[KZ 0811] **AUGUST 2011** **Sub. Code: 1501**

B.Sc., CARDIAC TECHNOLOGY

FIRST YEAR

PAPER I – APPLIED ANATOMY, PHYSIOLOGY AND BIOCHEMISTRY RELATED TO CARDIAC TECHNOLOGY

Q.P. Code: 801501

Time : Three Hours **Maximum : 100 marks**

Answer ALL questions

I. Elaborate on: **(3 x 10 = 30)**

1. Write an essay on anatomy of coronary circulation. Add a note on angina pectoris.
2. Describe in detail the various events in a cardiac cycle.
3. What is the normal blood pH? How is it maintained?

II. Write notes on: **(8 x 5 = 40)**

1. Sternum.
2. Muscles of respiration.
3. Features of thoracic vertebra.
4. Short term regulation of blood pressure.
5. Oxygen transport in the blood.
6. Functions of platelets.
7. Anticoagulants.
8. Functions of glucocorticoids.

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

1. Different types of epithelia.
2. Lobes of the right and left lung.
3. Functions of veins.
4. Structure of a nephron.
5. Cardiac output.
6. Wave forms in a normal ECG.
7. Arterial pulse.
8. Hazards of mismatched blood transfusion.
9. Functions of glucagons.
10. Tetany.

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[LB 0212] **AUGUST 2012** **Sub. Code: 1501**

B.Sc. CARDIAC TECHNOLOGY

FIRST YEAR

PAPER – I – APPLIED ANATOMY, PHYSIOLOGY AND BIOCHEMISTRY RELATED TO CARDIAC TECHNOLOGY

***Q.P. Code :* 801501**

Time : Three hours **Maximum : 100 marks**

(180 Mins) Answer ALL questions in the same order

I. Elaborate on:	**Pages (Max.)**	**Time (Max.)**	**Marks (Max.)**
1. Describe the anatomical location and coverings of the heart and label its chambers and associated large vessels in diagram?	7	20	10
2. Define cardiac cycle and explain the events of the cardiac cycle?	7	20	10
3. Write a detailed note on Lipoprotein and atherosclerosis?	7	20	10
II. Write Notes on:			
1. Explain the features of thoracic vertebrae?	4	10	5
2. Draw and label the attachments of scapula on both dorsal and ventral view?	4	10	5
3. Describe the three layers of blood vessels including their histology?	4	10	5
4. Describe the structure, characteristics and general function of WBCs?	4	10	5
5. What is the normal blood flow through coronary circulation? Explain the phasic changes, measurement and regulation of coronary blood flow?	4	10	5
6. Hormonal regulation of Vascular Smooth Muscle.	4	10	5
7. Define electrocardiogram, describe the segments and intervals of Normal ECG?	4	10	5
8. Mention about the glucose and its disorders?	4	10	5
III. Short Answers on:			
1. Draw the structure of Nephron and label its parts?	2	4	3
2. Blood typing.	2	4	3
3. Draw a diagram on mean electrical axis from electrocardiogram?	2	4	3
4. What is Total Lung Capacity?	2	4	3
5. Give three examples for cells of connective tissue.	2	4	3
6. Types of Fibrous joints.	2	4	3
7. Draw and label the features of humerus?	2	4	3
8. Mention about types of heart block?	2	4	3
9. What is Table sugar?	2	4	3
10. Name the hormones secreted by anterior pituitary?	2	4	3

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[LD 0212] **August 2013** **Sub.code: 1501**

B.Sc. CARDIAC TECHNOLOGY
FIRST YEAR
PAPER I – APPLIED ANATOMY, PHYSIOLOGY AND BIOCHEMISTRY

Q.P. Code : 801501

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

Answer all questions

I. Elaborate on: **(3 x 10 = 30)**

1. Define heamostasis? Explain the mechanisms involved in heamostasis following injury to blood vessel?
2. Describe the beta –oxidation of fatty acids and mention the energetic of palmitic acid.
3. Write in detail about blood supply of heart?

II. Write Notes on: **(8 x 5 = 40)**

1. Pathophysiology of shock?
2. Factors affecting cardiac output?
3. Properties of cardiac muscle
4. Lipoprotein and it's classification
5. Berri-berri
6. Fatty lives
7. Trachea
8. Intercostals muscles

III. Write Notes on: **(10 x 3 = 30)**

1. Define essential hypertension
2. A-V node
3. Syncope
4. Mitochondria
5. Essential amino acids
6. Difference between kwashiorkar / marasmus
7. Wald's visual cycle
8. Transverse pericardial sinuses
9. Trigone of bladder
10. Hilum of right lung

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[LE 0212] **FEBRUARY 2014** **Sub.code: 1501**

B.Sc. CARDIAC TECHNOLOGY
FIRST YEAR
PAPER I – APPLIED ANATOMY, PHYSIOLOGY AND BIOCHEMISTRY

Q.P. Code : 801501

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

Answer all questions

I. Elaborate on: **(3 x 10 = 30)**

1) Describe the various events that take place in the cardiac cycle.
2) Describe the right lung under the following headings
   a. Surfaces and borders
   b. Fissures and lobes
   c. Hilum
   d. Blood supply
3) Name the 2 types of diabetes mellitus. Describe briefly their pathogenesis, clinical features and laboratory investigations.

II. Write notes on : **(8 x 5 = 40)**

1) Name the two pathways of coagulation. Describe any one pathway.
2) What is the normal adult blood pressure? Describe the various factors that affect blood pressure.
3) Describe the ABO system of blood grouping.
4) External features of the kidney
5) Coronary arteries
6) Biceps brachii
7) Vertebral column
8) Write briefly about the types, sources and functions of unsaturated fatty acids.
9) Write a short note on the sources, biological functions and deficiency symptoms of vitamin K.
10) What is a buffer? Describe briefly the buffer systems in the body.

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

1) Define anatomical position.
2) Define sagittal plane
3) What is meant by the term homeostasis?
4) What is the Frank Starling's law?
5) Name the structures opening into the right atrium.
6) Name the structures present in the subcostal groove
7) Functions of sodium in the body.
8) What are isoenzymes? Give an example.
9) Name any 3 hormones secreted by anterior pituitary gland and write 2 functions for each.
10) Define basal metabolic rate. Name 2 factors which influence basal metabolic rate.

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[LF 0212] **AUGUST 2014** **Sub. Code: 1501**

B.Sc. CARDIAC TECHNOLOGY
FIRST YEAR
PAPER I – APPLIED ANATOMY, PHYSIOLOGY AND BIOCHEMISTRY RELATED TO CARDIAC TECHNOLOGY

Q.P. Code : 801501

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

Answer all questions

I. Elaborate on: **(3 x 10 = 30)**

1. Describe the anatomical location and coverings of the heart and label its chambers and associated blood vessels with suitable diagram?
2. Describe in detail the various events of the cardiac cycle?
3. What is the normal blood pH? Explain various buffer systems in the body.

II. Write Notes on: **(8 x 5 = 40)**

1. Features of thoracic vertebra.
2. Functions of glucocorticoids
3. Draw the structure of nephron and label its parts?
4. Draw and label the attachments of clavicle on both dorsal and ventral view?
5. Define electrocardiogram, describe the segments and intervals of normal ECG.
6. Explain essential aminoacids and their biochemical function.
7. Difference between DNA and RNA.
8. Explain atrioventricular node function.

III. Write Notes on: **(10 x 3 = 30)**

1. What is meant by essential hypertension
2. Give three examples for cells of connective tissue.
3. Blood grouping.
4. Draw and label the features of radius.
5. Name the branched chain amino acids.
6. Syncope.
7. Sources and RDA of vitamin C.
8. Functions of insulin.
9. Cardiac output.
10. Different types of epithelia.

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[LG 0215] **FEBRUARY 2015** **Sub.code: 1501**

B.Sc. CARDIAC TECHNOLOGY
FIRST YEAR
PAPER I – APPLIED ANATOMY, PHYSIOLOGY AND BIOCHEMISTRY RELATED TO CARDIAC TECHNOLOGY

Q.P. Code : 801501

Time: Three Hours **Maximum: 100 Marks**

Answer all questions

I. Elaborate on: **(3 x 10 = 30)**

1. Explain lung under the following headings:
   (i) External features (ii) Fissures and Lobes of lungs (iii) Blood supply and (iv) Note on Bronchial Tree.
2. Define cardiac output. Mention its normal value. Add a note on factors regulating it.
3. Describe sources, biochemical functions, requirement and deficiency manifestations of vitamin A.

II. Write notes on: **(8 x 5 = 40)**

1. Intercostal muscle.
2. Blood supply of Heart.
3. Define epithelium. Write note on transitional epithelium.
4. Functions of Blood.
5. Cardiovascular response to shock.
6. Clinical significance of LDH.
7. Lipoproteins.
8. Heteropolysaccharide.

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

1. Angina pectoris.
2. Define supination and pronation.
3. Hilum of Kidney.
4. Syncope.
5. Frank – starling Law.
6. Muscles of inspiration.
7. Chylomicrons.
8. Essential fatty acids.
9. Base pairing rule.
10. Factors influencing the calcium absorption.

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