Biochem

Prof 2013

Roll No. .....

Prof-2013

THE SUPERIOR COLLEGE, LAHORE

First Professional MBBS (Part-2) Annual Examination 2013

BIOCHEMISTRY (SEQS)

Total Time 2 Hours | Total Marks 35 | DATED: 30-08-2013

INSTRUCTIONS

1-All objective questions are to be attempted on the paper and returned to the invigilator within 2 hours.
2-Any cutting and overwriting in objective part will not be accepted.

Select Single best answer, all questions carry equal marks.

1. (a) Draw electron transport chain, mention its various components. Name the inhibitors of electron transport chain with their sites of actions. Antimicine A, Sodium azide

(b) Write a short note on chemiosmotic theory. 77-F

2. (a) Write down the steps of citric cycle with enzymes and factors, also calculate energy produced in this cycle. 86-F

(b) What is the significance of Hexose Monophosphate shunt? 95-F

3. (a) Enumerate specialized compounds formed from glycine. Heme, creatine, purine nucleotides, Glutathione, Hippuric acid

(b) What are the physiological actions of Nitric oxide (NO). How it is formed in the body?

Prostaglandins, Leukotrienes, Lipoxins, Thromboxanes

4. (a) Enumerate the cyclic and non cyclic eicosanoids, Name the drugs which inhibit the synthesis of cyclic eicosanoids. ~~Niacin~~, Aspirin, indomethacin, Phenylbutazone

(b) Enumerate functions of prostaglandins & Thromboxanes? control inflamation, vasodilation, Low B.P. Smooth muscle contraction, Causes contraction of uterus, for clotting

5. (a) Describe the structure and biological functions of insulin. 246-Firdous

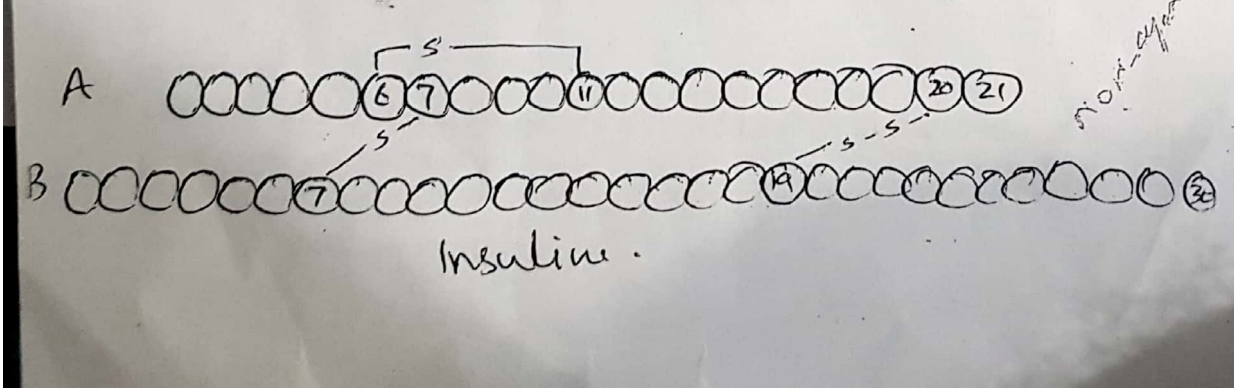
(b) Enumerate biochemical functions of cortisol. 242-Firdous

6. (a) What are mutations and mutagenic agents? Mention different types of mutations. X-rays, Y rays, UV rays, acridine orange, 382-H

(b) Explain various stages of replication in eukaryotes. (i) Point mutation (iii) Frame shift mutation

7. (a) Write down the steps of glycolysis with factors and enzymes.

(b) What is the significance of biosynthesis of urea?



Insulin.

Prof-2014

THE SUPERIOR COLLEGE, LAHORE

1ST PROFESSIONAL MBBS (PART - II)

ANNUAL EXAMINATION 2014

BIOCHEMISTRY

(SEQ's)

Roll No. ----------

Time Allowed: 2 hours

Total Marks: 35

Instructions

1. The SEQ's part is to be submitted within 2 hours, Extra time will not be given.
2. Neat Hand Writing use of margin and marker for headlines will increase the presentation of your paper.
3. Do not write your name or disclose your identity in anyway.

Question 1

(a) What is gluconeogenesis? Write down the steps with enzymes for the conversion of pyruvate into glucose. (3)

(b) What is the importance of Hexose Monophosphate Pathway? (2)

Question 2

(a) How hydrochloric acid is synthesized in stomach (3)

(b) Enumerate pancreatic enzymes with their functions (2)

Question 3

(a) Write down the post transcriptional changes in tRNA (3)

(b) Discuss the role of lungs in acidosis and alkalosis (2)

Question 4

(a) Mention the different compounds formed from glycine (3)

(b) Write a short note on albinism (2)

Question 5

(a) Name the ketone bodies. What is ketonemia, ketonuria? Give an account of biosynthesis of ketone bodies. (3)

(b) What are lipoproteins? Classify them and give the importance of HDL. (2)

Question 6

(a) What is the end product of purine bases? Mention the steps with enzymes. (3)

(b) Write short note on Lesch Nyhan syndrome (2)

Question 7

(a) Describe the chemical nature and physiological functions of cortisol (3)

(b) Write short notes on (2)

(i) Myxedema

(ii) Addison's disease

Prof-2015

Roll No. 14151

Abdul Rauf

THE SUPERIOR COLLEGE, LAHORE

1st PROFESSIONAL MBBS

ANNUAL EXAMINATION 2015

Proff 2015

BIOCHEMISTRY

(SEQ's)

Copy

Time Allowed: 2 hours | Total Marks: 35

Instructions

1. The SEQ's part is to be submitted within 2 hours, Extra time will not be given.
2. Neat Hand Writing use of margin and marker for headlines will increase the presentation of your paper.
3. Do not write your name or disclose your identity in anyway.

1. a. Write down the Composition, Synthesis Site & Functions of Bile. What is Cholelithiasis? 2.5
   b. Explain the Von Gierke's Disease. 2.5

2. a. A Patient was brought in Emergency with Severe High Grade Fever & Shivering. He was diagnosed as a Case of Tuberculosis and was given Anti TB drugs; which produced Toxic effects. Subsequently he was investigated & was found to have defect in Uronic Acid Pathway.
   i) Elaborate the Uronic Acid Pathway and its Major Metabolic Objectives. 2.5
   b. Elaborate the Lactate Cori Cycle & its Role in Regulating Blood Glucose Level. 2.5

3. a. A Cardiac Patient with the History of Thrombosis is being monitored. Which Component of Lipid Profile is responsible for thrombosis and what is the mechanism of its action? 2.5
   b. Elaborate the Process of Biosynthesis of Fatty Acids. What is its metabolic control? 2.5

4. a. A Patient with muscular demage has been reported. He has been diagnosed to have hyperuraemia. What is the metabolic pathway for formation of Urea? 3
   b. How Normal Blood Urea Levels are maintained?

5. a. Amino Acids are responsible for the Biosynthesis of Catecholamines? What are Catecholamines? Give at least Two Examples. 2.5
   b. Elaborate the Tissue / Cellular Sites, Sources, Enzyme / Nutritional Control and Metabolic Sequence of Glycogenesis. 2.5

6. a. How the action of gene is conducted? 2.5
   b. From Transcription to Translation and Posttranslational Modification give an outline of Protein Synthesis in Eukaryotes. 2.5

7. a. Elaborate the Formation, Transport, Utilization and Excretion of Ketone Bodies. 2.5
   b. A Patient was brought to Emergency with severe Bleeding. The Patient was in Shock. Determine his [redacted] ECF & ICF levels. How would you manage the [redacted] 2.5

THE SUPERIOR COLLEGE, LAHORE

1st PROFESSIONAL MBBS Part II

ANNUAL EXAMINATION 2016

Biochemistry

(SEQs)

Prof-2016 Roll No. 18

Time Allowed: 2 hours | Total Marks: 35

Instructions

1. The SEQ's part is to be submitted within 2 hours, extra time will not be given.
2. Neat hand writing, use of margin and marker for headlines will increase the presentation of your paper.
3. Do not write your name or disclose your identity in anyway.

1- a) What is the composition of gastric juice? Name its enzymes with their functions. (2.5)

b) Explain the mechanism with which NADH+H$^+$ & $FADH_2$, produced in citric acid cycle, generate ATP. (2.5)

2- a) Explain with examples transamination, decarboxylation and deamidation reactions. (2.5)

b) What is Alkaptonuria, Phenylketonuria and Albinism? Give reasons and consequences. (2.5)

3- a) A 35 years old male visited the physician complaining of bloating and diarrhea. He told that he had evious such episodes after ingestion of milk or milk products. Lactose intol

What clinical disorder do you suspect?

What is the cause of this disorder?

How these episodes can be prevented? (2.5)

b) Write down the steps of citric acid cycle with enzymes and factors. Also calculate energy produced in citric id cycle. (2.5)

4- a) Enumerate the uncouplers of Electron Transport Chain. Write down the mechanism of uncoupling and its nical effects. (2.5)

b) Describe the role of kidneys in metabolic acidosis & alkalosis. (2.5)

5- a) What are lipoproteins? Classify them. Give composition and biological functions of chylomicrons. (2.5)

b) Write down the steps with enzymes and factors of β-oxidation of fatty acids. How much energy will be nerated when palmitic acid will be completely oxidized? (2.5)

6- a) A 45 years old male presented to the emergency department with severe pain in his right toe. On amination he was febrile with a swollen, warm, red and tender right big toe. He was diagnosed as a case of uty arthritis:

- What is the biochemical basis of the disease? Give the causes and treatment. (2.5)

b) Write a short note on Lesch Nyhan's syndrome. (2.5)

7- a) What is the role of cortisol on carbohydrates, proteins and fat metabolism? (2.5)

b) Write short notes on:

i) Cretinism ii) Acromegaly (2.5)

Prof-2017

THE SUPERIOR COLLEGE, LAHORE

1st PROFESSIONAL MBBS (Part-II)
ANNUAL EXAMINATION 2017
BIOCHEMISTRY
(SEQ's)

Murad

Roll No. 30

Time Allowed: 2 hours

Total Marks: 35

Instructions

1. Attempt all questions.
2. All question carry equal marks.
3. The SEQ's part is to be submitted within 2 hours, Extra time will not be given.
4. Neat Hand Writing use of margin and marker for headlines will increase the presentation of your paper.
5. Do not write your name or disclose your identity in anyway.

Q No. 1

a. Enumerate pancreatic enzymes with their functions. (2.5)

b. Define oxidative phosphorylation. Give an account of various uncouplers along with their mechanisms of action. (2.5)

Q No. 2

a. What is the significance of HMP shunt? (2.5)

b. Give causes, complications and remedy of Galactosemia. (2.5)

Q No. 3

a. Draw urea cycle with factors and enzymes. (2.5)

b. Enumerate specialized compounds formed from Glycine. (2.5)

Q No. 4

Liver, Apo B 100 Apo C-II Apo E

a. What are lipoproteins? Classify them and give an account of metabolism of very low density lipoproteins (VLDL). (2.5)

b. How cytosolic Acetyl-SCoA is formed for de novo synthesis of fatty acids? What is the role of carnitine in β.– oxidation of fatty acids? (2.5)

Q No. 5

a. Explain the steps of translation. Also mention inhibitors of translation with their sites of action. (2.5)

b. Explain post transcriptional changes in messenger RNA (mRNA). 5' end capping Poly a Tail (2.5)

Q No. 6

a. What are the metabolic effects of cortisol on carbohydrate, fat & protein metabolism? (2.5)

b. Write down the steps of synthesis of epinephrine. (2.5)

Q No. 7

Write down the role of kidneys and lungs in maintaining the pH of blood. (5)

THE SUPERIOR COLLEGE, LAHORE

2nd PROFESSIONAL MBBS

ANNUAL EXAMINATION 2018

BIOCHEMISTRY

(SEQ's)

Roll No. F16-090

Time Allowed: 2 hours

Total Marks: 35

Instructions

1. Attempt all questions.
2. All question carry equal marks.
3. The SEQ's part is to be submitted within 2 hours , Extra time will not be given.
4. Neat Hand Writing use of margin and marker for headlines will increase the presentation of your paper.
5. Do not write your name or disclose your identity in anyway.

Q-No: 1

a. Describe digestion and absorption of carbohydrates in GIT. 2.5

b. Write a note on Chemiosmotic theory. 2..5

Q-No: 2.

a. Write down the steps of citric acid cycle with enzymes and factors. How much energy is liberated when one molecule of glucose is completely oxidized to CO_2 and H_2O? 2.5

b. Explain Cori'slactic acid cycle. 2.5

Q-No: 3

Draw urea cycle with factors and enzymes. 2.5

Enumerate specialized compounds formed from Glycine. 2.5

Q-No: 4

a. What is phenylkentonuria, alkaptonuria and albinism? Mention their causes and metabolic effects. 2.5

b. Explain with examples deamination and transamination. 2.5

Q-No: 5 What is the role of lungs in maintaining the pH of blood? 5

Q-No: 6

a. Write down the steps of B-Oxidation of fatty acids with enzymes and factors. How much energy is generated on complete oxidation of Palmitic acid? 2.5

b. What are Eicosanoids? Mention.cyclic and non cyclic eicosanoids, Name the drugs which inhibit biosynthesis of cyclic eicosanoids. 2,5

Q-No: 7)

a. What are the metabolic effects of cortisol on carbohydrate, fat and protein metabolism? 2.5

b. Write down the steps of synthesis of epinephrine. 2.5