

ST.GREGORIOS DENTAL COLLEGE, CHELAD

Reg. No.:

First Year BDS Degree Regular II Internal Examinations March 2024
General Human Physiology and Biochemistry
(2016 Scheme)

Time: 3 hrs

Max marks: 70

- Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space
- Answer all parts of a single question together • Leave sufficient space between answers
- Draw Diagrams wherever necessary
- Write section A and section B in separate answer books (32 pages). Do not mix up questions from section A and section B

Q P Code: 112002

Section A: Physiology

Max Marks: 35

Essay:

(1+3+4+2=10)

1. What is saliva? Describe the mechanism of salivary secretion. How the composition of saliva determines its function. How saliva secretion is regulated. CO1&CO4

Short Notes:

2. List the forms in which CO₂ is transported. Explain Haldane effect. CO1(4+1=5)
3. Define GFR and explain factors affecting GFR. CO1 (1+4=5)

Answer Briefly:

(5x3=15)

4. Pulmonary surfactant and its functions. CO2
5. Juxtaglomerular apparatus. CO1
6. Vital capacity and its variations. CO3
7. Sino-aortic reflex mechanism. CO2
8. Digestive enzymes of pancreas. CO1

Q P Code: 113002

Section B: Biochemistry

Max Marks: 35

Essay:

(6+4=10)

1. Explain competitive inhibition of enzymes and its two clinical significances. Discuss the enzyme markers in cardiac and liver diseases. CO3 & CO4

Short Notes:

2. Describe the absorption and transport of iron. CO2 (3+2+5)
3. Deficiency manifestations of Vitamin A. CO3 (5)

Answer Briefly:

(5x3=15)

- 4 Functions of Albumin. CO1
5. Role of substrate concentration on enzyme activity. CO1
6. Function, deficiency and toxicity of fluorine. CO3
7. Mechanism of oxidative phosphorylation. CO3
8. Principles of colorimetry. CO6

ST.GREGORIOS DENTAL COLLEGE, CHELAD

Reg. No.:

First Year BDS Degree Regular I Internal Examinations December 2023
General Human Physiology and Biochemistry
(2016 Scheme)

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Q P Code: 112002

Section A: Physiology

Max Marks: 35

Essay:

(2+5+3=10)

1. Define cardiac cycle with normal timings. Describe in detail about mechanical events and its correlation with arterial and ventricular pressure changes, volume Changes and heart sounds. CO4

Short Notes:

(2x5=10)

2. Erythropoiesis and mention factors influencing it. CO1
3. Explain the Intrinsic and Extrinsic pathways of coagulation. CO2

Answer Briefly:

(5x3=15)

4. Mastication. CO1
5. Pharyngeal stage of deglutition. CO2
6. Pernicious anemia. CO1
7. Typical electrocardiogram or Limb lead II record. CO1
8. Cell mediated immunity. CO1

Q P Code: 113002

Section B: Biochemistry

Max Marks: 35

Essay:

(2+3+4+1=10)

1. Define denaturation of proteins. What are the factors that affect denaturation? Describe the features of denatured product. Give one example. CO2

Short Notes:

(2x5=10)

2. Essential fatty acids and its functions. CO1
3. Mention the composition of glycosaminoglycans and its functions with examples. CO1

Answer Briefly:

(5x3=15)

4. Glutathione and its significance. CO3
5. Lipoproteins and its functions. CO1
6. What are epimers? Mention two examples. CO1
7. Label secondary structure of proteins. CO1
- 8 Name three phospholipids with its composition and functions. CO1

ST.GREGORIOS DENTAL COLLEGE

Reg. No.:

First Year BDS Degree Regular II Internal Examinations June 2023

General Human Physiology and Biochemistry
(2016 Scheme)

Time: 3 hrs

Max marks: 70

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Q P Code: 112002

Section A: Physiology

Max Marks: 35

Essay:

(2+5+3=10)

1. Define gastric secretions. Explain the phases of gastric secretion and regulation. Add a note on Peptic ulcer. CO1

Short Notes:

(2x5=10)

2. Explain the two methods of O₂ transport with O₂ dissociation curve. CO2
3. Define GFR and explain the factors maintaining GFR. CO1

Answer Briefly:

(5x3=15)

4. Timed Vital Capacity. CO1
5. Functions of liver. CO3
6. Short term regulation of Blood pressure. CO3
7. Blood transfusion reactions. CO2
8. ADH (Vasopressin). CO1

Q P Code: 113002

Section B: Biochemistry

Max Marks: 35

Essay:

(7+3=10)

1. Explain enzyme classification with one example. Describe diagnostic importance of three enzymes. CO1&CO4

Short Notes:

(2x5=10)

2. Discuss biochemical functions of Vitamin A. CO1
3. Outline the reactions of gluconeogenesis from Lactate. CO3

Answer Briefly:

(5x3=15)

4. Regulation of blood calcium level. CO3
5. Lactose intolerance. CO2
6. Oxidative phosphorylation. CO3
7. Immunoglobulins. CO1
8. Substrate level phosphorylation with two examples. CO3

ST. GREGORIOS DENTAL COLLEGE, CHELAD

II Internal Examination - February 2020

Time: 3 hours

Total marks: 70 marks

General Human Physiology and Biochemistry

- Draw diagrams wherever necessary

Section A - Physiology

Structured Essay

1. Describe the phases of gastric secretion and its regulation. List the composition and functions of gastric juice.

(5+2+3=10)

Short Notes

2. Describe the pain pathway from the left foot with the help of a neat diagram. Add a note on referred pain.
3. Define GFR with normal value. Explain the factors affecting GFR.

(2x5=10)

Brief Notes

4. Mention the causes and symptoms of acromegaly.
5. Actions of posterior pituitary hormones.
6. Functions of thalamus.
7. JGA.
8. Grave's disease.

(5x3=15)

Section B - Biochemistry

Structured Essay

1. Trace the pathway of gluconeogenesis starting from alanine. Mention the key enzymes and how they are regulated.

(6+2+2=10)

Short Notes

2. Enumerate the steps of beta oxidation of fatty acid.
3. Explain the causes and differential diagnosis of jaundice.

(2x5=10)

Brief Notes

4. ELISA.
5. Atherosclerosis.
6. Diabetic ketoacidosis.
7. Formation of bilirubin.
8. Complexes of electron transport chain.

(5x3=15)

ST.GREGORIOS DENTAL COLLEGE, CHELAD

Reg. No.:

First Year I BDS Degree Regular Model Examinations December 2023

General Human Physiology and Biochemistry
(2016 Scheme)

Time: 3 hrs

Max marks: 70

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Q P Code: 112002

Section A: Physiology

Max Marks: 35

Essay:

(2+4+3+1=10)

1. Define blood pressure and mention its normal values. Describe the determinants of arterial blood pressure. Explain short term regulation of BP. Mention hypertension. (CO2)

Short Notes:

(2x5=10)

2. What is pain? Sketch and label the pain pathway. Mention referred pain. (CO2)
3. Describe transport of carbon dioxide in blood and Haldane's effect. (CO2)

Answer Briefly:

(5x3=15)

4. Rh incompatibility. (CO1)
5. Digestive enzymes of pancreas. (CO1)
6. List the contraceptive methods in females. (CO2)
7. Cushing's syndrome. (CO1)
8. Micturition reflex. (CO1)

Q P Code: 113002

Section B: Biochemistry

Max Marks: 35

Essay:

(2+8=10)

1. Describe respiratory and renal mechanism in acid base balance. (CO1+CO4)

Short Notes:

2. Explain the causes and differential diagnosis of jaundice. (CO4) (2+3=5)
3. Evaluate the role of five factors that affect enzyme activity. (CO1) (5)

Answer Briefly:

(5x3=15)

4. Gout. (CO5)
5. Dental fluorosis. (CO4)
6. Creatinine clearance test. (CO4)
7. Protein Caloric Malnutrition. (CO3)
8. How diabetes mellitus leads to metabolic acidosis. (CO3)

ST.GREGORIOS DENTAL COLLEGE

Reg. No.:

First Year II Internal BDS Degree Regular Examination September 2022
General Human Physiology and Biochemistry
(2016 Scheme)

Time: 3 hrs

Max marks: 70

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- Draw Diagrams wherever necessary
- Write section A and section B in separate answer books (32 pages). Do not mix up questions from section A and section B.

Q P Code: 112002

Section A: Physiology

Max Marks: 35

Essay:

(3+3+4=10)

1. What is the composition and functions of saliva. Describe the regulation of secretion of saliva.

Short Notes:

(2x5=10)

2. Draw a labelled diagram of Juxta – glomerular apparatus. What are its functions.
3. Sino-aortic reflex mechanism for regulation of arterial blood pressure.

Answer Briefly:

(5x3=15)

4. Oxygen hemoglobin dissociation curve and factors which shift the curve left and right.
5. Hypoxic hypoxia.
6. Neuromuscular junction.
7. Micturition reflex.
8. Mechanisms of water reabsorption by renal tubules.

Q P Code: 113002

Section B: Biochemistry

Max Marks: 35

Essay:

(4+4+2=10)

1. Describe the formation, functions and deficiency manifestations of calcitriol.

Short Notes:

(2x5=10)

2. Explain the steps of aerobic glycolysis with energetics.
3. Discuss different types of enzyme inhibitions with one example.

(3+2=5)

Answer Briefly:

(5x3=15)

4. ELISA
5. Immunoglobulins.
6. Regulation of blood calcium level.
7. Oxidative phosphorylation.
8. Role of vitamin A in vision.

ST.GREGORIOS DENTAL COLLEGE

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- Write section A and section B in separate answer books (32 pages). Do not mix up questions from section A and section B

Q P Code: 112002

Section A: Physiology

Max Marks: 35

Essay:

(7+3=10)

1. Explain the phases of cardiac cycle with the help of suitable diagrams. How can you link cardiac cycle with ECG and heart sounds. CO4

Short Notes:

(2x5=10)

2. Intrinsic mechanism of blood coagulation. CO2

3. What is deglutition? Explain the pharyngeal stage of deglutition. How it is regulated. CO4

Answer Briefly:

(5x3=15)

4. Mastication. CO1

5. Erythropoiesis. CO1

6. Determinants of cardiac output. CO3

7. Neutrophil. CO1

8. Features of cardiac muscles. CO1

Q P Code: 113002

Section B: Biochemistry

Max Marks: 35

Essay:

(6+4=10)

1. Explain the structural organization of proteins with example. Add a note on protein denaturation. CO1

Short Notes:

(2x5=10)

2. Heteropolysaccharides and its functions. CO1

3. Describe the classification of compound lipids with examples and its functions. CO3

Answer Briefly:

(5x3=15)

4 Dietary fibers. CO2

5. Essential aminoacids. CO1

6. Polyunsaturated fatty acids. CO1

7. Biologically important peptides. CO1

8. Functions of cholesterol. CO3

ST.GREGORIOS DENTAL COLLEGE

Reg. No.:

First Year BDS Degree Regular III Internal Examinations September 2023
General Human Physiology and Biochemistry
(2016 Scheme)

Time: 3 hrs

Max marks: 70

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- Answer all parts of a single question together • Leave sufficient space between answers
- Draw Diagrams wherever necessary
- Write section A and section B in separate answer books (32 pages). Do not mix up questions from section A and section B

Q P Code: 112002

Section A: Physiology

Max Marks: 35

Essay:

(2+4+3+1=10)

1. Define thyroid hormones. Explain the mechanism of thyroid hormone synthesis. How thyroid hormones involved in metabolism. Mention Myxedema.(CO3)

Short Notes:

(2x5=10)

2. Explain visual pathway with diagram. (CO2)
3. Neuromuscular junction structure and transmission.(CO2)

Answer Briefly:

(5x3=15)

4. Any three functions of growth hormone. (CO1)
5. Functions of middle ear.(CO1)
6. Thermoregulatory responses on cold climate.(CO2)
7. Cushing's syndrome. (CO1)
8. Spermatogenesis. (CO1)

Q P Code: 113002

Section B: Biochemistry

Max Marks: 35

Essay:

(3+4+3=10)

1. Explain the role of carnithine in oxidation of fatty acid. Enumerate beta oxidation of palmitic acid and its energetics.(CO1&CO3)

Short Notes:

2. Describe the steps involved in detoxification of ammonia and its associated disorders.(CO3)(3+2=5)
3. What is the normal ranges of fasting, random and post prandial blood glucose. Discuss the regulation of blood sugar in fed state. (CO3)(2+3=5)

Answer Briefly:

(5x3=15)

4. Biologically important compounds derived from glycine. (CO1)
5. Oral glucose tolerance test and its interpretation. (CO6)
6. Ketosis and mention two causes of ketosis. (CO3)
7. Add a note on three disorders of aromatic amino acid metabolism. (CO3)
8. Transamination and its significance. (CO3)
