

81

Rajiv Gandhi University of Health Sciences, Karnataka

I B.D.S Degree Examination - DEC-2018

Time: Three Hours

Max. Marks: 35 Marks

Biochemistry, Nutrition & Dietics (RS3)

Q.P. CODE: 1180

Your answers should be specific to the questions asked
Draw neat, labeled diagrams wherever necessary

(Note: Both QP Codes 1179 and 1180 are to be, answered within total duration of three hours)
LONG ESSAYS 1 x 10 = 10 Marks

1. Name the Ketone bodies. Discuss Ketogenesis and Ketolysis. Add a note on Ketosis.

SHORT ESSAYS

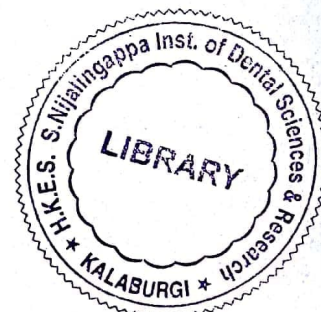
3 x 5 = 15 Marks

2. Hormonal regulation of blood glucose
3. Competitive inhibition with examples
4. Biochemical functions of Pyridoxine

SHORT ANSWERS

5 x 2 = 10 Marks

5. tRNA
6. Phenyl Ketonuria
7. Mention four biochemical functions of calcium.
8. Creatinine clearance test
9. Nitrogen balance



July - 2018

787

Rajiv Gandhi University of Health Sciences, Karnataka

Time: Three Hours

I B.D.S Degree Examination - JULY-2018

Max. Marks: 35 Marks

BIOCHEMISTRY, NUTRITION & DIETICS

Q.P. CODE: 1180

Your answers should be specific to the questions asked

Draw neat, labeled diagrams wherever necessary

(Note: Both QP Codes 1179 and 1180 are to be, answered within total duration of three hours)

LONG ESSAYS

1 x 10 = 10 Marks

1. Describe the sources, biochemical functions, required daily allowance and deficiency manifestations of Vitamin D.

SHORT ESSAYS

3 x 5 = 15 Marks

2. Write the steps of Glycogenesis.
3. Explain the factors which affect enzyme action.
4. Give the steps of Ketogenesis.

SHORT ANSWERS

5 x 2 = 10 Marks

5. Define denaturation of proteins and mention its effects.
6. Give the definition and examples of Essential Amino acids.
7. Fluorosis
8. What are Antioxidants and give examples.
9. Name the deficiency diseases of Ascorbic acid and Riboflavin.



Rajiv Gandhi University of Health Sciences, Karnataka

Time: Three Hours

I B.D.S Degree Examination - Dec - 2017

Max. Marks: 35 Marks

BIOCHEMISTRY, NUTRITION & DIETICS

Q.P. CODE: 1180

Your answers should be specific to the questions asked
Draw neat, labeled diagrams wherever necessary

(Note: Both QP Codes 1179 and 1180 are to be, answered within total duration of three hours)

LONG ESSAYS

1. Describe in detail about beta oxidation of fatty acids. Add a note on its energetic.

1 x 10 = 10 Marks

SHORT ESSAYS

2. Describe the regulation of blood glucose.
3. Describe the process of digestion and absorption of proteins.
4. Explain competitive inhibition of enzymes with examples.

3 x 5 = 15 Marks

SHORT ANSWERS

5. Specific dynamic action
6. Conjugated proteins
7. Fluorosis
8. Reducing sugars
9. Creatinine clearance test

5 x 2 = 10 Marks



Dec-16

62

Rajiv Gandhi University of Health Sciences, Karnataka

I B.D.S Degree Examination - DEC 2016

Time: Three Hours

Max. Marks: 30 Marks

BIOCHEMISTRY (OLD SCHEME)

Q.P. CODE: 1103

Your answers should be specific to the questions asked

Draw neat, labeled diagrams wherever necessary

(Note: Both QP Codes 1102 and 1103 are to be, answered within total duration of three hours)

1 x 8 = 8 Marks

LONG ESSAYS

1. Classify lipids in detail with suitable examples. Enumerate the functions of phospholipids.

SHORT ESSAYS

2. Deficiency manifestations of vitamin A
3. Urea cycle
4. Mucopolysaccharides and their functions

3 x 4 = 12 Marks

SHORT ANSWERS

5. Dietary fibres
6. Name the liver function tests.
7. Name enzyme deficiency in (a) Phenylketonuria (b) Alkaptonuria.
8. Illustrate the structure of tRNA.
9. Diagnostic enzyme markers of Myocardial Infarction

5 x 2 = 10 Marks



Dec 2014

39

Rajiv Gandhi University of Health Sciences, Karnataka

I B.D.S Degree Examination - Dec-2014

Max. Marks: 35 Marks

Time: Three Hours

BIOCHEMISTRY, NUTRITION & DIETICS

Q.P. CODE: 1180

Your answers should be specific to the questions asked
Draw neat, labeled diagrams wherever necessary

(Note: Both QP Codes 1179 and 1180 are to be, answered within total duration of three hours)

LONG ESSAYS

1 x 10 = 10 Marks

1. Describe the Chemistry, sources, requirement, metabolic functions and deficiency manifestations of Vitamin A.

3 x 5 = 15 Marks

SHORT ESSAYS

2. Explain Digestion and Absorption of Lipids.
3. Describe the hormonal regulation of blood glucose.
4. Explain the structure of Deoxyribo Nucleic Acid (DNA) with a labeled diagram.

5 x 2 = 10 Marks

SHORT ANSWERS

5. What are Isoenzymes? Give two examples.
6. Essential Fatty Acids
7. Glycogen
8. Lactose Intolerance
9. a) Name a Vitamin, which act as Antioxidant.
b) Name a Vitamin, which act as Steroid Hormone.



Rajiv Gandhi University of Health Sciences

I B.D.S Degree Examination – June 2014

33

Time: 3 Hrs.

[Max. Marks : 40]

BIOCHEMISTRY

QP Code: 1153

(Note : Both QP Codes 1152 and 1153 are to be answered within total duration of 3 hours)

LONG ESSAY

1. What is Glycolysis? Describe the steps of glycolysis. Add a note on its energetics

1 X 10 = 10 Marks

SHORT ESSAY

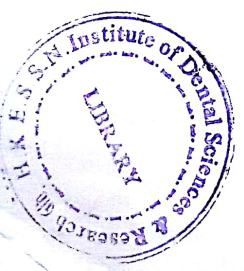
2. BMR
- Competitive enzyme inhibition
4. Wald's visual cycle

3 X 5 = 15 Marks

SHORT ANSWERS

5. Essential aminoacids
6. Denaturation
7. Name two phospholipids and their functions
8. Distinguish between DNA and RNA
9. Function of fluoride in dental health

5 X 3 = 15 Marks



June 2014
Rajiv Gandhi University of Health Sciences, Karnataka

Time: Three Hours

I B.D.S Degree Examination - June 2014

Max. Marks: 35 Marks

BIOCHEMISTRY, NUTRITION & DIETICS

Q.P. CODE: 1180

Your answers should be specific to the questions asked
Draw neat, labeled diagrams wherever necessary

(Note: Both QP Codes 1179 and 1180 are to be, answered within total duration of three hours)

LONG ESSAYS

1 x 10 = 10 Marks

1. What is the significance of Glycogen? Discuss in detail Glycogen synthesis.

SHORT ESSAYS

3 x 5 = 15 Marks

2. Structure and functions of Immunoglobulins
3. Coenzyme forms and functions of Vitamin B₁₂
4. Define and classify Enzymes with examples.

SHORT ANSWERS

5 x 2 = 10 Marks

5. What is Fatty Liver? Write any two causes for Fatty Liver.
6. Define Essential Amino Acids and name them.
7. Kwashiorkor
8. Write any four differences between Deoxyribo Nucleic Acid (DNA) and Ribo Nucleic Acid (RNA).
9. Define (a) Isoelectric pH, (b) Denaturation.



Dec 2013

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Rajiv Gandhi University of Health Sciences

I B.D.S Degree Examination – Dec 2013

Time: 3 Hrs.

[Max. Marks : 35]

BIOCHEMISTRY, NUTRITION & DIETICS

QP Code: 1180

(Note : Both QP Codes 1179 and 1180 are to be answered within total duration of 3 hours)

LONG ESSAY

1. Describe the following aspects of enzymes:

- a) Specificity of enzymes
- b) Four factors influencing enzyme activity
- c) Competitive enzyme inhibition

1 X 10 = 10 Marks

SHORT ESSAY

- 2. Write the reactions of liver glycogenolysis. What is the significance of this pathway?
- 3. Describe the sources, RDA and metabolic functions of vitamin A.
- 4. Explain ketonemia & ketonuria. Describe the reactions of ketogenesis.

3 X 5 = 15 Marks

SHORT ANSWERS

- 5. Write a note on Fluorosis.
- 6. Name essential fatty acids. Write two functions.
- 7. Name two specialized products formed from tyrosine & its function in the body.
- 8. Give the range for normal blood pH. Name buffers utilized in maintaining acid-base balance in the body.
- 9. Briefly write on urea clearance test.

5 X 2 = 10 Marks



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June 2013

1180_2013_2_S402.doc

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Rajiv Gandhi University of Health Sciences

I B.D.S Degree Examination – Jun 2013

Time: 3 Hrs.

[Max. Marks : 35]

BIOCHEMISTRY, NUTRITION & DIETICS

QP Code: 1180

(Note : Both QP Codes 1179 and 1180 are to be answered within total duration of 3 hours)

LONG ESSAY

1. Describe the following aspects of citric acid cycle:

- a) Reactions
- b) Energetics
- c) Regulation
- d) Functions

1 X 10 = 10 Marks

SHORT ESSAY

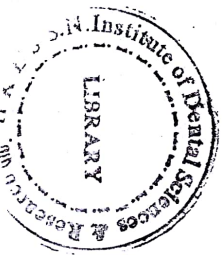
- 2. Classify lipids giving an example for each class.
- 3. Write coenzyme form, one function and one deficiency disorder of the following vitamins:
(a) Thiamine (b) Niacin (c) Ascorbic acid (d) Folic acid (e) Riboflavin
- 4. Describe digestion & absorption of proteins in GIT.

3 X 5 = 15 Marks

SHORT ANSWERS

- 5. Write a note on absorption of calcium from GIT.
- 6. Define transamination. Give an example.
- 7. What is BMR? Write two factors affecting BMR.
- 8. Give the range for normal blood pH. List out two conditions leading to respiratory acidosis.
- 9. What is ketoacidosis? Name two conditions leading to it.

5 X 2 = 10 Marks



Aug - 17

69

Rajiv Gandhi University of Health Sciences, Karnataka

Time: Three Hours

I B.D.S Degree Examination - AUG-2017

Max. Marks: 35 Marks

BIOCHEMISTRY, NUTRITION & DIETICS

Q.P. CODE: 1180

Your answers should be specific to the questions asked

Draw neat, labeled diagrams wherever necessary

(Note: Both QP Codes 1179 and 1180 are to be, answered within total duration of three hours)

LONG ESSAYS

1. Describe the steps of citric acid cycle with its energetics.

1 x 10 = 10 Marks

SHORT ESSAYS

2. Describe the primary and secondary levels of structure of proteins.
3. Mention the types and functions of Lipoproteins.
4. Give sources, functions and RDA of Vitamin A.

3 x 5 = 15 Marks

SHORT ANSWERS

5. Blood buffers
6. Give the definition and examples of Uncouplers of Electron Transport Chain.
7. Mention the cause and characteristic features of Pellagra.
8. Name the enzyme defect in following conditions
a. Phenyl Ketouria (PKU)
b. Albinism
9. Define Basal Metabolic Rate (BMR) and write the factors that affect BMR.

5 x 2 = 10 Marks



Dec-16 61 7

Rajiv Gandhi University of Health Sciences, Karnataka

I B.D.S Degree Examination - DEC 2016

Time: Three Hours

Max. Marks: 40 Marks

BIOCHEMISTRY Q.P. CODE: 1153

Your answers should be specific to the questions asked
Draw neat, labeled diagrams wherever necessary

(Note: Both QP Codes 1152 and 1153 are to be, answered within total duration of three hours)

LONG ESSAYS

1. a) What is the normal level for Serum Calcium?
b) Write in detail about dietary sources, biochemical functions and deficiency manifestations of Calcium.

1 x 10 = 10 Marks

SHORT ESSAYS

2. Wald's Visual Cycle
3. Functions of Phospholipids
4. Phenyl Ketouria

3 x 5 = 15 Marks

SHORT ANSWERS

5. Mention different types of RNA and its functions.
6. What are the important products derived from Glycine.
7. Name any three Serum diagnostic enzymes and its clinical importance.
8. What is the significance of Hexose Mono Phosphate (HMP) Shunt Pathway
9. a) Name the hormone that decreases Blood Glucose level.
b) What are the Plasma Glucose reference values for Fasting and Post Prandial Samples?

5 x 3 = 15 Marks



Dec - 16

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Rajiv Gandhi University of Health Sciences, Karnataka

I B.D.S Degree Examination - DEC 2016

Time: Three Hours

Max. Marks: 35 Marks

BIOCHEMISTRY, NUTRITION & DIETICS

Q.P. CODE: 1180

Your answers should be specific to the questions asked
Draw neat, labeled diagrams wherever necessary

(Note: Both QP Codes 1179 and 1180 are to be, answered within total duration of three hours)

LONG ESSAYS

1 x 10 = 10 Marks

1. Describe in detail the sources, absorption, functions and factors regulating blood calcium level.
Discuss deficiency manifestation of Calcium.

SHORT ESSAYS

3 x 5 = 15 Marks

2. Describe Urea cycle. Write the causes of Uremia.
3. Classify phospholipids with examples. Mention their functions.
4. Describe Glycogenesis and its regulation.

SHORT ANSWERS

5 x 2 = 10 Marks

5. Pellagra
6. Alkaptonuria
7. Semi-essential aminoacids
8. Pro-vitamins
9. BMR



Rajiv Gandhi University of Health Sciences, Karnataka

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Time: Three Hours

I B.D.S Degree Examination - JUNE 2016

Max. Marks: 35 Marks

BIOCHEMISTRY, NUTRITION & DIETICS

Q.P. CODE: 1180

Your answers should be specific to the questions asked
Draw neat, labeled diagrams wherever necessary

(Note: Both QP Codes 1179 and 1180 are to be, answered within total duration of three hours)

LONG ESSAYS

1 x 10 = 10 Marks

1. Describe the sources, RDA and biochemical functions of Calcium. Add a note on disorders of Calcium metabolism.

SHORT ESSAYS

3 x 5 = 15 Marks

2. Enumerate the reactions of Urea Cycle. Add a note on Energetics.
3. What is Basal Metabolic Rate? What are the factors affecting BMR?
4. Describe the functions of Thiamine.

SHORT ANSWERS

5 x 2 = 10 Marks

5. Write a note on Rickets.
6. Scurvy
7. Essential Amino Acids
8. Blood buffers
9. What are Metallo-enzymes?



Dec-2015
Rajiv Gandhi University of Health Sciences, Karnataka

I B.D.S Degree Examination - DECEMBER 2015

Max. Marks: 35 Marks

BIOCHEMISTRY, NUTRITION & DIETICS

Q.P. CODE: 1180

Your answers should be specific to the questions asked
Draw neat, labeled diagrams wherever necessary

(Note: Both QP Codes 1179 and 1180 are to be, answered within total duration of three hours)

LONG ESSAYS

1. Describe the sources, RDA and biochemical functions of Calcium. Add a note on disorders of Calcium metabolism.

1 x 10 = 10 Marks

SHORT ESSAYS

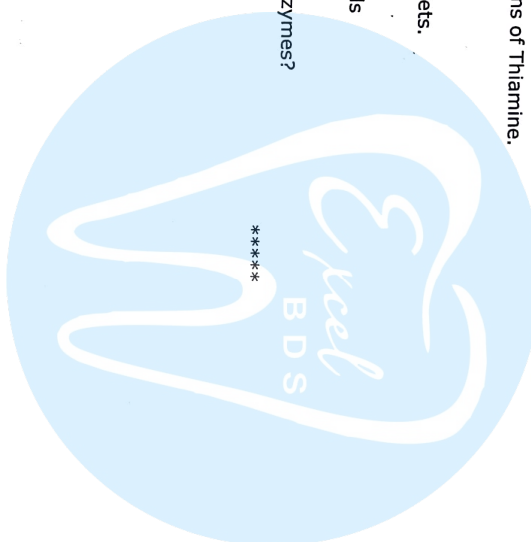
2. Enumerate the reactions of Urea Cycle. Add a note on Energetics.
3. What is Basal Metabolic Rate? What are the factors affecting BMR?
4. Describe the functions of Thiamine.

3 x 5 = 15 Marks

SHORT ANSWERS

5. Write a note on Rickets.
6. Scurvy
7. Essential Amino Acids
8. Blood buffers
9. What are Metallo-enzymes?

5 x 2 = 10 Marks





Rajiv Gandhi University of Health Sciences, Karnataka

Time: Three Hours

I B.D.S Degree Examination - JULY 2015

Max. Marks: 35 Marks

BIOCHEMISTRY, NUTRITION & DIETICS

Q.P. CODE: 1180

Your answers should be specific to the questions asked

Draw neat, labeled diagrams wherever necessary

(Note: Both QP Codes 1179 and 1180 are to be answered within total duration of three hours)

LONG ESSAYS

1 x 10 = 10 Marks

1. Write the steps involved in Urea Cycle. Add a note on its regulation and disorders.

SHORT ESSAYS

3 x 5 = 15 Marks

2. Functions of Vitamin C
3. Write the reactions for Glycolysis.
4. Explain factors Influencing Enzyme Activity.

SHORT ANSWERS

5 x 2 = 10 Marks

5. Essential Amino Acids.
6. What is the storage form of Lipid? Where it is stored in the body?
7. Define Homo-polysaccharide and give the examples.
8. What is Basal Metabolic Rate? Mention any two factors affecting it.
9. Define pH. Mention the normal range for Blood pH.



BDS - June - 2012

1180_2012_2_S224

Rajiv Gandhi University of Health Sciences

I B.D.S Degree Examination - June / July 2012

Time: 3 Hrs.

[Max. Marks : 35]

BIOCHEMISTRY, NUTRITION & DIETICS

QP Code: 1180

(Note : Both QP Codes 1179 and 1180 are to be answered within total duration of 3 hours)

LONG ESSAY

1. Write an essay on classification of lipids. With suitable examples

1 X 10 = 10 Marks

SHORT ESSAY

2. Functions of plasma proteins
3. Oxidative phosphorylation
4. Differences between DNA and RNA

3 X 5 = 15 Marks

SHORT ANSWERS

5. Specific dynamic action of foods
6. Provitamins
7. Transaminases and their diagnostic importance
8. Metabolic acidosis
9. Enzyme defect in (a) von gierke's disease (b) Phenylketonuria

5 X 2 = 10 Marks



BDS - June - 2012

1180_2012_2_S224

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Rajiv Gandhi University of Health Sciences

I B.D.S Degree Examination - June / July 2012

10

Time: 3 Hrs.

[Max. Marks : 35]

BIOCHEMISTRY, NUTRITION & DIETICS

QP Code: 1180

(Note : Both QP Codes 1179 and 1180 are to be answered within total duration of 3 hours)

LONG ESSAY

1. Write an essay on classification of lipids. With suitable examples

1 X 10 = 10 Marks

SHORT ESSAY

2. Functions of plasma proteins
3. Oxidative phosphorylation
4. Differences between DNA and RNA

3 X 5 = 15 Marks

SHORT ANSWERS

5. Specific dynamic action of foods
6. Provitamins
7. Transaminases and their diagnostic importance
8. Metabolic acidosis
9. Enzyme defect in (a) von gierke's disease (b) Phenylketonuria

5 X 2 = 10 Marks



BOS- Dec-2012

1180_2013_1_S401.doc

Rajiv Gandhi University of Health Sciences

I B.D.S Degree Examination – Dec 2012

Time: 3 Hrs.

[Max. Marks : 35]

BIOCHEMISTRY, NUTRITION & DIETICS

QP Code: 1180

(Note : Both QP Codes 1179 and 1180 are to be answered within total duration of 3 hours)

LONG ESSAY

1. Describe the following aspects of anaerobic glycolysis:
- Reactions
 - Energetics
 - Substrate level phosphorylation

1 X 10 = 10 Marks

SHORT ESSAY

- Write briefly on digestion and absorption of lipids in GIT.
3. Discuss the role of vitamin D in serum calcium homeostasis. Add a note on deficiency of Vitamin D.
4. Describe reactions of β - oxidation of fatty acids in mitochondria.

3 X 5 = 15 Marks

SHORT ANSWERS

5. Write two examples each for nucleosides and nucleotides.
6. Give an example for competitive enzyme inhibition.
7. Write a note on dietary fibres.
8. Write the enzyme defect and the metabolite excreted in the urine of following disorders:
- Phenylketonuria
 - Alkaptonuria
9. Write the clinical significance of Alkaline phosphatase and Acid phosphatase level in blood.

5 X 2 = 10 Marks



BDS - Dec - 2012

1153_2013_1_S047.doc

Rajiv Gandhi University of Health Sciences

I B.D.S Degree Examination - Dec 2012

Time: 3 Hrs.

[Max. Marks : 40]

BIOCHEMISTRY

QP Code: 1153

(Note : Both QP Codes 1152 and 1153 are to be answered within total duration of 3 hours)

LONG ESSAY

1. Describe Beta-oxidation of fatty acids

1 X 10 = 10 Marks

SHORT ESSAY

2. Explain the competitive inhibition of enzymes
Describe the classification of proteins with examples
4. Describe the mucopolysaccharides with their functions

3 X 5 = 15 Marks

SHORT ANSWERS

5. What are essential amino acids? Give examples
6. What is fluorosis?
7. Deficiency manifestations of Vitamin C
8. What are nucleotides and what are nucleosides?
9. Describe the deficiency manifestations of Niacin

5 X 3 = 15 Marks

