PHYSIOLOGY DEPARTMENT
1st YEAR MBBS 2016-17

UNIT TEST: CIRCULATION

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

MARKS= 30
TIME = 40min

DATED: 10-07-2017

Q1. Define cardiac output & cardiac index? Give in detail the regulation of cardiac output?

Q2. A) Give an account of regulation of coronary circulation? (2.5)
B) Discuss the short term regulation of blood pressure & explain the baroreceptor reflex with the help of diagram? (2.5)

Q3. A) Define Shock? Give the changes which occur in compensated shock? (2.5)
B) A 40 year old female was undergoing gall bladder surgery in emergency OT. She was g complete anesthesia, after which her blood pressure suddenly dropped from 110/70mmHg to 60/40mmHg. (0.5+ 1
What is the probable diagnosis?
What is the reason for this drop in blood pressure?
What will be the treatment for this condition?

Q4. A) Define venous return? Explain the factors affecting venous return? (2
B) Give the laws of hemodynamics ? (3

Q5. A) Enumerate the heart sounds and give mechanism of production of each sound on Phonocardiogram? (2.
B) Briefly describe the changes which occur in the fetal circulation at birth? (2.

Q6. A) Briefly describe the mechanism of regulation of local blood flow? (3
B) Name the Starling forces regulating the capillary filtration? (2.

AZRA NAHEED MEDICAL COLLEGE LAHORE

DEPARTMENT OF PHYSIOLOGY

1ST YEAR MBBS 2014-2015

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.

UNIT TEST: CIRCULATION

SUBJECTIVE PART

ATTEMPT ALL QUESTIONS; ALL QUESTIONS CARRY EQUAL MARKS.

TOTAL MARKS: 30 DATED: 08-06-15

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 it is regulated in the body? (2.5)
   B) Define venous return? Briefly describe the control of venous return? (2.5)

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)

5. A) Discuss the regulation of coronary blood flow and give its significance? (3)
   B) Explain the long term regulation of arterial blood pressure? (2)

6. A) List the compensatory mechanism operating in reversible stage (compensated) of shock? (2.5)
   B) Enumerate the mechanism operating in progressive shock? (2.5)

DEPARTMENT OF PHYSIOLOGY

Cir- 3 Circulation

MBBS First year 2014-15

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? (5)
2. Define Cardiac Output. How is it regulated? (1+4
3. Define shock. Classify it. Give the mechanisms operating in progressive shock? (5)
4. A) Explain the mechanism of regulation of coronary blood flow? (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. (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)

AZRA NAHEED MEDICAL COLLEGE LAHORE

DEPARTMENT OF PHYSIOLOGY

1ST YEAR MBBS 2014-2015

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.

Circulation A

UNIT TEST: CIRCULATION

SUBJECTIVE PART

ATTEMPT ALL QUESTIONS; ALL QUESTIONS CARRY EQUAL MARKS.

TOTAL MARKS: 30

DATED: 03-06-15

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 it is regulated in the body? (2.5)
   B) Define venous return? Briefly describe the control of venous return?

3. A) Briefly discuss the mechanism of long term control of blood flow?
   B) Outline the humoral control of circulation by enlisting vasoconstrictor and vasodilator agents acting on the blood vessels? (5)

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)

5. A) Discuss the regulation of coronary blood flow and give its significance? (3)
   B) Explain the long term regulation of arterial blood pressure? (2)

6. A) List the compensatory mechanism operating in reversible stage (compensated) of shock? (2.5)
   B) Enumerate the mechanism operating in progressive shock? (2.5)

→ Give mechanism of tissue fluid formation

6-a- Baroteceptor reflex
CNS Ischemic response
Remisse stress relax Mechanism
Renin secretion by Kidney and form Angiotensin II
secretion of epi & nor-epinephren from adrenal medul
secretion of vaspression from posteal pituitary gland

COLLEGE LAHORE

DEPARTMENT OF PHYSIOLOGY

MBBS First year 2012-17

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: 25-06-13

1. Give the laws of hemodynamics governing over the blood flow in the blood vessels? (5)
2. Define Cardiac Output. How is it regulated? (1+4)
3. Define shock. Classify it. Give the mechanisms operating in progressive shock? (5)
4. A) Explain the mechanism of regulation of coronary blood flow? (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. (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)

S1 → produced during → AV valve closed
- i- Isovolumic contraction
- ii- ejection
- iii- Atrial systole

S2 → produced during → semilunar valve closed
- i- Isovolumic relaxation
- ii- diastole

S3 → rapid ventricular filling

S4 → late diastole due to contraction of atri

EAR MBBS, 2015-16
(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.

UNITTEST: HEART PHYSIOLOGY

SUBJECTIVE PART

ATTEMPT ALL QUESTIONS; ALL QUESTIONS CARRY EQUAL MARKS.
TOTAL MARKS 30 Time =40mins
DATE: 9-5-2016

Q1. A) List the properties of cardiac muscle? (2)
B) Explain the phenomenon of refractory period and Tetanization in cardiac muscle? (3)

Q2. A) Draw and label pacemaker potential? (2.5)
B) Give an impact of sympathetic and parasympathetic nervous stimulation on pacemaker potential? (2.5)

Q3. Define ECG? Draw and label normal ECG showing all the waves,intervals and segments. (5)

Q4. A) Define arrhythmia? Give its causes. (2.5)
B) Give a comparison between atrial flutter and atrial fibrillation? (2.5)

Q5. A) Define cardiac cycle? Enlist the phases of cardiac cycle? (2.5)
B) Draw pressure changes in left ventricle during the cardiac cycle? (2.5)

Q6. A) List the heart sounds and expain the physiological mechanism for their production. (2)
B) Enumerate the heart sounds which you can record in an adult person on phonocardiogram? (1)
C) 55 years old Hamida begum has presented in emergency. On ECG, PR- interval=0.34seconds.No other abnormality was found. (1+1)
a) Diagnose the disease?
b) Give the pathophysiology of disease?

AZRA NAHEED MEDICAL COLLEGE LAHORE

PHYSIOLOGY DEPARTMENT
1st YEAR MBBS 2017-18

UNIT TEST: Heart

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

MARKS= 30 DATED: 14-05-2018
TIME = 40min

Q1. A) Enumerate the properties of cardiac muscle? **(2 + 3)**
B) Explain in detail mechanism of automaticity & pacemaker potential

Q2. A) Draw ventricular action potential & explain the ionic events in each phase? **(2.5 + 2.5)**
B) Draw conduction pathway of cardiac muscle with time scale?

Q3. A) Draw & label normal ECG. **(3 + 2)**
B) A 40 year- old male patient's ECG shows gradual prolongation of PR interval from normal 0.16 sec to 0.20 [illegible] appearance of QRS complex.

I. **What is the probable diagnosis on the basis of these ECG findings?**
II. **What is the pathophysiology of this condition**

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?

(1+1+2+1)

Q6. Define the following:

I. **Frank starling law in heart**
II. **Tetanization in cardiac muscle**
III. **Difference between atrial flutter & fibrillation**
IV. **Enthovian triangle**

YEAR MBBS, 2013-14

(PHYSIOLOGY)

2013

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

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 muscles. (2)
3. A) Draw and describe origin of cardiac impulse along with time scale. (3)
   B) Explain ECG changes in heart blocks. (2)
4. A) Define Cardiac Cycle. Enlist 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? (2)
   C) What is difference b/w Atrial Flutter & Fibrillation? (2)

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

Q no.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. Muscle F27 (3)

Q no.2. A) Draw and label Pace maker(S-A nodal) Action Potential. F27 (3)
B) Briefly describe the causes of pre potential ? Explain the effect of sympathetic and parasympathetic nervous stimulation on SA nodal action potential.? (2)

Abnormal rhythm of the heart beats

Q no.3 A) Classify arrhythmia? Write down the major causes of arrhythmias? F37 (3.5)
B) Explain ECG changes in heart block (1.5)

Q no.4 A) Define cardiac cycle. List all phases of cardiac cycle F29, 29 (3)
B) Explain with help of diagram the pressure changes in left ventricle during a cardiac cycle. G105 (2)

Q no.5 A) Draw and label normal ECG with normal waves, intervals and segments F33 (3)
B) What is the cause of each ECG wave F34 (2)

Q no.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
i) Stoke Adam Syndrome F39 → Fraction volume of end diastolic vol that is ejected during (1)
ii) Ejection fraction → F29 (1)
iii) Causes of bradycardia F37 (1)
iy) Einthoven's law F35 (0.5)

Q2. B) Leaky sodium ion to Na+ channel · cause depolarization
Spontaneous hypopolarization of cell membrane. ↓K+ efflux cause

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

TEST: CIRCULATORY SYSTEM

SUBJECTIVE PART

ATTEMPT ALL QUESTIONS; ALL QUESTIONS CARRY EQUAL MARKS.

TOTAL MARKS 30 Time = 40mins

DATE: 14-05-14

1. Give the laws of hemodynamics governing over the blood flow in the blood vessels? (5)

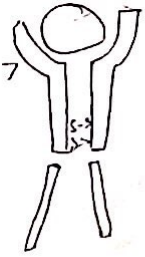
2. Define shock. Classify it according to causes. Give the compensatory mechanisms operating in non-progressive compensated shock? (5)

3. List the different Starling's forces or pressures acting on capillary level & give the mechanism of tissue fluid formation? (5)

4. Enumerate different BP regulatory mechanisms. Explain the role of kidney in long term regulation of BP? Draw and describe origin of cardiac impulse along with time scale (5)

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. (2.5)

6. A) Explain the mechanism of regulation of coronary blood flow? (2.5)
   B) A middle-aged man was presented in emergency with severe chest pain, profuse sweating, difficulty in breathing and pink frothy sputum coming out of mouth. After maintaining ABC (airway, breathing and circulation), doctor sent blood sample for cardiac enzymes. His troponin T was elevated.
   (i) Give your diagnosis. (0.5)
   (ii) Give the causes of death in above mentioned case. (2)



SEQs (SHORT EASSY TYPE QUESTIONS)

ATTEMPT ALL QUESTIONS.ALL QUESTIONS CARRY EQUAL MARKS.

MARKS= 30
TIME= 40min
SEQs

DATED: 11-07-20

1. 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)

2. 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. (1+
i. What is the probable diagnosis? Neurogenic Shock
ii. What is the reason for this drop in blood pressure? → Head down
iii. What will be the treatment for this condition? → fluid resuscitation → Ionotropics

3. Define cardiac output and cardiac index? Give in detail the regulation of cardiac output? (5)

4. A) Briefly describe the mechanism of regulation of local blood flow? (3)
B) Name the Starling forces regulating the capillary filtration? (2.5)

5. A) Define heart failure. What are the dynamics of compensated heart failure? (2.5)
B) Briefly describe the changes which occur in the fetal circulation at birth? (2.5)

6. Define the following (1+1+2+1)
i. Poiseuille's law
ii. Ohm's law
iii. peripheral resistance in series and parallel vascular circuits
iv. mean systemic filling pessure

Ans i This law state that blood flow is directly proportion to pressure and [illegible] of radius while inversely proportion to viscosity and length of vessel.

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.

TEST: CIRCULATORY SYSTEM

SUBJECTIVE PART

ATTEMPT ALL QUESTIONS; ALL QUESTIONS CARRY EQUAL MARKS.

TOTAL MARKS 30 | Time = 40mins

DATE: 14-05-14

1. Give the laws of hemodynamics governing over the blood flow in the blood vessels? (5)

2. Define shock. Classify it according to causes. Give the compensatory mechanisms operating in non-progressive compensated shock? (5)

3. List the different Starling's forces or pressures acting on capillary level & give the mechanism of tissue fluid formation? (5)

4. Enumerate different BP regulatory mechanisms. Explain the role of kidney in long term regulation of BP? Draw and describe origin of cardiac impulse along with time scale. (5)

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. (2.5)

6. A) Explain the mechanism of regulation of coronary blood flow? (2.5)
   B) A middle-aged man was presented in emergency with severe chest pain, profuse sweating, difficulty in breathing and pink frothy sputum coming out of mouth.
   After maintaining ABC (airway, breathing and circulation), doctor sent blood sample for cardiac enzymes. His troponin T was elevated.

   i. Give your diagnosis. (0.5)
   ii. Give the causes of death in above mentioned case. (2)

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AZRA NAHEED MEDICAL COLLEGE LAHORE

First test of MBBS First year 2012-17

(Physiology)

Circulation

INSTRUCTIONS

1-All subjective part is to be submitted within [illegible] time will be given.

2-Neat handwriting, use of margins will increase the outlook /presentation of your paper.

SUBJECTIVE PART

ATTEMPT ALL QUESTIONS; ALL QUESTIONS CARRY EQUAL MARKS.

TOTAL MARKS 30

DATED: 13-05-13

1. Give the laws of hemodynamics governing over the blood flow in the blood vessels? (5)
2. Define Cardiac Output. How is it regulated? (1+4)
3. Define shock. Classify it. Give the compensatory mechanisms operating in non-progressive compensated shock? (5)
4. A) Explain the mechanism of regulation of coronary blood flow? (3)
   B) Give the causes of death in acute coronary artery occlusion & MI? (2)
5. Write the different Starling's forces or pressures acting on capillary level & give the mechanism of tissue fluid formation? (5)
6. Enumerate different BP regulatory mechanisms. Explain the role of kidney in long term regulation of BP? (5)

Q-3 a. Write down the hemodynamic law which explain the relation of blood flow and diameter of blood vessel. (1 mark)

b. During exercise, the blood vessels in exercising muscles becomes dilated to fulfil the extra oxygen demand. Enlist the mechanisms which enables blood vessels to become dilated. (1.5 marks)

c. During a practical performance on a 20 years old boy with the help of power lab, heart sounds were recorded. Mention the name of record of heart sounds and outline the mechanism of production of all four heart sound.
(2.5 marks)

Q 5-A) A patient with a history of myocardial infarction was brought to emergenc because he became unconscious without any warning; his color was pale and his pulse rate during the episode was 40/min. His ECG showed dissociation between the rhythm of the P waves and that of the QRS-T complexes; he regained consciousness after few seconds.

a. Which is the most likely diagnosis? (0.5 marks)

b.What is the underlying mechanism for such abnormality? (1 mark)

c.Which is the mechanism by which patient recovered? (1 mark)

B) With the help of diagram show the effect of sympathetic stimulation on pacemaker potential. Briefly explain its mechanism. (2.5 marks

AZRA NAHEED MEDICAL COLLEGE LAHORE

1st Year MBBS

Cardiovascular module

24th June. 2020

SUBJECTIVE PART (SEQs)

TOTAL MARKS: 30

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

Q 1- a. Define cardiac cycle. Enlist the phases of cardiac cycle.

(1+2 marks)

b. Draw the pressure changes in left ventricle during cardiac cycle.

(2 marks)

Q 2- a. Define ECG. (1 mark)

b. Draw and label a normal ECG. (2 marks)

c. Which parameters can be calculated from ECG? (2 marks)

Q 6- a. In patients of hemorrhage, long term mechanism of blood pressure regulation play an important role. Discuss how renin angiotensin aldostero system (RAAS) help in regulating blood pressure in such patients of low blood pressure in the form of flow chart. (3 marks)

b. A cardiac patient was found to have left ventricular pressure of 180 mm Hg and aortic pressure of 110 mm of Hg during systole on echocardiograp What could be the cause of this high left ventricular pressure in this patie Name the condition. (1 marks)

c. What type of abnormal heart sound you will hear in aortic area in the patient mentioned in part b? (1 marks)

Q 4- a. Make a flow chart depicting the regulation of blood pressure immediately when a person stands up after prolong lying and experience slight fall in mean arterial pressure of 10mm of Hg.

(3 marks)

b. Trace the conducting pathway with complete labelling of its differen components along with time taken by impulse. (2 marks

First YEAR MBBS 2013-14
(Physiology-Subjective)

INSTRUCTIONS
objective part is to be submitted within 2 hours 10 minutes, no extra time will be given
handwriting, use of margins will increase the outlook /presentation of your paper

SEND-UP EXAMINATION (2014) - SEQ PAPER

ATTEMPT ALL QUESTIONS; ALL QUESTIONS CARRY EQUAL MARKS.

MARKS = 50 DATED: 12-09-14 Time = 2 hours 10 min

A) List all means of transport across the cell membrane.
B) What is Secondary active transport? Explain its different types with examples.

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.
B) Write to discuss the regulation of rate of Erythropoiesis in humans.

A) Describe neuromuscular junction and transmission with the help of a diagram.
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.

i. What is the most probable diagnosis?
ii. Explain the underlying pathophysiology of the disease.
iii. How can she be treated?

Q4. A) Draw and label normal ECG with normal waves, intervals and segments.
B) What is the cause of each ECG wave?

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.

i. What is the role of baroreceptors in this case to regulate the blood pressure?
ii. How kidneys will play their role to regulate the blood pressure?

Q6. A) Define cardiac output, stroke volume, end diastolic volume and end systolic volume.
B) Discuss in detail the regulation of cardiac output.

Q7. A) Draw and describe origin, conduction of cardiac impulse along with time scale.
B) Explain ECG changes in different types of heart blocks.

Q8. A) Draw and label Oxy – Hb dissociation curve. Also show the point for P50.
B) Enlist the factors shifting the curve to right.

Q9. A) Define compliance. Explain it with help of compliance graph. List the factors on which it depends.
B) A deep sea diver ascends rapidly to sea level, experiences severe headache, chest pain, difficulty in breathing and muscle and joint pains.

i. Diagnose the disease.
ii. Explain physiological reason of these symptoms
iii. How can this person be treated?

Q10. A) Describe the mechanism of heat loss by sweating and the impact of acclimatization on it.
B) A 55 year old laborer was brought unconscious to the emergency department. He was reported that he had been working in the sun continuously for the past several hours.

i. From what condition he suffered from?
ii. What are the reflex thermoregulatory mechanisms in the body taking place in him for heat loss

THE SUPERIOR COLLEGE, LAHORE

1ST PROFESSIONAL MBBS (PART - I)

ANNUAL EXAMINATION 2014

PHYSIOLOGY

depolarization

SEQs

Instructions

1. All SEQ's are to be attempted on the paper and returned to the invigilator within 2 HOURS after you have received the question paper.
2. Any cuttings or overwriting in answering the objective part will not be accepted and no marks will be given even if the answer is correct.
3. Write your Roll No. only on the perforated portion of the title page.
4. Do not write your name or disclose your identity in anyway.

depolarization

ATTEMPT ALL QUESTIONS; ALL QUESTIONS CARRY EQUAL MARKS.

Q1. A) What do you mean by gene expression? (1.5)
B) Explain the chemical steps of translation. (3.5)

Q2. A) List all means of transport across the cell membrane. (2)
B) Compare simple diffusion and facilitated diffusion. (3)

Q3. A) Describe the stages of Erythropoises with the help of diagram. 105 F (2)
B) A young man received a cut during shaving which started bleeding but after few minutes the bleeding stopped spontaneously.
i. Name the mechanism involved in the spontaneous arrest of bleeding in this man. (0.5)
ii. Give the steps of this mechanism. (1.5)
iii. Which mechanism of blood clotting is involved in this case? (1)

Q4. A) Draw a nerve fiber action potential, label all phases, and explain also the events occurring in different ionic channels. (3)
B) Define the following:
i. Chronaxie (1)
ii. Rigor Mortice (1)

Q5. A) Draw and label normal ECG with normal waves, intervals and segments. (3)
B) What is the cause of each ECG wave? (2)

Q6. A) List the changes in circulatory system during exercise? 58 F (2)
B) During the medical checkup of a healthy man of 20 years, which heart sounds can be auscultated? Give their features and mechanism of production. (3)

Q7. A) Define cardiac output and cardiac index. (2)
B) Discuss in detail the regulation of cardiac output. 57 F (3)

Q8. A) Draw and label Oxy – Hb dissociation curve. Also show the point for P50. (3)
B) Enlist the factors shifting the curve to right. (2)

Q9. A) What is temperature regulation? Give the possible role of hypothalamus. (2)
B) Describe the mechanism of heat loss by sweating and the impact of acclimatization on it. (3)

1ST 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. (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 Pace 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.5A) Draw and label normal ECG with normal waves, intervals and segments (3)
B) What is the cause of each ECG wave (2)

Qno.6A) 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
i) Stoke Adam Syndrome (1)
ii) Ejection fraction (1)
iii) Causes of bradycardia (0.5)
iv) Einthoven's law

First YEAR MBBS 2014-15
(Physiology-Subjective)

INSTRUCTIONS

1-All subjective part is to be submitted within 2 hours 10 minutes, no extra time will be given
2-Neat handwriting, use of margins will increase the overall presentation of your paper

GRAND TEST (2015) - SEQ PAPER

ATTEMPT ALL QUESTIONS; ALL QUESTIONS CARRY EQUAL MARKS.

TOTAL MARKS = 50 DATED: 24-8-15 Time = 2 hours 10 min

A) List all means of transport across the cell membrane. (2)
B) What is Secondary active transport? Explain its different types with examples. (3)

A) If an 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)

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.
   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)

A) Draw and label normal ECG with normal waves, intervals and segments. (3)
B) What is the cause of each ECG wave? (2)

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.
   i. What is the role of baroreceptors in this case to regulate the blood pressure? (2.5)
   ii. How kidneys will play their role to regulate the blood pressure? (2.5)

A) Define cardiac output, stroke volume, end diastolic volume and end systolic volume. (2)
B) Discuss in detail the regulation of cardiac output. (3)

A) Draw and describe origin, conduction of cardiac impulse along with time scale. (3)
B) Explain ECG changes in different types of heart blocks. (2)

A) Draw and label Oxy – Hb dissociation curve. Also show the point for P50. (3)
B) Enlist the factors shifting the curve to right. (2)

A) Define compliance. Explain it with help of compliance graph. List the factors on which it depends. (3)
B) A deep sea diver ascends rapidly to sea level, experiences severe headache, chest pain, difficulty in breathing and muscle and joint pains.
   i. Diagnose the disease. (1)
   ii. Explain physiological reason of these symptoms. (0.5)
   iii. How can this person be treated? (0.5)

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)

Collateral circulation

AZRA NAHEED MEDICAL COLLEGE LAHORE

PHYSIOLOGY DEPARTMENT
1st Year MBBS 2017-18

SEND UP EXAM

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

MARKS= 50
TIME = 2 hrs

DATED: 24-09-2018

Q1- A) Enlist the means of transport across the membrane? (1.5+1.5+2)
B) Differentiate between Simple and facilitated diffusion? At least three points
C) Define active transport. Give its types and explain primary active transport with the help of examples.

Q2- A) Define inflammation? Explain in detail the responses of different WBCs during inflammation?
B) Enumerate the components of "monocyte macrophage system"? What does the macrophages in the liver sinusoids called? Which type of immunity is provided by this system? (3+2)

Q3- A) Enlist the transfusion reaction in case of mismatch blood transfusion? (3+2)
B) A 27 year old healthy woman who's blood type is B-ve. delivered her second child with a blood group B+ve. The father's blood type is also B+ve. What will you expect to find in the child?

Q4- A) Classify nerve fibers according to their conduction velocity? (2+3)
B) Draw nerve fiber action potential, label all the phases and describe the ionic events involved in these phases.

Q5- Explain the mechanism of muscle contraction in detail with emphasis on the molecular mechanism of muscle contraction? (5)

Q6- A) Draw and label defecation reflex? What will happen to the defecation reflex if the spinal complete section occurs above S2 level of spinal cord (3+2)
B) A 30-year-old male came to the outdoor with history of moderate degree of pain in epigastrium, especially just after taking meal. The pain become intense with spicy & hot food & is relieved with taking chilled milk.

i. What is the probable diagnosis?
ii. What is the treatment for this condition?

Q7- A) Draw & label normal ECG. Discuss the physiological and clinical significance of PR interval. (3+2)
B) A 40 year- old male patient's ECG shows constant prolongation of PR interval from normal 0.16 sec to 0.24 with the disappearance of QRS complex.

I. What is the probable diagnosis on the basis of these ECG findings?
II. What is the pathophysiology of this condition.

Q8. A) Discuss the short term regulation of blood pressure & explain the baroreceptor reflex with the help of diagram
B) A 50 year old woman undergoing a surgery experiences a rapid drop in blood pressure (50/30mmHg) after induction of spinal anesthesia. Her ECG shows normal sinus rhythm. (2.5+1+ 1+ 0.5)

i. What is the probable diagnosis?
ii. What is the reason for this drop in blood pressure?
iii. What will be the treatment for this condition?

Q9- A) Define heart failure. What are the dynamics of compensated heart failure?
B) Briefly describe the mechanism of regulation of local blood flow? (2.5+2.5)

Q10-A) Draw O2-Hb dissociation curve. (2+1.5+1.5)
B) Explain in detail the effect of exercise on O2-Hb dissociation curve?
C) Define P_{50} & explain the effect of exercise on P_{50}.

O2-Hb curve will shift to right