7. Define Enzyme. Write about its classification and specificity.
8. Outline the mechanism in regulation of blood calcium and its clinical condition.
9. Paper chromatography.
10. Define fatty acids. Write its classification and properties.

III. Short Answers on:

(10 x 2 = 20)

1. Differentiate Fat soluble and water soluble vitamins.
2. Denaturation and coagulation of proteins.
3. Alkalosis and Acidosis.
4. Oncogenes and Reverse Transcription Viruses.
5. Lactose intolerance.
6. Myoglobin - its structure and functions.
7. Protein Energy malnutrition.
8. Biologically important peptides.
9. Deficiency manifestations of Vitamin D.
10. Derived lipids.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[BNYS 1024]

OCTOBER 2024

Sub. Code: 1501

**B.N.Y.S. DEGREE EXAMINATION
FIRST YEAR - PART I
(For the candidates admitted from the academic year 2011-12)
PAPER I – BIO-CHEMISTRY**

Q.P. Code: 821501

Time: Three Hours

Answer ALL questions

Maximum: 100 Marks

I. Essay Questions: (2 x 15 = 30)

1. Define Gluconeogenesis. Explain in detail on its Reactions, Regulation and Significance.
2. Discuss in detail on regulation of Blood PH. Add a note on Acidosis and Alkalosis.

II. Write Notes on: (10 x 5 = 50)

1. Write a note on biochemical functions of Vitamin A.
2. Explain the enzyme defects and characteristic features of Glycogen storage diseases.
3. Write a note on degradation of cholesterol.
4. Explain the metabolism in starvation.
5. Explain the clearance tests.
6. Explain the disorders of Acid Base balance.
7. Discuss in detail about the stages of replication.
8. Describe the composition and functions of CSF.
9. Explain Copper.
10. Write a note on Lipoproteins.

III. Short Answers on: (10 x 2 = 20)

1. Zymogens.
2. Functions of Albumin.
3. Cori cycle.
4. Fatty liver.
5. Tryptophan.
6. Wilson's disease.
7. Saponification.
8. Calorimetry.
9. Biotin.
10. Anion Gap.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[BNYS 0125]

**JANUARY 2025
(OCTOBER 2024 EXAM SESSION)**

Sub. Code: 1501

**B.N.Y.S. DEGREE EXAMINATION
FIRST YEAR - PART I
(For the candidates admitted from the academic year 2011-12)
PAPER I – BIO-CHEMISTRY**

Q.P. Code: 821501

Time: Three Hours

Answer ALL questions

Maximum: 100 Marks

I. Essay Questions:

(2 x 15 = 30)

1. Define Immunoglobulins. Explain the structure, functions and characteristics of different types of legs.
2. Classify Vitamins. Discuss in detail about Vitamin B12.

II. Write Notes on:

(10 x 5 = 50)

1. Describe the structure of Cholesterol.
2. Classify amino acids along with its structure.
3. Explain the mechanism of enzyme action.
4. Explain the role of bile salts in lipid absorption.
5. Write a note on Hb derivatives.
6. Write in detail about the disorders of Purine metabolism.
7. Explain LFT.
8. Write a note on Phosphorus.
9. Define BMR. Discuss the factors affecting BMR.
10. Describe the role of blood buffers in acid base balance.

III. Short Answers on:

(10 x 2 = 20)

1. Non protein enzymes.
2. Steatorrhea.
3. Bohr effect.
4. Deamination.
5. Gout.
6. Anticodons.
7. Dehydration.
8. Insulin.
9. Icterus Index.
10. Prolactin.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[BNYS 0725]

**JULY 2025
(MAY 2025 EXAM SESSION)**

Sub. Code: 1501

**B.N.Y.S. DEGREE EXAMINATION
FIRST YEAR - PART I
(For the candidates admitted from the academic year 2011-12)
PAPER I – BIO-CHEMISTRY**

Q.P. Code: 821501

Time: Three Hours

Answer ALL questions

Maximum: 100 Marks

I. Essay Questions:

(2 x 15 = 30)

1. Define Fatty acids. Write its classification with examples. Explain about Fatty acid oxidation in detail.
2. What are Vitamers? Describe in detail about the chemistry, synthesis, functions, sources, RDA and deficiency manifestations of Vitamin D.

II. Write Notes on:

(10 x 5 = 50)

1. Oxidative Phosphorylation.
2. Explain about Blood buffer along with its types.
3. Define Lipids and its classification.
4. Calorimetry with its diagrammatic representation.
5. Krebs cycle.
6. Digestion and absorption of proteins.
7. Explain about the importance and factors affecting BMR.
8. Explain the metabolic changes in liver and adipose tissue during starvation.
9. Glucose Tolerance Test and its importance.
10. Write about Niacin.

III. Short Answers on:

(10 x 2 = 20)

1. Burning Feet Syndrome.
2. High Performance Liquid Chromatography.
3. Conjugated Protein.
4. Inulins.
5. Structure of Hemoglobin.
6. Write the dietary sources of Potassium.
7. Van den Bergh Reaction.
8. Define Glycogenolysis.
9. Benzidine Test.
10. Differentiate between Osteoporosis and Osteomalacia.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[BNYS 1025]

OCTOBER 2025

Sub. Code: 1501

**B.N.Y.S. DEGREE EXAMINATION
FIRST YEAR - PART I
(For the candidates admitted from the academic year 2011-12)
PAPER I – BIO-CHEMISTRY**

Q.P. Code: 821501

Time: Three Hours

Answer ALL questions

Maximum: 100 Marks

I. Essay Questions:

(2 x 15 = 30)

1. Explain in detail on cholesterol and mention the disorders of lipid metabolism.
2. Explain Liver function tests in detail.

II. Write Notes on:

(10 x 5 = 50)

1. Kidney function tests.
2. Oxidative phosphorylation.
3. Explain about Ketogenesis and its clinical importance.
4. Write about Thiamine - its chemistry, sources, RDA, functions and deficiency manifestations.
5. Stereoisomerism of monosaccharides.
6. Diagnostic importance of enzymes and isoenzymes.
7. Digestion and absorption of lipids.
8. Embden Meyerhof pathway.
9. Paper chromatography.
10. Structure, functions and types of RNA.

III. Short Answers on:

(10 x 2 = 20)

1. Justify - Vitamin D as a hormone and not a vitamin.
2. Amino acid pool.
3. What are Thromboxanes? Write its functions.
4. Differentiate DNA and RNA.
5. Define transcription.
6. Plasma proteins and its normal values.
7. Disorders of water and electrolyte balance.
8. Cardiac and tumor markers.
9. Pyruvate oxidation.
10. Simple lipids.
