FIRST M.B.B.S. DEGREE EXAMINATION
Revised (Non-Semester) Regulations
PAPER VI – BIOCHEMISTRY - II
Q. P. Code : 524056

Time : Three hours   **Maximum: 100 Marks**

Answer **ALL** questions.
Draw Suitable diagrams wherever necessary

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

1. Describe the pathways of methionine metabolism.
   Add a note on metabolic functions of methionine and cysteine.

2. Describe the biosynthesis of purine nucleotide.
   Add a note on regulation.

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

1. Transamination reactions.
2. Renal regulation of pH.
3. Gout.
4. Mutation.
5. Differences between DNA and RNA.
6. Oncogenes.
7. Post translational modification.
8. Formation of creatine.
9. Alkaptonuria.
10. Southern blotting.

III. Short Answer Questions :   (10 x 2 = 20)

1. Name the buffer systems of blood.
2. Sources of carbon and nitrogen in purine ring.
3. Wobble hypothesis.
4. Write the enzyme defect in (1) Lesch-Nyhan Syndrome (2) Orotic aciduria.
5. Okasaki fragments.
6. What are Xenobiotics.
7. Causes of Metabolic acidosis.
8. Name the important compounds formed from Glycine.
9. Inhibitors of protein biosynthesis.
10. Apoptosis.

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[KU 505] **FEBRUARY 2009** **Sub. Code : 4056**

FIRST M.B.B.S. DEGREE EXAMINATION
Revised (Non-Semester) Regulations
PAPER VI – BIOCHEMISTRY - II
Q. P. Code : 524056

Time : Three hours **Maximum: 100 Marks**

Answer **ALL** questions.
Draw Suitable diagrams wherever necessary

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

  1. Name the compounds derived from glycine. Explain any two in detail.

  2. Describe in detail the mechanism of regulation of blood PH.

II. Write Short notes on : **(10 x 5 = 50)**

  1. Phenyl ketonuria.

  2. Formation of uric acid.

  3. Porphyria.

  4. Urea cycle.

  5. ELISA

  6. Active Methionine.

  7. Flame photometer.

  8. Bilurubin formation & excretion.

  9. Plasma proteins.

  10. Replication.

III. Short Answer Questions : **(10 x 2 = 20)**

  1. Detoxification by conjugation.

  2. Glutathione.

  3. Metabolic acidosis.

  4. Codons

  5. Renal function test.

  6. Orotic acid urea.

  7. Wobble hypothesis.

  8. Vanden Bergh's test.

  9. Rickets.

  10. Globulins.

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FIRST M.B.B.S. DEGREE EXAMINATION
Revised (Non-Semester) Regulations

PAPER VI – BIOCHEMISTRY - II

Q. P. Code : 524056

Time : Three hours   **Maximum: 100 Marks**

Answer **ALL** questions.
Draw Suitable diagrams wherever necessary

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

1. Name liver function tests with diagnostic significance of each.
   Write in detail the biochemical tests of any three done in your laboratory.

2. Describe the pathway for synthesis of urea from ammonia. What is normal blood urea level? Name the conditions in which blood urea level is increased and give the biochemical basis.

II. Write Short notes on :   **(10 x 5 = 50)**

1. Denaturation.
2. Reverse transcription.
3. Sphingolipidoses.
4. GOUT.
5. Metabolic acidosis.
6. Tumor markers.
7. Colorimeter.
8. Functions of adrenal cortical hormones.
9. Plasmid.
10. Functions of albumin.

III. Short Answer Questions :   **(10 x 2 = 20)**

1. Maple syrup urine disease.
2. Alkali reserve.
3. Biological value of proteins.
4. Carcinogenic virus.
5. Electrophoretic technique and its importance.
6. Methemoglobin.
7. Importance of glucose six phosphate dehydrogenase deficiency.
8. G-Proteins.
9. Renal threshold substances.
10. Carbon monoxide.

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FIRST M.B.B.S. DEGREE EXAMINATION
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PAPER VI – BIOCHEMISTRY - II

Q. P. Code : 524056

Time : Three hours   **Maximum: 100 Marks**

Answer **ALL** questions.
Draw Suitable diagrams wherever necessary

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

1. Discuss about nucleic acids under following headings:

    a) Types   **b)** Functions   **c)** Components   **d)** Char gaffs rule of DNA composition

    e) Different forms of DNA double helix and   **f)** Differences between DNA and RNA.

2. Describe the steps of s-adenosyl methionine cycle.
   Explain the term transmethylation with five suitable examples.

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

1. Give an account of the formation of specialized products from glycine.

2. Explain the term transamination and its salient features.

3. Polymerase chain reaction and its applications.

4. Blotting techniques.

5. Gene therapy.

6. Write an account of salvage pathway in purine nucleotide synthesis.
   Add a note on Lesch – Nyhan syndrome.

7. Post translational modification.

8. What are porphyrias? Describe any three porphyrias in detail.

9. Give an account of water distribution and its balance in the body.

10. What are isotopes? What are its applications in biochemistry?

III. Short Answer Questions :   (10 x 2 = 20)

1. Phenyl keton uria.

2. Structure of t-RNA.

3. Okazaki pieces.

4. Differences between CPSI and CPS II.

5. Metabolic role of magnesium.

6. Anion Gap.

7. Rotheras test.

8. Gout.

9. Flurosis.

10. Vanden Berg test.

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FIRST M.B.B.S. DEGREE EXAMINATION
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Q. P. Code : 524056

Time : Three hours   **Maximum: 100 Marks**

Answer **ALL** questions.
Draw Suitable diagrams wherever necessary

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

1. Describe the separation of Serum Proteins by paper electrophoresis.
   Draw the pattern of electrophoresis in i) Multiple Myeloma   ii) Nephrotic Syndrome.

2. How is blood pH regulated?

II. Write Short notes on :   **(10 x 5 = 50)**

1. Genetic code.

2. Formation of Epinephrine.

3. Cytochrome 450.

4. Purine Salvage pathways.

5. Dehydration.

6. LAC operon.

7. Orotic acidurias.

8. t RNA.

9. Phenyl ketoneuria.

10. Water toxicity.

III. Short Answer Questions :   **(10 x 2 = 20)**

1. Xeroderma pigmentosum.

2. Hemoglobin S.

3. Functions of parathyroid hormone.

4. Mention two second messengers.

5. Symport.

6. Oxytocin.

7. Addison's disease.

8. Functions of Glucagon.

9. Gama Amino Butyric Acid.

10. Hartnup's disease.

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FIRST M.B.B.S. DEGREE EXAMINATION
Revised (Non-Semester) Regulations
PAPER VI – BIOCHEMISTRY - II
Q. P. Code : 524056

Time : Three hours   **Maximum: 100 Marks**

Answer **ALL** questions.
Draw Suitable diagrams wherever necessary

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

1. Write in details about the initiation, elongation and termination of transcription. Give an account of post transcriptional processing.

2. Write in detail about the absorption, transport, daily requirement and deficiency Manifestation of Iron.

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

1. Synthesis and mechanism of action of Nitric Oxide.
2. Homocystinurias.
3. Hyperuricemias.
4. Metabolic acidosis.
5. Phase Two detoxification.
6. Cyclic AMP.
7. Assessment of hypothyroidism.
8. Mutations.
9. Electrophoresis.
10. Antioxidants.

III. Short Answer Questions :   (10 x 2 = 20)

1. Name the major intracellular and extracelluar anion.
2. Principle of flamephotometer.
3. Metabolic roles of zinc and selenium.
4. Orotic aciduria.
5. Chimeric DNA.
6. Osmolality.
7. Anti HIV drugs.
8. Compounds formed from Glycine.
9. Write the normal serum sodium and potassium level.
10. What are monoclonal and polyclonal antibodies.

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FIRST M.B.B.S. DEGREE EXAMINATION
Revised (Non-Semester) Regulations
PAPER VI – BIOCHEMISTRY - II

Q. P. Code : 524056

Time : Three hours   **Maximum: 100 Marks**

Answer **ALL** questions.
Draw Suitable diagrams wherever necessary

I. Essay Questions :   **(2 x 10 = 20)**

1. What is cloning? Mention the various types of cloning.
   Describe in detail the steps involved in recombinant DNA technology.

2. Describe the role of plasma and renal buffers in maintaining acid base homeostasis.

II. Write Short notes on :   **(10 x 5 = 50)**

1. Purine salvage pathway.
2. Explain the types and functions of immunoglobulins.
3. Phenylketonuria.
4. Fluorosis.
5. Serum protein electrophoresis.
6. Cell cycle.
7. Role of Parathormone in Calcium, Phosphate homeostasis.
8. Define Xenobiotics and add a note on the various detoxification reactions.
9. Mutation.
10. Secondary structure of protein.

III. Short Answer Questions :   **(15 x 2 = 30)**

1. Urea cycle disorders cause orotic aciduria. Explain.
2. Acidosis causes hyperkalemia. Why?
3. Define frameshift mutation with an example.
4. We need two primers for polymerase chain reaction. Justify.
5. Mechanism of action of chloramphenicol.
6. Mention the aminoacids which take part in one carbon pool.
7. Mention the enzymes which require selenium as cofactor.
8. Lesch nyhan syndrome presents with hyperuricemia. Explain.
9. Hypothyroidism presents with hypercholesterolemia. Why?
10. Histidine load test.
11. Mention two tumour markers and specify the diagnostic application.
12. M band.
13. Beer Lambert's law
14. Mention 2 transmethylation reactions.
15. Enzyme deficiency in albinism. Mention two clinical features.

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FIRST M.B.B.S. DEGREE EXAMINATION
Revised (Non-Semester) Regulations
PAPER VI – BIOCHEMISTRY - II

Q. P. Code : 524056

Time : 180 Minutes   **Maximum: 50 Marks**

Answer **ALL** questions in the same order.

I. Elaborate on :

1. Describe the metabolism of tyrosine.
  Name the inborn errors associated with this pathway. **(10 x 1 = 10)**

2. Enumerate the liver function tests and how Vanden Bergh test distinguishes different types of jaundice. **(5 x 1 = 5)**

II. Write notes on: **(10 x 2 = 20)**

1. Post translational modifications.
2. Electrophoresis.
3. Repair mechanism of DNA.
4. Salvage pathway of Purine synthesis.
5. Functions of Glucocorticoids.
6. Functions of albumin.
7. Precipitation reactions of Proteins.
8. Tubular function tests.
9. Role of Kidney in regulating the pH of blood.
10. Immunoglobulins.

III. Short Answers on :   **(15 x 1 = 15)**

1. Restriction Endonucleases.
2. Mutagens.
3. Lesch Nyhan Syndrome.
4. Denaturation of Proteins.
5. Differences between DNA and RNA.
6. What are the enzymes required for DNA replication.
7. What is the principle of affinity Chromatography.
8. What are the causes of respiratory acidosis.
9. Maple syrup urine disease.
10. Urea clearance.
11. Bence Jones Protein.
12. What are Oncogenes?
13. Beer – Lambert's Laws.
14. What are the forces that stabilize secondary structure of Proteins.
15. Name the basic Amino Acids.

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FIRST M.B.B.S. DEGREE EXAMINATION

PAPER VI – BIOCHEMISTRY - II

Q. P. Code : 524056

Time : 180 Minutes   **Maximum: 100 Marks**

Answer **ALL** questions.

I. Elaborate on:

	Pages (Max.)	Time (Max.)	Marks (Max.)
1. With the help of a figure, describe the process by which DNA replication takes place in a cell.	16	25 min.	15
2. What are the functions of sodium in the body? What is the reference range for levels of serum sodium? Describe the working of the renin-angiotensin-aldosterone system to maintain optimal amounts of sodium in the body. Briefly discuss disorders associated with derangements in sodium homeostasis.	16	25 min.	15

II. Write notes on:

1. Secondary structure of proteins.	3	8 min.	5
2. Structure of an immunoglobulin, with the help of a figure.	3	8 min.	5
3. Causes and manifestations of gout.	3	8 min.	5
4. Transamination reactions.	3	8 min.	5
5. Role of lungs in maintenance of pH of blood.	3	8 min.	5
6. Conjugation reactions involved in metabolism of xenobiotics.	3	8 min.	5
7. Principle and applications of electrophoresis.	3	8 min.	5
8. Functions of tyrosine in the body.	3	8 min.	5
9. Tumour markers.	3	8 min.	5
10. Salvage pathway for purines and its importance in the body.	3	8 min.	5

III. Short Answers on:

1. Outline the distribution of water in the various compartments of the body.	1	5 min.	2
2. What is the mechanism of action of steroid hormones?	1	5 min.	2
3. List 4 features of the genetic code.	1	5 min.	2
4. Explain the clinical relevance of serum creatinine levels.	1	5 min.	2
5. What is meant by the polymerase chain reaction? List 2 of its applications.	1	5 min.	2
6. What are the reference levels of glucose and protein in cerebrospinal fluid? How are they affected in bacterial meningitis?	1	5 min.	2
7. What is meant by quartenary structure of a protein? Name a protein, abundantly found in blood that has a quartenary structure.	1	5 min.	2
8. Name the bases found in nucleic acids.	1	5 min.	2
9. List 4 causes of respiratory acidosis.	1	5 min.	2
10. What are the functions of glutathione?	1	5 min.	2

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FIRST M.B.B.S. DEGREE EXAMINATION

PAPER VI – BIOCHEMISTRY - II

Q. P. Code : 524056

Time : Three hours   **Maximum: 50 Marks**

Answer **ALL** questions.
Draw Suitable diagrams wherever necessary

I. Elaborate on: **(2 x 7.5 = 15)**

1. Name the Aromatic Aminoacids. Add a note on physiologically important derivatives of tyrosine.

2. Explain Protein synthesis in detail. Add a note on drugs that inhibit protein synthesis

II. Write notes on :   **(10 x 2.5 = 25)**

1. Thyroid function Tests.
2. Recombinant DNA Technology.
3. Structure of DNA.
4. Post transcriptional modifications.
5. Functions of albumin.
6. Electrophoresis and its applications.
7. Causes for respiratory acidosis.
8. Renal mechanism of maintaining Acid Base Balance.
9. Purine Salvage pathway.
10. Lac Operon concept.

III. Short Answers on: **(10 x 1 = 10)**

1. Enzyme defect in a)Phenylketonuria b) Alkaptonuria.
2. DNA polymerase enzyme.
3. Types of mutations.
4. Reverse Transcriptase.
5. Inhibitors of RNA synthesis.
6. Features of Genetic Code.
7. Gout.
8. Name 2 Renal Function Tests.
9. Denaturation of proteins.
10. Name 2 enzymes that are increase in hepatic jaundice.

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FIRST M.B.B.S. DEGREE EXAMINATION

PAPER VI – BIOCHEMISTRY - II

Q. P. Code : 524056

Time : Three hours   **Maximum: 50 Marks**

Answer ALL questions.
Draw Suitable diagrams wherever necessary

I. Elaborate on: **(2 x 7.5 = 15)**

1. Describe the catabolism of Heme in the body. Explain the different types of jaundice. How do you investigate a case of jaundice?

2. What is the normal pH of blood. Describe the various mechanisms which maintain it? Mention the acid base disorders.

II. Write notes on: **(10 x 2.5 = 25)**

1. Active form of methionine and its function.

2. Inhibitors of Protein Biosynthesis.

3. Porphyria.

4. LAC Operan.

5. Transcription & Post Transcriptional modification.

6. Cyclic AMP.

7. Detoxification by conjugation.

8. Renal Function Tests.

9. Tumor Markers.

10. Different mechanisms involved in hormone action.

III. Short Answers on: **(10 x 1 = 10)**

1. ELISA.

2. Hyperkalemia.

3. Okazaki fragments.

4. Thyroid Function Tests.

5. Creatinine clearance.

6. GABA.

7. Iso electric pH of proteins.

8. Maple syrup urine disease.

9. Multiple Myeloma.

10. Lesch-Nyhan Syndrome and orotic aciduria.

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FIRST M.B.B.S. DEGREE EXAMINATION

PAPER VI – BIOCHEMISTRY - II

Q. P. Code : 524056

Time : Three hours   **Maximum: 50 Marks**

Answer ALL questions.
Draw Suitable diagrams wherever necessary

I. Elaborate on: **(2 x 7.5 = 15)**

1. List the parameters that are commonly used in clinical practice as indicators to assess the functions of the liver. Explain the basis of the use of these parameters in assessment of liver function. Briefly discuss medical conditions in which these parameters become abnormal.

2. Describe the role of the kidney to maintain the pH of blood. What are the compensatory mechanisms the kidney will adopt to maintain pH in the presence of metabolic acidosis?

II. Write notes on :   **(10 x 2.5 = 25)**

1. Denaturation of proteins.
2. Types of mutations.
3. Post-transcriptional modifications of RNA.
4. Restriction endonucleases and their uses.
5. Specialized products derived from tyrosine.
6. Principle and applications of electrophoresis.
7. Cell cycle.
8. Causes and clinical features of dehydration.
9. Consequences of hyperuricemia.
10. Structure of DNA.

III. Short answers on :   **(10 x 1 = 10)**

1. What is multiple myeloma? What is a laboratory test that can be used to confirm diagnosis of this condition?
2. List 4 functions of nucleotides.
3. Which amino acid gives rise to nitric oxide in the body? What is the enzyme that catalyzes this process?
4. What is the biochemical basis of the encephalopathy that can develop in patients who have liver cirrhosis?
5. List the biochemical abnormalities seen in phenylketonuria.
6. Give examples of 4 conjugating agents in the body that are involved in metabolism of xenobiotics.
7. What is the role of gamma-amino butyric acid in the body? Name the amino acid from which it is derived.
8. What is the principle of a radioimmuno assay (RIA)?
9. List the different types of immunoglobulins.
10. List 4 causes of respiratory acidosis.

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FIRST M.B.B.S. DEGREE EXAMINATION
PAPER VI – BIOCHEMISTRY - II
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Time : Three hours   **Maximum: 50 Marks**

Answer **ALL** questions.

I. Elaborate on: **(2 x 7.5 = 15)**

1. What is the reference range for serum uric acid?   What is the source of uric acid in the body? What is its ultimate fate? Discuss causes of abnormalities in levels of serum uric acid.

2. Describe recombinant DNA technology. Explain the different techniques with its application.

II. Write notes on: **(10 x 2.5 = 25)**

1. Essential amino acids
2. Structure of tRNA
3. Restriction endonucleases
4. Post-translational modifications of proteins
5. What is creatine clearance? Write the normal value of it.
6. Sources of ammonia in the body and its metabolism
7. Functions of glycine in the body
8. Heavy metal poisonings
9. Disorders associated with potassium homeostasis
10. Functions of nucleotides

III. Short Answers on: **(10 x 1 = 10)**

1. List 2 applications of electrophoresis in medicine.
2. List the different types of immunoglobulins.
3. Outline the reaction by which deoxynucleotides are formed in a cell from ribonucleotides.
4. Explain the anti-neoplastic effect of methotrexate.
5. List the biochemical abnormalities seen in phenylketonuria.
6. What are the compensatory changes that occur in response to respiratory acidosis?
7. Outline the mechanism of action of glucagon.
8. What is reference range of sodium. Write 2 causes of hyponatremia.
9. What is the function of cytochrome P_{450} in the body?
10. Name 2 tumour suppressor genes and the malignancy that is specifically associated with abnormalities in each of these genes.

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[LF 505]   **AUGUST 2014**   **Sub. Code : 4056**

FIRST M.B.B.S. DEGREE EXAMINATION
PAPER VI – BIOCHEMISTRY - II

Q. P. Code : 524056

Time : Three hours   **Maximum: 50 Marks**

Answer **ALL** questions.

I. Essay: **(1 x 10 = 10)**

1. Discuss in detail the replication of DNA. Mention the inhibitors of replication.

II. Write Notes on: **(2 x 5 = 10)**

1. Transamination reaction and its significance.

2. Homocystinuria.

III. Short Answers on: **(10 x 3 = 30)**

1. Bicarbonate buffer system.

2. Hyperkalemia.

3. Define electrophoresis and mention its applications.

4. Renal tubular function tests.

5. Urinary findings in jaundice.

6. Methemoglobin.

7. Structure of immunoglobulin.

8. Regulation of heme synthesis.

9. Operon concept.

10. Define PCR and mention its four applications.

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FIRST M.B.B.S. DEGREE EXAMINATION

PAPER VI – BIOCHEMISTRY - II

Q. P. Code : 524056

Time : Three hours   **Maximum: 50 Marks**

Answer **ALL** questions.

I. Elaborate on: **(1 x 10 = 10)**

1. Describe in detail the steps in protein synthesis. Add a note about Post translational modification and inhibitors of protein synthesis.

.**II. Write notes on:**   **(2 x 5 = 10)**

1. What is Blotting technique? Write in detail about Southern blot technique.

2. Give a detailed account of how bilirubin is formed and excreted.

III. Short Answers on: **(10 x 3 = 30)**

1. Write about Glycine Cleavage Systems &mention the derivatives of Glycine.

2. Polyamines.

3. Types of Chromatography. Write in brief about any one type of chromatography.

4. Metabolic Alkalosis.

5. Histamine.

6. Telomere & Telomerase.

7. Write about Protein targeting and its disorders.

8. Met- hemoglobinemias.

9. Normal Serum Electrolyte Values.

10. Nitric Oxide.

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FIRST M.B.B.S. DEGREE EXAMINATION
PAPER VI – BIOCHEMISTRY - II

Q. P. Code : 524056

Time : Three hours   **Maximum: 50 Marks**

Answer **ALL** questions.

I. Essay: **(1 x 10 = 10)**

1. What is a Buffer? Describe in detail about the Renal Regulation of Blood pH.

II. Write notes on: **(2 x 5 = 10)**

1. Purine Salvage pathway.

2. Metabolism of Methionine.

III. Short answers on: **(10 x 3 = 30)**

1. Gout.

2. Define transcription. Name four post transcriptional modifications.

3. Primary Structure of Proteins.

4. Metabolic functions Glycine.

5. Maple Syrup Urine Disease.

6. Hartnup disease.

7. Adaptation to High Altitude.

8. Genetic code.

9. Types of Mutations.

10. Structure of Trna.

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FIRST M.B.B.S. DEGREE EXAMINATION
PAPER VI – BIOCHEMISTRY - II

Q. P. Code : 524056

Time : Three hours   **Maximum: 50 Marks**

Answer **ALL** questions.

I. Elaborate on: **(1 x 10 = 10)**

1. Describe in detail about the formation and transport of ammonia in our body. Add a note on Urea cycle.

II. Write notes on :   **(2 x 5 = 10)**

1. Laboratory investigations in different types of Jaundice.

2. Structure of DNA.

III. Short answers on :   **(10 x 3 = 30)**

1. Paper Chromatography.

2. Transmethylation Reactions.

3. Pancreatic function Tests.

4. Alkaptonuria.

5. Acute Intermittent Porphyria.

6. Sickle cell Disease.

7. Bile salts.

8. Renal Glomerular function tests.

. 9. Anion Gap.

10. Okazaki fragments.

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FIRST M.B.B.S. DEGREE EXAMINATION

PAPER VI – BIOCHEMISTRY - II

Q. P. Code : 524056

Time : Three hours   **Maximum: 50 Marks**

Answer **ALL** questions.

I. Elaborate on: **(1 x 10 = 10)**

1. Describe in detail about the Synthesis of Tyrosine and its metabolic endproducts.

II. Write notes on :   **(2 x 5 = 10)**

1. Structure of mRNA.

2. Liver function tests.

III. Short answers on :   **(10 x 3 = 30)**

1. ELISA.

2. Isoelectric pH of proteins.

3. Wilson's Disease.

4. Laboratory diagnosis of Phenylketonuria.

5. Chloride shift.

6. DNA repair mechanism.

7. Plasma buffers.

8. Gene Therapy.

9. Functions of Albumin.

10. Oratic Aciduria.

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FIRST M.B.B.S. DEGREE EXAMINATION
PAPER VI – BIOCHEMISTRY - II
Q. P. Code : 524056

Time : Three hours   **Maximum: 50 Marks**

Answer **ALL** questions.

I. Elaborate on: **(1 x 10 = 10)**

1. Name the important buffer systems in the body. Describe in detail the role of lungs and kidneys in maintenance of acid base balance.

II. Write notes on: **(2 x 5 = 10)**

1. Write about post transcriptional processing. Mention about post transcriptional inhibitors.

2. Describe about the various patterns of diseases in protein electrophoresis.

III. Short answers on: **(10 x 3 = 30)**

1. Carcinoid syndrome.

2. Write about urea cycle disorders.

3. Write about acute phase and negative acute phase protein.

4. What are the derivatives of aromatic amino acids? Write about serotonin.

5. High anion gap metabolic acidosis.

6. Write about alpha I antitrypsin and diseases associated with it.

7. Important functions of serine.

8. Types of DNA repair mechanism. Write in detail about any one repair mechanism.

9. OXPHOS (Oxidative phosphorylation) diseases.

10. Hybridoma technology & its application.

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M.B.B.S. DEGREE EXAMINATION
FIRST YEAR
PAPER VI – BIOCHEMISTRY - II

Q.P. Code: 524056

Time: Three hours   **Maximum : 50 Marks**

Answer All Questions

I. Essay: **(1 x 10 = 10)**

1. What is polymerase chain reaction? Write a note on the steps involved in PCR and its applications.

II. Write notes on: **(2 x 5 = 10)**

1. Disorders of Tyrosine metabolism.

2. Southern blot technique and its applications.

III. Short answers on: **(10 x 3 = 30)**

1. Nucleosomes.

2. Definition and importance of creatinine clearance test.

3. Hyponatremia.

4. Telomerase.

5. Primary antioxidant enzymes and their activity.

6. Metabolic acidosis.

7. Specialized products of glycine.

8. Thyroid function tests.

9. Biochemical features of hemolytic jaundice.

10. Modes of gene therapy.

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