

PHYSIOLOGY DEPARTMENT  
1<sup>st</sup> YEAR MBBS 2018-19

MODULE TEST: Cardiovascular

SEQs (SHORT ESSAY TYPE QUESTIONS)  
ATTEMPT ALL QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.

MARKS= 50

DATED: 31-07-2019

TIME = 2 hours 10min

- Q1. A) Enumerate the properties of cardiac muscle? (2 + 3)  
B) Explain in detail mechanism of automaticity & pacemaker potential
- Q2. A) Draw ventricular muscle action potential & explain the ionic events in each phase?  
B) Draw conduction pathway of cardiac muscle with time scale? (2.5 + 2.5)
- Q3. A) Draw & label normal ECG. (3 + 2)  
B) Define and explain the causes of circus movement. Enlist all the heart conditions which take place due to circus movement.
- Q4. A) Define cardiac cycle. Enlist the mechanical events during one cycle? (2 + 3)  
B) Name and explain the mechanism of production of audible heart sounds. With the help of a diagram correlate them with the phases of cardiac cycle
- Q5. A) Draw & label left ventricular pressure during cardiac cycle? (2 + 3)  
B) Explain the effect of increased pre load & after load on the dynamics of pressure volume loop?
- Q6. A) What is the role of kidney in the long term regulation of blood pressure (2.5)  
B) Discuss the short term regulation of blood pressure & explain the baroreceptor reflex with the help of diagram? (2.5)
- Q7. A) Define Shock? Give the changes which occur in compensated shock? (2.5)  
B) A 50 year old woman undergoing a surgery experiences a rapid drop in blood pressure (50/30mmHg) after induction of anesthesia. Her ECG shows normal sinus rhythm. What is the probable diagnosis? (1+ 1+ 0.5)  
i. What is the reason for this drop in blood pressure?  
ii. What will be the treatment for this condition?
- Q8. Define cardiac output and cardiac index? Give in detail the regulation of cardiac output? (5)
- Q9. A) Briefly describe the mechanism of regulation of local blood flow? (3)  
B) Name the Starling forces regulating the capillary filtration? (2.5)
- Q10. Define hypertension & and enlist its types. Explain the mechanism of volume loading type of hypertension with the help of examples? (5)

# AZRA KHAN MEDICAL COLLEGE LAHORE

## DEPARTMENT OF PHYSIOLOGY

1<sup>ST</sup> YEAR MBBS 2014-2015

### INSTRUCTIONS

1. A subjective part is to be submitted within 40 minutes, no extra time will be given.
2. Good handwriting, use of margin will increase the outlook / presentation of your page.

### UNIT TEST: CIRCULATION

#### SUBJECTIVE PART

ATTEMPT ALL QUESTIONS, ALL QUESTIONS CARRY EQUAL MARKS

TOTAL MARKS: 20

DATE: 14-6-15

- Q1. A) Explain the laws of hemodynamic with formulae governing each. (3)
- B) Give the functional classification of blood vessels. (2)
- Q2. A) Explain the concept of systemic circulation. (2.5)
- B) Define venous return? Briefly describe the control of venous return. (2.5)
- Q3. A) Briefly discuss the mechanisms of long term control of blood flow? (2)
- B) Outline the humoral control of circulation by enlisting vasoconstrictor and vasodilator agents acting on the blood vessels? (2)
- Q4. A) Give the starting forces and their magnitude? How the starting equilibrium is maintained? (2.5)
- B) Explain in detail the baro-receptor reflex? (2.5)
- Q5. A) Discuss the regulation of coronary blood flow and give its significance? (2)
- B) Explain the long term regulation of arterial blood pressure. (2)
- Q6. A) List the compensatory mechanism operating in reversible stage (compensatory shock)? (2)
- B) Enumerate the mechanism operating in progressive shock? (2)
- Q7. A) Define Starling forces that determine fluid movement through cell capillary membrane. (2)
- B) List 4 types Capillary pressure, interstitial fluid pressure, plasma oncotic pressure & interstitial fluid oncotic pressure.

## THE SUPERIOR COLLEGE, LAHORE

1<sup>st</sup> PROFESSIONAL MBBS (Part-I)  
ANNUAL EXAMINATION 2015**PHYSIOLOGY****(SEQ'S)**

Time Allowed: 2 hours &amp; 15 minute

Total Marks: 45

**Instructions**

- 1. The script is to be submitted within 2 hours & 15 minute. Extra time will not be given.
- 2. No Hard Writing pen or marker for headlines will increase the presentation of your paper.
- 3. Do not write your name or disclose your identity in anyway.

- Q1. A) Define Gene expression? (2)  
B) Give the detail of all the steps of translation? (3)
- Q2. A) Give a comparison between conduction of nerve impulse in an unmyelinated and myelinated nerve. (2.5)  
B) A young 30 year old woman came with a drooped left eyelid complains of double vision, difficulty in swallowing and severe muscle fatigue on mild exertion. Her family history is found to be positive for such disease.  
A. What is the most probable diagnosis? (0.5)  
B. Explain the underlying pathophysiology of the disease. (1)  
C. How can she be treated? (1)
- Q3. Define immunity. (1)  
Give classification of immunity. (2)  
Explain the mechanism of tissue rejection. (2)
- Q4. A) What is Rh incompatibility? Explain the features of erythroblastosis fetalis? (3)  
B) A 28y old lady presented in emergency with complaints of bleeding gums, and small punctate Hemorrhages throughout the body and her skin appeared full of purple blotches. On investigation her Hb-9mg dl, Platelet count-80\*1000/ $\mu\text{m}^3$  and clotting time is normal while Bleeding time is prolonged?  
A) What is your diagnosis? Thrombopenia. (1)  
B) How this condition can be treated? (1)
- Q5. A) Draw and describe origin and conduction of cardiac impulse till epicardial surface of heart along with time scale. (3)  
B) Define & Classify cardiac Arrhythmias. (2)
- Q6. A) Explain the laws of hemodynamic with formulae governing over the blood flow in the blood vessels. (2.5) + (2.5)  
B) Enumerate the mechanisms operating in progressive shock. (2)
- Q7. A) Write note on deep sea diving. (2)  
B) Enlist the factors responsible for lung compliance? Discuss the role of surfactant? (3)
- Q8. A) Draw and label oxy Hb dissociation curve? Name the factors shifting the curve to the right side. (2.5)  
B) Briefly describe the modes of transport of carbon dioxide in the blood. (2.5)
- Q9. A) Explain movements and enumerate the function of large intestine. (2)  
B) Name the hormones secreted by small intestine. Give the functions of gastrin? (2.5)

# AZRA NAHEED MEDICAL COLLEGE LAHORE

First YEAR MBBS 2014-15

(Physiology-Subjective)

## INSTRUCTIONS

- All subjective part is to be submitted within 2 hours 30 minutes, no extra time will be given.
- Neat handwriting, size of margins will increase the outlook presentation of your paper.

## SEND-UP EXAMINATION (2015) - SEQ PAPER

ATTEMPT ALL QUESTIONS; ALL QUESTIONS CARRY EQUAL MARKS.

TOTAL MARKS = 50

DATED: 18-09-15

Time = 2 hours 10 min

- Q1. A) List the membranous and non-membranous cell organelles? (2)  
B) Compare Lysosomes and Peroxisomes? (3)
- Q2. A) Give a comparison between conduction of nerve impulse in an unmyelinated and myelinated nerve. (2.5)  
B) A young 30 year old woman came with a drooped left eyelid complains of double vision (eye muscle weakness) difficulty in swallowing and severe muscle fatigue on mild exertion. Her family history is found to be positive for disease.  
a. What is the most probable diagnosis? (1)  
b. Explain the underlying pathophysiology of the disease. (1)  
c. How can she be treated? (0.5)
- Q3. A) Define anemia. Give a classification of anemias. (2)  
B) Compare the iron deficiency anemia with megaloblastic anemia. (3)
- Q4. A) What is Rh incompatibility? Explain the cause and features of erythroblastosis fetalis? (3.5)  
B) A 28y old lady presented in emergency, with complaints of bleeding gums, and small punctate haemorrhages throughout the body and her skin appeared full of purple blotches. On investigation her Hemoglobin, Platelet count = 80,000/mm<sup>3</sup> and clotting time is normal while aPTT time was prolonged.  
A) What is your diagnosis? (1)  
B) How this condition can be treated? (0.5)
- Q5. A) Draw and describe origin and conduction of cardiac impulse till epicardial surface of heart along with time scale. (2.5)  
B) Define & Classify cardiac Arrhythmias (2.5)
- Q6. A 65 year old man met a car accident. There is loss of 500ml of blood. His blood pressure recorded after 15 minutes was 100/70, pulse rate was 90 times/minute.  
I. What is the role of baroreceptors in this case to regulate the blood pressure? (1)  
ii. How kidneys will play their role to regulate the blood pressure? (1.5)  
B. Discuss the regulation of coronary blood flow and give its significance. (2.5)
- Q7. A) Define cardiac output, stroke volume, end diastolic volume and end systolic volume. (2)  
B) Discuss in detail the regulation of cardiac output. (3)
- Q8. A) Draw and label Oxy - Hb dissociation curve. Also show the point for P50. (2.5)  
B) Briefly describe the modes of transport of carbon dioxide in the blood. (2.5)
- Q9. A) Define compliance of lungs. Explain it with help of compliance graph. List the factors on which it depends. (2.5)  
B) Usman a soldier was posted in emergency at Siachin Glacier, he felt dizzy and uncomfortable for some days. He became comfortable after passage of few days. Explain the mechanism of acclimatization in such case. (2.5)
- Q10. A) Draw and briefly explain the defecation reflex? (2.5)  
B) Enumerate the GIT hormones? Describe the site of secretion & function of Gastrin hormone (2.5)

SUBJECTIVE PART

ATTEMPT ALL QUESTIONS: ALL QUESTIONS CARRY EQUAL MARKS.

TOTAL MARKS 30

DATE: 26-06-15

Time = 40mins

1. ✓ A) Draw and label normal ECG with normal waves, intervals and segments. *F33 G121* (3)  
 B) What is the cause of each ECG wave. *F34* (2)
2. A) Draw and label ventricular Action Potential with respect to ionic bases of each phase. *F27, fig 28* (3)  
 B) Explain the excitation contraction coupling in heart muscles. *G103* (2)
3. A) Draw and describe origin of cardiac impulse along with time scale. *G11805* (3)  
 B) Explain ECG changes in heart blocks. *F30* (2)
4. A) Draw the action potential of SA nodal muscle. Label all phases & ionic channels functioning. (3)  
 B) Explain with help of diagram the pressure changes in left ventricle during a cardiac cycle. *G7105* (2)
5. A) Enumerate the properties of cardiac muscles. *F26* (3)  
 B) Explain the automaticity in detail. *look n195* (2)
6. A) Define & Classify heart blocks. *F38* (2)  
 B) What is Stoke Adam Syndrome? *F24* (1)  
 C) What is difference b/w Atrial Flutter & Fibrillation? *F37* (2)

Excitation - contraction coupling is the connection between the electrical action potential and the mechanical muscle contraction. it is a link b/w action potential generated in sarcolemma and starts of muscle contraction.

Regulation of cardiac output.  
 Define Cardiac cycle. Event.

**THE SUPERIOR COLLEGE, LAHORE**

First Professional MBBS (Part-I) Annual Examination 2013

**(PHYSIOLOGY)****SUBJECTIVE (SECS)**

Total Marks 45 + 32

Total Time 2 Hrs &amp; 10 Mins

DATED: 06-09-2013

**INSTRUCTIONS**  
 1. All subjective part is to be submitted within 20 minutes, no extra time will be given.  
 2. Neat handwriting, use of margins will increase the attract/ presentation of your paper.

**ATTEMPT ALL QUESTIONS; ALL QUESTIONS CARRY EQUAL MARKS.**

3. 1. Compare and contrast primary active transport with secondary active transport. (5)
4. 2. A) Draw and label normal Electrocardiogram with normal waves, intervals and segments. (3)  
 B) What is the cause of each ECG wave? (2)
4. 3. A) Define Cardiac Cycle. Enlist the events of cardiac cycle. (3)  
 B) Draw and label Cardiac Ventricular Action Potential and its phases and give ionic bases of each phase. (2)  
*forces exerted by the blood against any part of the vessel*
4. 4. Define blood pressure. List reflexes in short term control. Explain short term control of blood pressure by baroreceptor reflex. (5)
3. 5. Define "Cardiac Output". Enlist the factors regulating cardiac output. (5)
7. 6. A) What is saltatory conduction? Explain with the help of diagram. (2)  
 B) Define and draw a sarcomere. Enumerate changes occurring in it during muscle contraction. (3)
7. 7. Define active immunity. Give its types. Explain cellular immunity, different types of T cells and their functions briefly. (5)
8. 8. A) Draw and label the respiratory membrane. (2.5)  
 B) Name the factors affecting the diffusion of gases across respiratory membrane. (2.5)
9. 9. A) Describe the mechanism of heat loss by sweating and the impact of acclimatization on it. 2 / (3)  
 B) A 6 year old boy bruises easily and has some with occurrence of excessive bleeding on mild injury. The bleeding becomes difficult to stop. The maternal grandfather also had a bleeding disorder of same type. On investigation the clotting time is prolonged.
1. Give your diagnosis.  $\Rightarrow$  Hemophilia
2. List the possible cause.  $\Rightarrow$  Congenital disease  
 Vit-K def.  
 def. vit  
 def. ---

# AZRA NAHEED MEDICAL COLLEGE LAHORE

## DEPARTMENT OF PHYSIOLOGY

5<sup>TH</sup> YEAR MBBS 2014-2015

### INSTRUCTIONS

1. All subjective part is to be submitted within 40 minutes, no extra time will be given.
2. Good handwriting, use of margins will increase the outlook / presentation of your page.

### UNIT TEST: CIRCULATION

#### SUBJECTIVE PART

ATTEMPT ALL QUESTIONS; ALL QUESTIONS CARRY EQUAL MARKS

TOTAL MARKS: 30

DATE: 14-5-15

1. A) Explain the laws of hemodynamic with formulae governing over the blood flow in the blood vessels? (3)  
B) Give the functional classification of blood vessels? (2)
  2. A) What is total peripheral resistance? How is it regulated in the body? (2.5)  
B) Define venous return? Briefly describe the control of venous return? (2.5)  
*blood flowing from veins into the heart is called venous return. Venous return.*
  3. A) Briefly discuss the mechanism of long term control of blood flow? (3)  
B) Outline the humoral control of circulation by enlisting vasoconstrictor and vasodilator agents acting on the blood vessels? (2)
  4. A) Give the Starling forces and their magnitude? How the Starling equilibrium is achieved? (2.5)  
B) Explain in detail the baro-receptor reflex? (2.5)  
*F 53 baroreceptors are spray nerve endings that are stimulated by stretch.*
  5. A) Discuss the regulation of coronary blood flow and give its significance? (3)  
B) Explain the long term regulation of arterial blood pressure? (4)
  6. A) List the compensatory mechanism operating in reversible stage (compensated) shock? (2)  
B) Enumerate the mechanism operating in progressive shock? (2)
- STARLING FORCES: forces that determine fluid movement through cell capillary membrane due to 4 types: capillary pressure, interstitial fluid pressure, plasma oncotic pressure & interstitial fluid colloid osmotic pressure.*

# AZRA NAHEED MEDICAL COLLEGE LAHORE

DEPARTMENT OF PHYSIOLOGY

MBBS First year 2014-15

BA Baroreceptor reflex  
Cardio-respiratory

## INSTRUCTIONS

1. All subjective part is to be submitted within 40 minutes, no extra time will be given.
2. Neat handwriting, use of margins will increase the outlook / presentation of your paper.

## REVISION TEST: CIRCULATION

### SUBJECTIVE PART

ATTEMPT ALL QUESTIONS; ALL QUESTIONS CARRY EQUAL MARKS.

TOTAL MARKS: 30

DATED: 29-06-15

1. Give the laws of hemodynamics governing over the blood flow in the blood vessels? F42 (5)
2. Define Cardiac Output. How is it regulated? F57 (1+4)
3. Define shock. Classify it. Give the mechanisms operating in progressive shock? F27b F65 (5)
4. A) Explain the mechanism of regulation of coronary blood flow? F59 (3)  
B) Give the functional classification of blood vessels. (2)
5. A) List the changes in circulatory system during exercise? (2.5)  
B) Enumerate the heart sounds and give mechanism of production of each briefly. F63 (2.5)
6. A) List the reflexes responsible for short term control of BP. (2.5)  
B) Explain in detail the baro-receptor reflex. (2.5)

→ Ar. distribution vessels. All large Arteries.  
Resistance vessels. Arterioles, terminal-arterioles.  
Exchange vessels. Capillary.  
Capacitance vessels. Veins.

- SA. 1) More blood is pumped around body  
2) Heart increase in size (athlete)  
3) RBC increase. 4) blood supply to muscle fiber improved. 5) increased pulse rate.  
6) increase B.P. 7) Return of deoxygenated blood to heart is also improved.



**AZRA NAHEED MEDICAL COLLEGE**  
**LAHORE**

0305 117 2784

1<sup>ST</sup> YEAR MBBS, 2014-15  
 (PHYSIOLOGY)

**INSTRUCTIONS**  
 1-All subjective part is to be submitted within 40mins, no extra time will be given.  
 2-Neat handwriting, use of margins will increase the outlook/presentation of your paper

**UNIT TEST: HEART PHYSIOLOGY**

**SUBJECTIVE PART**

ATTEMPT ALL QUESTIONS; ALL QUESTIONS CARRY EQUAL MARKS.

TOTAL MARKS 30

Time = 40mins

DATE: 11-05-15

- Qno.1 A) Enumerate the properties of cardiac muscles. F26 (2)  
 B) Draw the action potential of ventricular muscle. Label all phases & ionic channels functioning for each phase. F28 (3)
- Qno.2 A) Draw and label Pacer (S-A nodal) Action Potential. F28 (SA) (3)  
 B) Briefly describe the causes of pre potential? Explain the effect of sympathetic and parasympathetic nervous stimulation on SA nodal action potential? M20 (2)
- Qno.3 A) Classify arrhythmia? Write down the major causes of arrhythmias? F37 (3.5)  
 B) Explain ECG changes in heart block. F27 (1.5)
- Qno.4 A) Define cardiac cycle. List all phases of cardiac cycle. F29 (3)  
 B) Explain with help of diagram the pressure changes in left ventricle during a cardiac cycle. Graph (2)
- Qno.5 A) Draw and label normal ECG with normal waves, intervals and segments (3)  
 B) What is the cause of each ECG wave? Graph (2)
- Qno.6 A) Enumerate the heart sounds audible with stethoscope in the normal adult person? Differentiate between the First heart sound and second heart sound? (1.5)  
 B) Write short notes on F30  
 i) Stoke Adam Syndrome  
 ii) Ejection fraction  
 iii) Causes of bradycardia  
 iv) Einthoven's law F35
- Steep 2) Whole 3) Vagus stimulation (1)  
 4) cardiac synus (1)  
Sin (0.5)
- Fraction of end diastolic volume that is ejected during systole is called ejection fraction.  
 Value = 60%.

# AL NAHEED MEDICAL COLLEGE LAHORE

First Year MBBS 2014-15

(Physiology-Subjective)

## INSTRUCTIONS

- All subjective part is to be submitted within 2 hours. In brackets, the extra time will be given.
- Neat handwriting, use of margins will increase the marksheet presentation of your paper.

## GRAND TEST (2015) - SEQ PAPER

ATTEMPT ALL QUESTIONS; ALL QUESTIONS CARRY EQUAL MARKS.

TOTAL MARKS = 50

DATED: 24-08-15

Time = 2 hours 10 min

- Q1. A) List all means of transport across the cell membrane. (2)  
B) What is Secondary active transport? Explain its different types with examples. (3)
- Q2. A) Irfan met a road accident, was taken to a hospital where on blood grouping, he was found to be B- Positive. By mistake he was transfused with A- Positive blood. Give the reactions you will expect in this case. (3)  
B) Briefly discuss the regulation of rate of Erythropoiesis in humans. (2)
- Q3. A) Describe neuromuscular junction and transmission with the help of a diagram. (3)  
B) A young 30 year old woman with a drooped left eyelid complains of double vision, difficulty in swallowing and severe muscle fatigue on mild exertion. Her family history is found to be positive for such disease. (3)  
i. What is the most probable diagnosis? (1)  
ii. Explain the underlying pathophysiology of the disease. (0.5)  
iii. How can she be treated? (0.5)
- Q4. A) Draw and label normal ECG with normal waves, intervals and segments. (3)  
B) What is the cause of each ECG wave? (2)
- Q5. A 65 year old man had a car accident. There is loss of 500ml of blood. His blood pressure recorded after 15 minutes was 100/70, pulse rate was 90 times/minute. (2.5)  
i. What is the role of baroreceptors in this case to regulate the blood pressure? (2.5)  
ii. How baroreceptors will play their role to regulate the blood pressure? (2)
- Q6. A) Define cardiac output, stroke volume, end diastolic volume and end systolic volume. (2)  
B) Discuss in detail the regulation of cardiac output. (3)
- Q7. A) Draw and describe origin, conduction of cardiac impulse along with time scale. (2)  
B) Explain ECG changes in different types of heart blocks. (3)
- Q8. A) Draw and label Oxy - Hb dissociation curve. Also show the point for P50. (2)  
B) Explain the factors shifting the curve to right. (3)
- Q9. A) Define compliance. Explain it with help of compliance graph. List the factors on which it depends. (2)  
B) A deep sea diver ascends rapidly to sea level, experiences severe headache, chest pain, difficulty in breathing and muscle and joint pains. (3)  
i. Diagnose the disease. (1)  
ii. Explain physiological reason of these symptoms (0.5)  
iii. How can this person be treated? (0.5)
- Q10. A) Enumerate the GIT hormones? Describe the site of secretion & function of gastrin hormone? (2.5)  
B) Draw and briefly explain defecation reflex? (2.5)

INSTRUCTIONS

- 1. All subjects must be submitted within 40 mins, no extra time will be given.
- 2. Neat handwriting, use of diagrams will increase the overall presentation of your paper.

UNIT TEST: HEART PHYSIOLOGY

SUBJECTIVE PART

ATTEMPT ALL QUESTIONS: ALL QUESTIONS CARRY EQUAL MARKS.

TOTAL MARKS 30

Time = 40mins

DATE: 11-05-15

- Qno.1 A) Enumerate the properties of cardiac muscle. Pg 26. (3)  
 B) Draw the action potential of ventricular muscle. Label all phases & ionic channels functioning for each phase. Pg 27 (3)

- Qno.2 A) Draw and label Paces maker (A node) Action Potential. Pg 28 (3)  
 B) Briefly describe the causes of pre potential? Explain the effect of sympathetic and parasympathetic nervous stimulation on SA nodal action potential.

- Qno.3 A) Classify arrhythmia? Write down the major causes of arrhythmias? Pg 36 (2.5)  
 B) Explain ECG changes in heart block Pg 38 (1.5)

- Qno.4 A) Define cardiac cycle. List all phases of cardiac cycle. Pg 28 (3)  
 B) Explain with help of diagram the pressure changes in L.V. ventricle during a cardiac cycle (2)

- Qno.5 A) Draw and label normal ECG with normal waves, intervals and segments.  
 B) What is the cause of each ECG wave Pg 33 (2)

- Qno.6 A) Enumerate the heart sounds audible with stethoscope in the normal adult person. Differentiate between the First heart sound and second heart sound. Pg 37

- B) Write short answers:  
 i) Stoke Adam Syndrome Pg 39  
 ii) Ejection fraction Pg 29 fraction of end diastolic volume that is ejected during systole  
 iii) Causes of bradycardia Pg 36  
 iv) Einthoven's law Pg 35  $II = I + III$

ing, disease  
 & damage  
 to the  
 system

Period from end of one heart contraction to a rise of next is called

INSTRUCTIONS:  
 1- All subjective part is to be submitted within 40 mins, no extra time will be given.  
 2- Neat handwriting; use of margins will increase the outlook/ presentation of your paper.

## TEST: HEART PHYSIOLOGY

### SUBJECTIVE PART

ATTEMPT ALL QUESTIONS; ALL QUESTIONS CARRY EQUAL MARKS.

TOTAL MARKS 30

Time = 40mins

DATE: 09-04-14

1. A) Draw and label normal ECG with normal waves, intervals and segments. (3)  
 B) What is the cause of each ECG wave. (2)
2. A) Draw and label ventricular Action Potential with respect to ionic bases of each phase. (3)  
 B) Explain the excitation contraction coupling in heart muscle. (2)
3. A) Draw and describe origin of cardiac impulse along with time scale. (3)  
 B) Explain ECG changes in heart block. (2)
4. A) Define Cardiac Cycle. Enumerate the events of cardiac cycle. (2.5)  
 B) Explain with help of diagram the pressure changes in left ventricle during a cardiac cycle. (2.5)
5. A) Enumerate the properties of cardiac muscles. (3)  
 B) Explain the automaticity in detail. (2)
6. A) Define & Classify Arrhythmias. (1)  
 B) What is Stoke Adam Syndrome? (1)  
 C) What is difference b/w Atrial Flutter & fibrillation? (1)

Automatic generation of impulses from SA node  
 Pacemaker is responsible for conduction of impulses.

### Emiliovani Law 15F

List heart sounds and their physiological causes etc.  
 Give characteristics of 1st heart sound

Significance of its 1st delay during

contraction etc.

**AZRA NAHEED MEDICAL COLLEGE**  
**LAHORE**

**1<sup>ST</sup> YEAR MBBS, 2014-15**  
**(PHYSIOLOGY)**

**INSTRUCTIONS**

1. All subjective parts to be attempted within 40mins, no extra time will be given.  
2. Neat handwriting, use of margins will increase the outlook (presentation) of your paper.

**UNIT TEST: HEART PHYSIOLOGY**

**SUBJECTIVE PART**

ATTEMPT ALL QUESTIONS; ALL QUESTIONS CARRY EQUAL MARKS.

TOTAL MARKS 30

Time - 40mins

DATE: 11-05-15

- Qno.1 A) Enumerate the properties of cardiac muscles. (2)  
B) Draw the action potential of ventricular muscle. Label all phases & ionic channels functioning for each phase. (3)
- Qno.2 A) Draw and label Pacer maker (S-A nodal) Action Potential. (3)  
B) Briefly describe the causes of pre potential? Explain the effect of sympathetic and parasympathetic nervous stimulation on SA nodal action potential? (2)
- Qno.3 A) Classify arrhythmia? Write down the major causes of arrhythmias? (3.5)  
B) Explain ECG changes in heart block (1.5)
- Qno.4 A) Define cardiac cycle. List all phases of cardiac cycle. (3)  
B) Explain with help of diagram the pressure changes in left ventricle during a cardiac cycle. (2)
- Qno.5 A) Draw and label normal ECG with normal waves, intervals and segments (3)  
B) What is the cause of each ECG wave (2)
- Qno.6 A) Enumerate the heart sounds audible with stethoscope in the normal adult person? Differentiate between the First heart sound and second heart sound? (1.5)  
B) Write short notes on (1.5)  
i) Stroke Atrial Syndrome (1)  
ii) Ejection fraction (1)  
iii) Causes of bradycardia (1)  
iv) Einthoven's law (0.5)

- Q1. Give examples of mild exercise. How much heart rate can be achieved with that?
- Q2. Give examples of moderate exercise. How much heart rate can be achieved with that?
- Q3. Give examples of severe exercise. How much heart rate can be achieved with that?
- Q4. Define isometric exercise. Give examples?
- Q5. Define isotonic exercise. Give examples?
- Q6. What happens to heart rate with increasing severity of exercise?
- Q7. What happens to systolic B.P. during exercise (and with increasing severity of exercise)?
- Q8. What happens to diastolic B.P. during mild, moderate and severe exercise?
- Q9. What are the effects of isometric and isotonic exercises on diastolic and systolic B.P.?
- Q10. What is the principle of the effect of posture on blood pressure?
- Q11. Define orthostatic hypotension? Enumerate few conditions in which it is observed?
- Q12. Why does B.P. fall on standing from lying down position?
- Q13. What is the mechanism by which B.P. comes to normal on standing from lying down position (after an initial decline)?

<https://www.nature.com/articles/1001377>

# To record Blood Pressure

## (OSPE & Viva Questions)

- 1- Define blood pressure
- 2- What is the normal value of blood pressure in a young Adult? 120/80 mmHg in range
- 3- What is Systolic pressure?
- 4- What is Diastolic pressure?
- 5- What is Pulse Pressure?
- 6- Define Mean Arterial pressure.
- 7- How can we calculate Mean arterial pressure?
- 8- What is the Principle of measuring blood pressure?
- 9- What are the different methods for measuring blood pressure?
- 10- What are the different Indirect methods for measuring blood pressure?
- 11- What are the advantages and disadvantages of Palpatory method?
- 12- What are the advantages and disadvantages of Auscultatory method?
- 13- What are Korotkoff's Sounds?
- 14- What is Auscultatory Graf?

- 15- What is Oscillatory Method?
- 16- Name the parts of a Sphygmomanometer.
- 17- Name the parts of a Stethoscope.
- 18- What are different devices used to measure blood pressure? (different types of Sphygmomanometer)
- 19- What can be the causes of Increased blood pressure?
- 20- Define Hypertension.
- 21- What changes occur in the blood pressure with advancing age?
- 22- (R) Name of cuff must.