

500-B-FIRST M.B.B.S. DEG. EXAMINATION – JULY, 2013-BIOCHEMISTRY-PAPER-II

Time : 2 ½ Hours-Max. Marks : 50-Answer all questions

- 1..With the help of a diagram, describe the process of transcription. Add a note on post transcriptional modifications=6+4=10m
- 2..Enumerate kidney function tests and liver function tests. Write in detail about one kidney function test and one liver function test=2+2+3+3=10m

WRITE SHORT NOTES ON: 5 x 4=20m

- 3..Explain the absorption, transport and storage of dietary iron in the body.
- 4..Requirement, sources and biochemical functions of Selenium.
- 5..Describe Polymerase Chain Reaction (PCR) with diagram and list out two uses of it.
- 6..Compare and contrast (1 similarity and 2 differences) DNA polymerase and RNA polymerase
- 7..Androgens – Biosynthesis and Physiological and Biochemical functions.

WRITE BRIEFLY ON: 5 x 2=10m

- 8..Chemical Carcinogens
- 9..Biochemical functions of oxytocin
- 10.How oxalates in diet inhibit absorption of iron and calcium ?
- 11.Define Osmolarity and Osmolality
- 12.Serum alpha fetoprotein and carcinoembryonic antigen

500-B-FIRST MBBS. DEG. EXAM-NOVEMBER, 2012-BIOCHEMISTRY-PAPER-II

- 1..Describe the process of DNA replication. Enumerate the DNA repair mechanisms=8+2=10m
2. Write the causes and biochemical findings in metabolic acidosis. Explain the compensatory mechanism=2+3+5=10m

Write Short Notes On: 5 x 4=20m

3. Gout
4. Gastric function tests
5. Structure of plasma membrane
6. Creatinine clearance test
7. Biochemical functions of Copper in the body.

Write Briefly On: 5 x 2=10m

8. Mention the essential component (rare element) and precursor of T₃&T₄
9. Functions of t-RNA
- 10.Name the four distinct phases of cell cycle
- 11.Genetic code
- 12.Four factors affecting absorption of iron

500-B-FIRST M.B.B.S. DEG. EXAM – JULY, 2012-BIOCHEMISTRY-PAPER-II

- 1..Explain the pathway for the degradation of purine nucleotides and enumerate the associated metabolic disorders=6+4=10m
- 2..Give an account of transamination, deamination and transmethylation=4+3+3=10m

Write short notes on: 5 x 4=20m

- 3..Regulation of plasma calcium
- 4..Metabolic and respiratory alkalosis
- 5..Plasma proteins and their functions.
- 6..Tumor markers.
- 7..Secondary structure of proteins.

Write Briefly On: 5 x 2=10m

- 8.Differences between amylose & amylopectin
- 9.What are conjugated proteins? Give two examples
- 10.Biochemical functions of sodium.
- 11.Base pairing rule
- 12.Alkaptonuria

500-B-FIRST M.B.B.S. DEG.EXAMINATION-JANUARY, 2012-BIOCHEMISTRY-PAPER-II

- 1..Describe the steps of transcription in Eukaryotes. Give two examples for post transcriptional modifications=8+2=10m
- 2..Discuss the metabolism of calcium under the following sections=1+1+4+2+2=10m

(a) sources (b) Recommended daily allowance

(c) Functions (any 4) (d) Regulation of Plasma Level (e) Deficiency manifestations

Write short notes on: 5 x 4=20m

- 3.Plasma buffers & the role of buffers in the regulation of pH
- 4.Mechanisms of action of hormones
- 5..Active transport with 2 examples.

6..Biological important products derived from glycine.

7..Enumerate the liver function tests. Explain the detoxification of bilirubin by the liver.

Write briefly on: 5 X 2=10m=8..Role of copper in iron metabolism

9..Orotic aciduria

10.Bonds responsible for maintaining the higher levels of organization of protein structure.

11.Ribozymes

12.Oncofetal antigens.

500-B-FIRST M.B.B.S. DEG. EXAMINATION – JULY, 2011-BIOCHEMISTRY-PAPER-II

- 1..What is the normal pH of blood? Discuss the respiratory and renal regulation of Ph=1+4+5=10m
- 2..Explain the pathway of catabolism of Tyrosine. Write the important products synthesized from Tyrosine. Add a note on Albinism=5+3+2=10m

Write Short Notes On: 5 x 4 =20m

- 3..Replication.
- 4..Fluid Mosaic Model of membrane structure.
- 5..What is Recombinant DNA? What is the role of restriction endonuclease in Recombinant DNA technique?
- 6..Name the plasma proteins.List any four functions of them in the human body.
7. Creatinine Clearance test.

Write Briefly On: 5 x 2 =10m

8. Apoptosis.
9. Oxytocin
- 10.FLUOROSIS
- 11.Vandenberg's Test.
12. Anion gap.

500-B-MBBS. FIRST DEG. EXAMINATION-JANUARY, 2011-BIOCHEMISTRY=PAPER-II

1. Define a buffer. Explain the various mechanisms of regulation of acid-base balance. Add a note on acid-base disorders=1+7+2=10m
2. Describe the steps of eukaryotic replication of DNA. Add a note on Reverse transcription=8+2

Write Short Notes On: 5 x 4 =20m

3. Absorption and transportation of Iron.
4. Purine salvage pathways.
5. Outline the steps of biosynthesis of Urea.
6. Mechanisms of hormone action
7. Renal Function Tests.

Write Briefly On: 5 x 2 =10m

8. Define denaturation of proteins. Give examples of denaturing agents.
9. What are plasma proteins and write their normal ranges?

- 10.What are Oncogenes and give examples?
- 11.Orotic acidurias.
- 12.Mention the biochemical defects in:- a) Alkaptonuria b) Maple syrup urine disease

500-B=FIRST MBBS. DEG. EXAMINATION – JULY, 2010=BIOCHEMISTRY=PAPER-II

1. How is glycine degraded in the body? Outline the synthesis of creatine from glycine. Enumerate the metabolic diseases of glycine=4+3+3=10m
2. Explain transcription. Name the different types of RNA and indicate their functions=6+2+2=10

Write Short Notes On: 5 x 4=3. Biochemical functions of zinc and iodine. 4. Nitrogen balance

5. Blood buffers and regulation of pH.
6. Biologically active peptides
7. Recombinant DNA and its applications

Write Briefly On: 5 x 2 =10m

8. What is isoelectric pH of a protein? Mention two properties of a protein at this pH.
9. What is creatine clearance? What is its diagnostic importance?
10. Name any two Group I hormones. What is their mechanism of action?
11. Write the functions of immunoglobulin G.
12. What are tumor markers? Give two examples.

500-B-FIRST MBBS. DEG. EXAMINATION – JANUARY, 2010-BIOCHEMISTRY-PAPER-II

1. How is phenylalanine converted to tyrosine in the body? What is phenylketonuria? Outline the formation of thyroid hormones and catecholamines from tyrosine=2+2+3+3=10m
2. Give an account of Watson-Crick model of DNA. List the differences between DNA and RNA. How is DNA replicated?=4+2+4=10m

Write Short Notes On: 5 x 4 =20m

3. Biochemical functions of copper.
4. Clearance Tests
5. Characteristics of genetic code.
6. Paper Electrophoresis
7. Metabolic acidosis

Write Briefly On:5 x 2=8. Definition and forces responsible for tertiary structure of a protein.

9. Name four important substances derived from glycine.
10. Name any two gastrointestinal hormones. What is their mechanism of action?
11. Functions of Plasma Albumin
12. What do you mean by post translational modifications?

500-B-FIRST M.B.B.S. DEG. EXAMINATION – JULY, 2009-BIOCHEMISTRY-PAPER-II

1. How is ammonia detoxified in the body? Give an account of the urea cycle. Add a note on the enzyme defects in the cycle=2+6+2=10

2. Explain the steps involved in the synthesis of Recombinant DNA. Mention the clinical applications of this technique= $7+3=10$
3. Metabolic acidosis 4. Functions and deficiency manifestations of calcium
5. Primary structure of proteins. 6. Mechanism of action of steroid hormones
7. Hepatic functional tests.

Write Briefly On: $5 \times 2 = 10 = 8$. Wilson's Disease.

9. Write the normal serum levels of = a) Sodium b) Potassium c) Creatinine d) Urea
10. Hartnup's disease. 11. Anticancer agents 12. Write the general structure of immunoglobulins.

500-B-FIRST M.B.B.S. DEGREE EXAM – FEBRUARY, 2009-BIOCHEMISTRY-PAPER-II

1. Write the sources, daily requirement, factors affecting the absorption and functions of calcium. Add a note on hormonal regulation of serum calcium= $(1+1+2+3+3=10)$
2. Discuss the sources of ammonia in the body and explain how it is detoxified. Mention normal range of blood ammonia and list the causes of ammonia intoxication= $(3+4+1+2=10)$

Write Short Notes On: $=5 \times 4 = 3$. Mutations. 4. Biochemical actions of Insulin

5. Gastric Function Tests 6. Serum Protein Electrophoresis. 7. Catabolism of purines.

Write Briefly On: $=5 \times 2 = 9$. Anion gap and its significance. 9. Phenylketonuria.

10. Tumor Markers. 11. Active Transport. 12. Xeroderma Pigmentosum.

500-B-FIRST M.B.B.S. DEGREE EXAM – DECEMBER, 2008-BIOCHEMISTRY-PAPER-II-

1. What are proteins? Explain the structural organization of a protein molecule. Mention the importance of proteins= $(1+6+3=10)$
2. What are nucleotides? Explain the synthesis of purine nucleotides by salvage pathway. Write briefly on the metabolic disorders associated with purine metabolism= $(1+5+4=10)$

Write Short Notes On: $=5 \times 4 = 20 = 3$. Urea cycle. 4. Absorption and transportation of Iron.

5. Role of kidney in acid base regulation. 6. Role of glucagons on protein and mineral metabolism.
7. Enumerate liver function tests. Explain any one.

Write Briefly On= $5 \times 2 = 8$. Tumor suppressor. 8. Genetic code.

10. Clinical manifestations of hypokalaemia. 11. Functions of cell membrane 12. Functions of mRNA.

500-B-FIRST M.B.B.S. DEGREE EXAMINATION – JULY, 2008

1. What is transamination? Explain the role of transamination in channeling amino group to urea cycle. Give the reactions of urea cycle. Indicate the biochemical defects in the disorders associated with urea cycle. $(1+3+3+3=10)$

2. Give an account of daily requirements, absorption and transport, biochemical functions and clinical abnormalities of iron= $(1+3+3+3=10)$

Write short notes on: $=5 \times 4 = 20 = 3$. Enumerate liver function tests. Explain any one.

4. Types and functions of immunoglobulins. 5. DNA structure and functions.
6. Wobble hypothesis for Codon-Anticodon interactions. 7. Types and causes of mutations.

Write briefly on: $-5 \times 2 = 10 = 8$. Essential amino acids 9. Fluid mosaic model.

10. Water intoxication. 11. Factors regulating hormone action.

12. Sources of carbon and nitrogen atoms of purine ring system.

500-B=M.B.B.S. Deg. Exam – March/April, 2008-First M.B.B.S. Biochemistry-PAPER-II-

1. Name aromatic amino acids. Give an account on the metabolism of tyrosine. What are the biologically important compounds derived from tyrosine? Which are the inborn errors associated with this amino acid? $(1+6+1+2=10)$

2. Give an account of the sources, absorption, requirement, functions and regulation of calcium. $(1+2+1+3+3)$

Write short notes on: $-5 \times 4 = 20 = 1$. Induction and repression 2. Structure and function of tRNA

3. Respiratory and metabolic acidosis 4. Gout

5. Name four different types of nucleotides and mention their biological importance.

Write brief notes on: $(5 \times 2 = 10) = 1$. Tumor Markers 2, Structural features of cell membrane

3. Urea clearance 4. Define mutagens and give two examples 5. Hybridoma

500-B-FIRST M.B.B.S. DEG. EXAM-SEPT/OCT, 2007-BIOCHEMISTRY-PAPER-II

1. Describe in detail the metabolism of phenyl alanine in the human body. Mention the associated inborn errors $=8+2$

2. Classify the nitrogenous bases present in the nuclei acids with suitable examples. Mention the source of each of the atoms present in the purine ring. Describe the catabolism of purine nucleotides. Write briefly on the

associated metabolic disorders=2+2+4+2

- Write short notes on: 5 x 4 =20m; 3. Creatinine clearance 4. Genetic code 5. Facilitated diffusion
6. Regulation of serum calcium level 7. Respiratory acidosis
Write briefly on: 5 x 2 =10m; 8. Non-protein amino acids 9. Biochemical function of Selenium
10. Name two biologically important nucleotides and mention their functions 11. Menke's disease
12. Phosphoadenosine phosphosulphate (PAPS)

MAY, 2007 - PAPER-II

1. Explain the formation of uric acid. What is the normal serum uric acid level? Explain the disease associated with its accumulation. Suggest a way for lowering serum uric acid level. (4+1+3+2=10)
2. Enumerate kidney function tests and liver function test. Give a detail account on one kidney function test and one liver function test. (2+2+3+3=10)
3. WRITE SHORT NOTES ON: 5x4=20=a) Urea cycle b) Metabolic Acidosis and Alkalosis
c) Sources and functions of copper d) Functions of plasma proteins e) Salient features of the genetic code
4. WRITE BRIEFLY ON: 5x2=10
a) Apoptosis b) Gene library c) Fates of glycine d) Homocystinuria e) Oxytocin

SEPTEMBER-2006 - PAPER-II

1. Define proteins. Explain structural organization of proteins. Add a note on denaturation (1+7+2=10m)
 2. Explain the iron metabolism under the following headings: a) Sources b) Daily requirements
c) Absorption and Transport d) Functions e) Clinical Abnormality=1+1+3+3+2=10m)
- Write short notes on: 5 x 4 =20m; 3. Role of Kidney in acid base regulation 4. De novo purine synthesis
5. Types of RNAs and their functions 6. Mechanism of action of steroid hormones
7. Structure and functions of Immunoglobulin E (IgE)
- Write briefly on: 5 x 2 =10m; 8. Creatinine clearance and its significance
9. Write four structural features of cell membrane 10. Write Four applications of Recombinant DNA technology
11. Define oncogene and protooncogene 12. Name electrolytes. Mention their normal serum level

APRIL-2006 - PAPER-II-New Regulations

1. Write the sources, daily requirements, factors affecting absorption and biochemical functions of iron in the body. And add a note on altered iron metabolism (1+1+2+4+2)
 2. What is active methionine? How is it formed? What are its functions? Explain the steps of methionine metabolism. Write the disorders of its metabolism(1+1+2+4+2)
- Write short notes on: 5 x 4 =20m; 3) Structure and functions of m RNA 4) Chromatography
5. List the Liver Function Tests. Explain the application of LFT in diagnosis of different types of jaundice.
6. Name the plasma proteins. Mention the normal ranges and functions of each
7. Mechanisms of renal regulation of pH
Write briefly on: 5 x 2 =10m; 8) Isoelectric pH of proteins and its significance
9. What is the normal range of Serum Potassium? What are the clinical manifestations of hypocalcaemia?
10. Write the functions of eukaryotic RNA polymerases 11. What are oncogenes and their significance
12. What are restriction endonucleases? Give 2 examples.

SEPT/OCT-2005 - PAPER-II-New Regulations

1. Explain the process of translation under the following headings: a) activation of amino acid
b) Initiation c) elongation d) termination e) post-translational processing (2+2+2+2+2=10m)
 2. Name body buffers. Explain how acid base balance is maintained in the body. Give the normal levels of Sodium, Potassium, Chloride, Bicarbonate in the blood (1+7+2=10marks)
- Write short notes on: 5 x 4 =3. Secondary structure of proteins 4. Fluid Mosaic model
5. Serum calcium homeostasis 6. DNA repair mechanisms 7. Glucocorticoids
Write briefly on: 5 x 2 =10marks;

8. Name clearance tests used to assess kidney function. Mention the significance of any one clearance test.
9. Anticancer agents 10. Compare and contrast DNA with RNA 11. Genetic code
12. Mention the biochemical defect in: a) Homocystinuria b) Parkinsonism

MAR/APR.2005. (New Regulations) PAPER-II

1. Explain the steps of metabolism of Tyrosine. What are the biologically important compounds derived from Tyrosine? Name the inborn errors associated with the Amino acid and the defects (4+2+4=10marks)
 2. Enumerate kidney function tests and liver function tests. Give a detailed account on the kidney function test and one liver function test (2+2+3+3=10marks)
- Write short notes on: 5 x 4 =20marks; 3. Formation of SAM and its significance
4. Salient features of the Genetic code 5. Gout 6. Electrophoresis 7. Replication
Write briefly on: 5 x 2 =10marks; 8. Zymogens 9. Wilson's disease 10. Alpha fetoprotein
11. Name four essential amino acids

12. Mention the normal plasma values of the following electrolytes:
a) Serum Sodium b) Serum Potassium c) Serum Calcium d) Serum Chloride

OCTOBER, 2004. (New Regulations) PAPER-II

1. Define pH and buffer. What is the normal range of blood pH? Mention the plasma and RBC buffers. Explain the different mechanisms of regulation of blood pH. Add a note on metabolic acidosis=10m
 2. Name the aromatic aminoacids. Describe the metabolism of any one of them. Add a note on inborn errors of metabolism of aminoacid. Mention laboratory test to detect it. (1+6+2+1=10marks)
- Write short notes: 5 x 4 =3. Replication of DNA 4. Deficiency disorders of iodine 5. Purine salvage pathways
6. The plasma proteins, mentioning their normal ranges and functions 7. Renal function tests
- Write briefly on: 5 x 2 =10marks=8. The enzyme and coenzyme required in the conversion of:
- a) Glycine to serine b) 3-Hydroxy kynurenine to 3-Hydroxy anthranilate
9. Biochemical defects in: a) Cystinosis b) Hartnup's disease
 10. Pregnancy of genetic code and name the amino acids coded by a single codon
 11. The post-transcriptional modification of RNA's 12. Mechanisms of actions of insulin

APRIL, 2004. (New Regulations) PAPER-II

1. Explain the structural organization of a Protein Molecule & add a note on functions of proteins in the body
 2. What are nucleotides? Explain the sources of Carbon and Nitrogen atoms of purine and pyrimidine rings. Explain the Metabolic disorders associated with purine metabolism. (2+4+4=10marks)
- Write short: 5 x 4 =3. t RNA and its functions 4. Explain Detoxification with conjugation as an example
5. Renal functions Tests 6. Immunoglobulins 7. Biological role of Fluorine in the body
- Write briefly on: 5 x 2 =10marks 8. Superoxide Dismutase 9. Exons 10. Isoelectric pH
11. Biochemical findings in blood and urine in obstructive jaundice 12. Absorption of Iron

OCTOBER, 2003. (New Regulations) PAPER-II

1. Mention the sources, daily requirement and biochemical functions of Calcium in the Body. Explain how plasma calcium is regulated in the body. (2+1+4+3=10marks)
 2. Describe the reactions of urea cycle. Mention the Normal Blood urea level and add a note on its clinical significance. (6+1+3=10marks)
- Write short notes on: 5 x 4 =20m=3. Fouchet's test 4. Principles of Gene therapy with examples
5. Transmethylation Reaction 6. Storage and transport of Iron in the Body
 7. Explain Respiratory Acidosis and Metabolic Acidosis.
- Write briefly on: 5 x 2 =8. Ceruloplasmin 9. Creatinine clearance 10. Hyponatraemia
11. Name the enzyme defect in: a) Alkaptonuria b) Albinism 12. Codons and its characteristics

OCTOBER, 2003. (Old Regulations)

Part-A (50marks)

1. Describe Citric Acid Cycle (Krebs cycle) and write three important functions served by this Cycle. =15
2. Write short notes on: 7x5=35m= a) Messenger RNA b) Inborn errors of Tyrosine c) Immunoglobulins
- d) Insulin e) Lactic acidosis f) Arachidonic acid g) Transamination

Part-B (50marks)

3. Explain the factors influencing enzyme activity with examples. =15marks
4. Write short notes on: 7x5=a) Rhodopsin cycle b) Mucopolysaccharides c) Construction of Balanced Diet
- d) Ketone Bodies e) L.D.H. f) Plasma Buffers g) Qualitative analysis of Sugar in the urine

APRIL, 2003=PAPER-II (New Regulations)

1. Define "translation". Describe the steps involved in the process of translation. Mention the inhibitors of translation. (1+7+2=10marks)
2. Explain the synthesis of "active methionine" and mention its biochemical function. Describe in detail the metabolism of active methionine. Mention the associated metabolic disorders. (2+6+2)
3. Write short notes on: 5 x 4 =a) Denaturation of proteins b) Fluorosis c) Gout d) Okazaki fragments
- e) Van Den Bergh's reaction
4. Write briefly on: 5 x 2 =a) Name two unusual bases in the nucleic acids and mention their function
- b) Classify membrane proteins & mention their functions c) Effect of Insulin on carbohydrate metabolism
- d) Hartnup's disease e) Significance of blood urea estimation

APRIL, 2003 (OLD REGULATIONS)

Part-A

1. Describe Michaelis – Menten equation and its relation between enzyme contraction, substrate concentration and pH =15m
2. Write short notes on: 7x5=a) Replication b) Synthesis of catecholamines c) Methaemoglobinemia
- d) Cytochrome oxidase e) Name the buffer system of the body
- f) Use of isotopes for Diagnostic purposes g) Clearance tests

Part-B

1. Name the sulphur containing vitamins. Write sources, chemistry, biochemical functions required daily amount, deficiency manifestations of any one of them =15marks
2. Write short notes on: 7 x 5=35m=a) Iso-enzymes b) HDL – Cholesterol c) Obstructive jaundice d) Cyclic AMP e) Pellagra f) Alkali reserve g) Selenium

October/November, 2002 – PAPER-II (New Regulations)

1. Define the term “buffer”. Name the blood buffers. Mention the normal pH of the blood. Describe the role of kidneys in the maintenance of acid-base balance (1+2+1=6=10marks)
2. Describe the sources, absorption, distribution, biochemical functions and deficiency manifestations of calcium (1+2+2+3+2=10marks)

Write short notes on: 5 x 4 =3. Isoelectric pH of proteins 4. Absorption of iron 5. Orotic aciduria

6. Structure and function of Trna 7. Active transport

Write briefly on: 5 x 2=8. Name two synthetic nucleotide analogues and mention their uses

9. Functions of Vasopressin 10. Name the bile salts. How is its presence is detected in urine
11. Active methionine 12. Semi-essential amino acids

October/November, 2002 (Old Regulations)

Part-A

1. Give a concise account of the formation, fate and metabolic role of cysteine =15marks
2. Write short notes on: 7x5=35marks
a) Genetic code b) Urea cycle and its disorders c) Electrophoresis d) Eletron transport chain (ETC)
e) Metabolic acidosis f) Tumour markers g) Biological value of proteins

Part-B

3. What are lipoproteins? How are they classified? Write in detail about High Density Lipoproteins (HDL)=15
4. Write short notes on: 7x5=a) Biotin b) Coenzymes c) Differential diagnosis of jaundice
d) Substrate-level phosphorylation e) Glycosylated hemoglobin (Hb A1C). f) Anion gap g) Alkaptonuria

AUGUST, 2001 - PAPER-II (New Regulations)-Marks: 50

1. Describe the pathway for synthesis of urea from ammonia. What is the normal blood urea level? Name two conditions in which blood urea level is increased and give the biochemical basis (7+1+2=10marks)
2. Give an account of the source, absorption, requirement, and functions of calcium. How is the serum calcium level maintained (1+2+1+3+3=10marks)

Write short notes: 5 x 4 =20marks

3. What is post-translational modification? Highlight its significance with the help of four examples
4. Describe the “Southern Blot” technique. Enumerate two applications of the technique
5. Describe the synthesis, functions and disorders of Thyroxine hormone
6. How do you do Glucose Tolerance Test? Explain the different types of curves obtained?
7. Write short notes on functions of protein in body?

Write briefly on: 5 x 2 =8. What is respiratory Acidosis? How is it compensated?

9. Describe the characteristics of Facilitated Diffusion. Give two examples of substances transported by Facilitated Diffusion.

10. Write about carcinogenic viruses

11. Explain briefly the Electro phoretic technique and its significance

8. Name the biologically important substances derive from Glycine

AUGUST, 2001 – (Old Regulations)

Part-A

1. Name one carbon unit. How are they carried in the body? Describe the source, daily dietary requirement metabolic role and deficiency manifestations of Follic acid =15marks
2. Write short notes on: 7x5=a) Mc Ardlle’s disease b) Bence-Jones protein c) Hyper uricemia
d) Obstructive jaundice e) Iso enzymes f) SGOT g) Renal glycosuria

Part-B

3. What do you mean by direct oxidative pathway. Briefly outline the steps of the same and mention its significance=15m

4. Write short notes on; 7x5=a) Structure of cholesterol and its importance in the body

- b) Creatine Phosphokinase c) Enzyme poisons d) Beri Beri e) Poly unsaturated fatty acids
f) Dissaccharides g) Biochemical detection of ketone bodies in urine

3rd February, 2001 – PAPER-II (New Regulations)

1. Classify amino acids based on their metabolic fate. Give two examples for each class. Explain trans amination reactions with one example. Explain Decarboxylation of amino acids with two examples=10m
2. Discuss the iron Metabolism under following headings:

- a) Daily requirements-1m b) Absorption and Transport-4m c) Functions-3m d) Clinical abnormality-2m
- Write short notes on; 4 x 4 = 1. Classify RNA and explain the function of each
2. Define 'Translation' Describe the activation & inhibition steps of translation. Name 4 inhibitors for this process
 3. Describe the functions of adrenal cortical hormones
 4. Name clearance tests used to assess kidney function. Explain the clinical significance of clearance tests. Calculate clearance of substance.
 5. Give the structure of Immunoglobulins. Classify them. Write their functions. Write briefly on: 5 x 2 = 6. What is active transport? Give two examples
 7. Briefly discuss how is Oncogenes cause cancer? 8. Give the normal values of serum electrolytes
 - 9 What are Buffers? What are the Buffer systems present in blood
 10. Define Isoelectric pH and state properties of a protein at its Iso electric pH.

2nd February, 2001 (Old Regulations)

Part-A

1. Describe the mechanism and factors that influence blood sugar level. Add a note on Hyperglycemia=15m
2. Write short notes on: 7x5=35m=a) Fluorosis b) Bile pigments c) Hypoproteinemia
d) Lipotropic factors e) Synthesis of Creatinine f) Structure of Haemoglobin
g) Co-enzyme functions and deficiency manifestations of 'Niacin'

Part-B

3. Name liver function tests with diagnostic significance of each. Write in detail the biochemical tests of any three done in your laboratory =15marks
4. Write short notes on: 7x5=35m=a) Biotin b) Isoenzymes c) Sulphur containing amino acids
d) Acid hydrolysis of Starch e) Serum Electrolytes f) Detection of sugar in the urine
g) Redox potential and its relation to the respiratory chain

11th July, 2000 – PAPER-II (New Regulations)

Part-A

1. Describe the urea cycle. Mention how it is regulated. Write also about the inherited disorders associated with urea cycle (4=2+4=10marks)
2. Write short notes on: 5 x 3 =a) Live function tests b) Metabolic Alkalosis c) Glucagon
d) Factors influencing calcium absorption e) Salvage pathways of purine synthesis

Part-B

3. Describe the metabolism of Phenylalanine and Tyrosine. Mention about the inherited disorders associated with their metabolism =15marks
4. Write short notes on: 5 x 3 =a) Oncogenes b) Selenium c) tRNA-structure and function
d) Gastric function tests e) Role of kidney in the regulation of pH

15th February, 2000 – PAPER-II (New Regulations)

Part-A

1. Describe the primary, secondary, tertiary and quaternary structure of protein. What are the forces which stabilise them (7 +3=10marks)
2. Write short notes on: 5x3=a) Zinc b) Insulin c) Genetic code d) Plasma Proteins e) Alkali Reserve

Part-B

3. Describe the source, daily requirements, absorption, biochemical functions & deficiency manifestations of Iron 10m
4. Write short notes on: 5 x 3 =a) Anion Gap b) Tumor marker c) Glucose Tolerance tests (G.T.T)
d) Okazaki Fragments e) Structure of Immune Globulins

14th February, 2000 (OLD REGULATIONS)

Part-A

1. Write the sources, chemistry, and daily requirements of Vitamin-D. Describe its absorption, formation, Biochemical functions and deficiency manifestations =15marks
2. Write short: 7x5=a) Specific dynamic action (SDA.) b) Immuno-globulin-structure, classification & functions
c) Structure of proteins d) Glucose tolerance test (G.T.T.) e) Galactosemia
f) Composition and properties of Bile g) Abnormal Hemoglobins

Part-B

1. Define Enzymes. What is the "Mechanism" of their action? Describe in detail the factors influencing the enzyme action=15marks
2. Write short notes on: 7x5=35m=a) H.D.L.Cholesterol b) Isoenzymes and their diagnostic importance
c) Ketone bodies-Formation, Clinical significance and tests for detection
d) Lesch-Nyhan syndrome e) Absorption and transport of Iron f) Beri Beri g) Essential fatty acids