

21/11/20
cellular level
circulation

AZRA NAHIED MEDICAL COLLEGE LAHORE

PHYSIOLOGY DEPARTMENT
1st Year MBBS 2017-18

SEND UP EXAM

SEQS (SHORT ESSAY 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?
 B) Draw nerve fiber action potential, label all the phases and describe the ionic events involved in these phases. (2+3)
- 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) 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.
 B) Explain in detail the effect of exercise on O2-Hb dissociation curve?
 C) Define P₅₀ & explain the effect of exercise on P₅₀. (2+1.5+1.5)

O₂-Hb curve will shift to right.

THE SUPERIOR COLLEGE, LAHORE

1st PROFESSIONAL MBBS (PART - I)
SUPPLEMENTARY EXAMINATION 2014

PHYSIOLOGY

SEOS

TOTAL MARKS: 45

TIME: 2 1/2 HOURS

Roll No. _____

Instructions

- All answers must be attempted on the paper and returned at the stipulated time 2 1/2 HOURS after you have received the question paper.
- Any scribbles or overwriting in answering the objective part will not be accepted and no marks will be given even if the answer is correct.
- Write your Roll No. only on the perforated portion of the title page.
- Do not write your name or draw line your identity in anyway.

ATTEMPT ALL QUESTIONS; ALL QUESTIONS CARRY EQUAL MARKS.

- Q1. A) What is primary active transport? Explain it with an example. (2)
 B) Compare the iron deficiency anemia with megaloblastic anemia. (3)

- Q2. Define immunity. Give classification of immunity. Give the mechanism of cellular immunity. (5)

- 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.

- What is the most probable diagnosis? (1)
- Explain the underlying pathophysiology of the disease. (0.5)
- How can she be treated? (0.5)

- Q4. A) Draw and label cardiac ventricular action potential with all phases. Mention ionic bases of each phase. (3)

- B) Enumerate the properties of cardiac muscle. (2)

- Q5. Give the laws of hemodynamics governing over the blood flow in the blood vessels? (5)

- Q6. 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.

- What is the role of baroreceptors in this case to regulate the blood pressure? (2.5)
- How kidneys will play their role to regulate the cardiac output? (2.5)

- Q7. What are volume changes in the ventricles in cardiac cycle? Define ejection fraction. (4, 1)

- Q8. A) Describe in detail the nervous control of respiration. (2)

- B) Define compliance. Explain it with help of compliance graph. List the factors on which it depends. (3)

- Q9. A) What is core body temperature? Give the normal range. How it differs from skin temperature? (2.5)

- B) Abdullah, a Pak. Army soldier, gets entrapped in snow storm while performing his duties on Siachin Glacier. His right leg till mid calf remained embedded in a heap of snow for at least 10 minutes till the rescue team arrived.

- What will he suffer from? (1)
- Give the details of changes that could have taken place in his body and their outcome. (1.5)

AZRA NAHED MEDICAL COLLEGE LAHORE

PHYSIOLOGY DEPARTMENT
1st Year MBBS 2017-18

SEND UP EXAM

Farheen Akhtar
112

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

MARKS= 50
TIME = 2 hrs

DATED: 24-09-2018

- Q1. Enlist the means of transport across the membrane?
a) Differentiate between Simple and facilitated diffusion? At least three points
b) Define active transport. Give its types and explain primary active transport with the help of examples. (1.5+1.5+2)
- Q2. 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. Enlist the transfusion reaction in case of mismatch blood transfusion?
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? *carbohydrated fetal cells* (3+2)
- Q4. Classify nerve fibers according to their conduction velocity?
B) Draw nerve fiber action potential, label all the phases and describe the ionic events involved in these phases. (2+3)
- Q5. Explain the mechanism of muscle contraction in detail with emphasis on the molecular mechanism of muscle contraction?
Q6. Draw and label defecation reflex? What will happen to the defecation reflex if the spinal complete section occurs above S2 level of spinal cord?
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? *peptic ulcer* (3+2)
- Q7. Draw & label normal ECG. Discuss the physiological and clinical significance of PR interval.
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? *bundle branch block* (3+2)
- Q8. 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.
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? *epinephrine 1 mg* (2.5+1+0.5)
- Q9. Define heart failure. What are the dynamics of compensated heart failure?
B) Briefly describe the mechanism of regulation of local blood flow? *autoregulation* (2.5+2.5)
- Q10. Draw O2-Hb dissociation curve.
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} . (2+1.5+1.5)

7-12d

7-12 d
4-7 d
15-4 d
5-15 d

THE SUPERIOR COLLEGE, LAHORE

1st PROFESSIONAL MBBS (Part-1)
ANNUAL EXAMINATION 2015**PHYSIOLOGY****SEO'S**

Time Allowed: 2 hours & 15 minute

Total Marks: 45

Instructions

- The SEO's part is to be submitted within 2 hours & 15 minute, Extra time will not be given.
- Neat Hand Writing use of margin and marker for headlines will increase the presentation of your paper.
- Do not write your name or disclose your identity in anyway.

- Q1. A) Define Gene expression? (2) *Q-15/24/8m*
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.

- What is the most probable diagnosis? (0.5)
- Explain the underlying pathophysiology of the disease. (1)
- How can she be treated? (1)

- Q3. Define immunity.
Give classification of immunity.
Explain the mechanism of tissue rejection.

- 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=80'000/mm³ and clotting time is normal while Bleeding time is prolonged?
A) What is your diagnosis? (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
B) Enumerate the mechanisms operating in progressive shock? (2.5) + (2.5)

- Q7. A) write note on deep sea diving (2)
B) List 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. What is P50? (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 (2.5)
B) Name the hormones secreted by small intestine. Give the functions of gastrin? (2.5)



THE SUPERIOR COLLEGE, LAHORE

First Professional MBBS (Part-1) Supplementary Examination 2013
(PHYSIOLOGY)

SHORT ESSAY QUESTIONS (SEC'A)

Total Marks 45

Total Time: 2 Hours & 10 Mins

DATED: 22-11-2013

INSTRUCTIONS

- 1 All objective questions are to be attempted on the paper and returned to the invigilator within 50 mins.
2 Any cutting and re-writing in objective part will not be accepted.

ATTEMPT ALL QUESTIONS; ALL QUESTIONS CARRY EQUAL MARKS.

- Q1. Draw structure of the cell membrane. Enumerate its functions. (5)
- Q2. Draw and label normal Electrocardiogram with normal waves, intervals and segments. (3)
- Q3. What is the cause of each ECG wave? (2)
- Q4. Enumerate the properties of cardiac muscles. Explain the automaticity in detail. (3)
- Q5. Discuss briefly the mechanism of regulation of coronary circulation. (2)
- Q6. Define "Cardiac Output". Discuss the factors regulating cardiac output. (5)
- Q7. Give an account of the changes in circulatory system during exercise? (2.5)
- Q8. Discuss in detail the role of hypothalamus in regulating the body temperature. (2.5)
- Q9. Enumerate the stages of erythropoiesis. (3)
- Q10. Discuss briefly the regulation of erythropoiesis in human body. (2)
- Q11. Draw and label O₂ - Hb dissociation curve. (3)
- Q12. Enlist the factors shifting the curve to right. (2)
- Q13. A young lady with A negative blood group normally gave birth to a second baby who developed severe yellowish discoloration of skin and sclera (eye) just after birth. On examination liver and spleen were also enlarged. (3)
- Q14. What is your initial diagnosis? (3)
- Q15. What tests you will advise to new born and his mother? (3)
- Q16. How the mother can be treated to prevent future same event? (3)
- Q17. Give a brief account of function of Neutrophil in infection. (2)
- Q18. Discuss briefly the mechanism of skeletal muscle contraction. (5)



THE SUPERIOR COLLEGE, LAHORE

1st PROFESSIONAL MBBS
ANNUAL EXAMINATION 2018
PHYSIOLOGY

(S.C.O's)

Roll No.
Total Marks: 45

Time Allowed: 2 hours

Instructions

1. Attempt all questions.
2. All question carry equal marks.
3. Neat Hand Writing use of margin and marker for headlines will increase the presentation of your paper.
4. Do not write your name or disclose your identity in anyway.

Q-No: 1

- a) Draw and describe the biochemical components of cell membrane along with the functions of these components. 2
- b) Define and describe the mechanism and two in vivo examples of:
 - a. Endocytosis 1
 - b. Counter Transport 1
 - c. Secondary active Transport 1

Q-No: 2

- a) Define inflammation? Explain in detail the responses of different WBCs during inflammation? 3
- 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? 2

Q-No: 3

- a) Define and enlist different functional stages of Hemostasis. Describe the functions of Thrombocytes in Hemostasis. 2.5
- b) Define and classify different Human Blood Group Systems. Describe the Physiological Classification and Clinical significance of Rhesus Blood Group System. 2.5

Q-No: 4

- a) Define Resting membrane potential (RMP)? Describe the mechanism of its origin in a large myelinated nerve fiber? 2.5
- b) Classify nerve fibers according to conduction velocity. 1.5
- c) Compare the transmission of nerve impulse in myelinated and unmyelinated nerve fiber. 1.5

AZRA NAHEED MEDICAL COLLEGE LAHORE

First YEAR MBBS 2013-14

(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 outlook/presentation of your paper.

SEND-UP EXAMINATION (2014) - SEQ PAPER

ATTEMPT ALL QUESTIONS; ALL QUESTIONS CARRY EQUAL MARKS.

TOTAL MARKS = 50

DATED: 12-09-14

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 kidneys will play their role to regulate the blood pressure? (2.5)
- 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. (3)
B) Explain ECG changes in different types of heart blocks. (2)
- 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) 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. (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) Describe the mechanism of heat loss by sweating and the impact of acclimatization on it. (3)
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. (3)
i. From what condition he suffered from? (1)
ii. What are the reflex thermoregulatory mechanisms in the body taking place in him for heat loss? (1)

Cassion

RA NAHEED MEDICAL COLLEGE LAHORE

-15

Department of Physiology 1st YEAR MBBS (Session 2013-14) SENT-UP EXAMINATION

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 outlook /presentation of your paper.

TOTAL MARKS: 50

SUBJECTIVE PART (SEQs)

DATED: 18-08-14

ATTEMPT ALL QUESTIONS; ALL QUESTIONS CARRY EQUAL MARKS.

- ~~Q1.~~ A) Define "Homeostasis". (1)
B) Define the negative feedback mechanism and give its components in a control system. (1)
How it maintains the state of homeostasis in human body. Explain with at least one example. (4)
- ~~Q2.~~ A) Draw & label normal ECG with normal waves, intervals and segments. (3)
B) What is the cause of each ECG wave? (2)
- ~~Q3.~~ A) Give a comparison between iron deficiency and Megaloblastic anemias. (6 points at least) (3)
B) Discuss briefly the regulation of erythropoiesis in human body. (2)
- ~~Q4.~~ A) Define and draw "Action Potential" in a nerve fiber. Enlist its phases and ionic channel events in each phase. (3)
B) Compare the impulse conduction in myelinated and unmyelinated nerves. (2)
- ~~Q5.~~ A) Discuss briefly the mechanism of skeletal muscle contraction. (2.5)
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. (2.5)
 - i) What is the most probable diagnosis? (1)
 - ii) Explain the underlying pathophysiology of the disease. (1)
 - iii) How can she be treated? (0.5)
- ~~Q6.~~ Define "Cardiac Cycle". Briefly describe the events in systole and diastole. (5)
- ~~Q7.~~ A) Define "Cardiac Output". Enlist the factors regulating cardiac output. (3)
B) Diagrammatically explain left ventricular pressure changes during a cardiac cycle. (2)
- ~~Q8.~~ A) Define "Blood Pressure". (1)
B) Enlist the mechanisms causing "Short Term Regulation" of blood pressure. Explain briefly the baroreceptor reflex. (4)
- ~~Q9.~~ A) Draw Oxy-Hb dissociation curve and Give the factors shifting the curve to right side. (3)
B) A deep sea diver ascends to sea level quite rapidly. He develops severe pains in his body joints along with breathlessness and dizziness. (3)
 - i) Diagnose the disease. (1)
 - ii) What pathophysiology underlies this disease? (1)
- ~~Q10.~~ A) Describe the mechanism of heat loss by sweating and the impact of acclimatization on it. (2.5)
B) Discuss in detail the role of hypothalamus in regulating the body temperature. (2.5)

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AZRA NAHED MEDICAL COLLEGE LAHORE

PHYSIOLOGY DEPARTMENT
1st Year MBBS 2017-18

SEND UP EXAM

Fatzeen Akbar
112

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

MARKS= 50
TIME = 2 hrs

DATED: 24-09-2018

- Q1. Enlist the means of transport across the membrane?
a) Differentiate between Simple and facilitated diffusion? At least three points
b) Define active transport. Give its types and explain primary active transport with the help of examples. (1.5+1.5+2)
- Q2. 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. Enlist the transfusion reaction in case of mismatch blood transfusion?
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? *carbohydrated fetal cells* (3+2)
- Q4. Classify nerve fibers according to their conduction velocity?
B) Draw nerve fiber action potential, label all the phases and describe the ionic events involved in these phases. (2+3)
- Q5. Explain the mechanism of muscle contraction in detail with emphasis on the molecular mechanism of muscle contraction?
Q6. Draw and label defecation reflex? What will happen to the defecation reflex if the spinal complete section occurs above S₂ level of spinal cord?
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? *peptic ulcer* (3+2)
- Q7. Draw & label normal ECG. Discuss the physiological and clinical significance of PR interval.
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? *bundle branch block* (3+2)
- Q8. 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.
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? *epinephrine 1 mg* (2.5+1+0.5)
- Q9. Define heart failure. What are the dynamics of compensated heart failure?
B) Briefly describe the mechanism of regulation of local blood flow? *autoregulation* (2.5+2.5)
- Q10. Draw O₂-Hb dissociation curve.
B) Explain in detail the effect of exercise on O₂-Hb dissociation curve?
C) Define P₅₀ & explain the effect of exercise on P₅₀. (2+1.5+1.5)

7-12

7-12 27/1
4-7 20 2/3
15-4 20 1/3
5-15 20 1/3



THE SUPERIOR COLLEGE, LAHORE

First Professional MBBS (Part-I) Annual Examination 2013

(PHYSIOLOGY)

SUBJECTIVE (SEC-9)

Total Marks 45

DATED: 06-09-2013

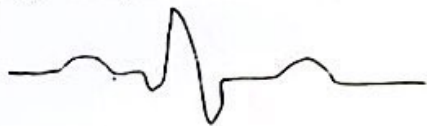
Total Time 2 Hrs & 10 Mins

INSTRUCTION
 1. All subjective parts to be submitted within 120 minutes. No extra time will be given.
 2. Neat handwriting, use of margins will increase the clarity/presentation of your paper.

ATTEMPT ALL QUESTIONS; ALL QUESTIONS CARRY EQUAL MARKS.

155

1. Compare and contrast primary active transport with secondary active transport. (5) (3)
2. Draw and label normal Electrocardiogram with normal waves, intervals and segments. (5) (2)
 What is the cause of each ECG wave? (3)
3. Define Cardiac Cycle. Enlist the events of cardiac cycle. (3) (3)
 Draw and label Cardiac Ventricular Action Potential and its phases and give ionic bases of each phase. (2)
4. Define blood pressure. List reflexes in short term control. Explain short term control of blood pressure. (5) (5)
 baroreceptor reflex.
5. Define "Cardiac Output". Enlist the factors regulating cardiac output. (5) (5)
6. What is saltatory conduction? Explain with the help of diagram. (5) (2)
 Define and draw a sarcomere. Enumerate changes occurring in it during muscle contraction. (3)
7. Define active immunity. Give its types. Explain cellular immunity, different types of T cells and their functions briefly. (5) (5)
8. Draw and label the respiratory membrane. (4) (2.5)
 Name the factors affecting the diffusion of gases across respiratory membrane. (2.5)
9. Describe the mechanism of heat loss by sweating and the impact of acclimatization on it. (3)
 A 6 year old boy bruises easily and has come with complaint 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. (4)
 i. Give your diagnosis. (1)
 ii. List the possible cause. (1)





THE SUPERIOR COLLEGE, LAHORE

1st PROFESSIONAL MBBS
ANNUAL EXAMINATION 2018
PHYSIOLOGY

(SEQ'S)

Roll No. 127
Total Marks: 45

Time Allowed: 2 hours

Instructions

1. Attempt all questions.
2. All question carry equal marks.
3. Neat Hand Writing use of margin and marker for headlines will increase the presentation of your paper.
4. Do not write your name or disclose your identity in anyway.

Q-No: 1

- a) Draw and describe the biochemical components of cell membrane along with the functions of these components. 2
- b) Define and describe the mechanism and two in vivo examples of:
 - a. Endocytosis
 - b. Counter Transport
 - c. Secondary active Transport1
1

Q-No: 2

- a) Define inflammation? Explain in detail the responses of different WBCs during inflammation? 3
- 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? 2

Q-No: 3

- a) Define and enlist different functional stages of Hemostasis. Describe the functions of Thrombocytes in Hemostasis. 2.5
- b) Define and classify different Human Blood Group Systems. Describe the Physiological Classification and Clinical significance of Rhesus Blood Group System. 2.5

Q-No: 4

- a) Define Resting membrane potential (RMP)? Describe the mechanism of its origin in a large myelinated nerve fiber? 2.5
- b) Classify nerve fibers according to conduction velocity. 1.5
- c) Compare the transmission of nerve impulse in myelinated and unmyelinated nerve fiber. 1.5

ZRA NAHEED MEDICAL COLLEGE LAHORE

Send up paper Part I,
MBBS 2015-16
(Physiology-Subjective)

INSTRUCTIONS

- 1-All subjective part is to be submitted within 120 minutes, no extra time will be given.
- 2-Neat handwriting, use of margins will increase the cutlook /presentation of your paper.

ATTEMPT ALL QUESTIONS; ALL QUESTIONS CARRY EQUAL MARKS.

TOTAL MARKS = 50
TIME = 2 hours 10 min

DATED: 22-9-2016

24. A) List the means of transport across the membrane? (2)
B) Define Active transport? Explain its types with examples? (3)
25. A) Draw the action potential in a nerve fiber. Explain all phases of action potential with ionic channels involved (3)
B) Explain the mechanism of impulse conduction in a myelinated nerve fiber. (2)
26. A) Explain the mechanism of muscle contraction. (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. (0.5)
i. What is the most probable diagnosis? (1)
ii. Explain the underlying pathophysiology of the disease. (1)
iii. How can she be treated? (2)
27. A) Define homeostasis. List all the steps involved? (2)
B) 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 in detail you will expect in this case (3)
28. Define shock. Classify it according to causes. Give the compensatory mechanisms operating in non-progressive compensated shock? (5)
29. A) Define cardiac output, stroke volume, end diastolic volume and end systolic volume. (3)
B) Discuss in detail the regulation of cardiac output. (2)
30. A) Draw and describe origin and conduction of cardiac impulse along with time scale. (3)
B) List the short term mechanisms for blood pressure regulation. (2)
31. A) Draw and label oxy Hb dissociation curve? Name the factors shifting the curve to the right side. (3)
What is P50?
B) A deep sea diver ascends rapidly to sea level, experiences severe headache, chest pain, difficulty in breathing and muscle and joint pains. (1)
i. Diagnose the disease. (0.5)
ii. Explain physiological reasons for these symptoms. (0.5)
iii. How can this person be treated (2)
32. A) Give a brief account of movements of large intestine? (2)
B) Draw and briefly explain defecation reflex? (3)
33. A) Define respiratory unit? Explain the factors affecting the rate of diffusion of gases across respiratory membrane? (3)
B) Describe the site of secretion & functions of gastrin hormone (2)

AZRA NAHEED MEDICAL COLLEGE LAHORE

First YEAR MBBS 2013-14

(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 outlook /presentation of your paper.

SEND-UP EXAMINATION (2014) - SEQ PAPER

ATTEMPT ALL QUESTIONS; ALL QUESTIONS CARRY EQUAL MARKS.

TOTAL MARKS = 50

DATED: 12-09-14

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 kidneys will play their role to regulate the blood pressure? (2.5)
- 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. (3)
B) Explain ECG changes in different types of heart blocks. (2)
- 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) 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. (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) Describe the mechanism of heat loss by sweating and the impact of acclimatization on it. (3)
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. (3)
i. From what condition he suffered from? (1)
ii. What are the reflex thermoregulatory mechanisms in the body taking place in him for heat loss? (1)

Cassion

RA NAHEED MEDICAL COLLEGE LAHORE

-15

Department of Physiology 1st YEAR MBBS (Session 2013-14) SENT-UP EXAMINATION

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 outlook /presentation of your paper.

TOTAL MARKS: 50

SUBJECTIVE PART (SEQs)

DATED: 18-08-14

ATTEMPT ALL QUESTIONS; ALL QUESTIONS CARRY EQUAL MARKS.

- ~~Q1.~~ A) Define "Homeostasis". (1)
B) Define the negative feedback mechanism and give its components in a control system. (1)
How it maintains the state of homeostasis in human body. Explain with at least one example. (4)
- ~~Q2.~~ A) Draw & label normal ECG with normal waves, intervals and segments. (3)
B) What is the cause of each ECG wave? (2)
- ~~Q3.~~ A) Give a comparison between iron deficiency and Megaloblastic anemias. (6 points at least) (3)
B) Discuss briefly the regulation of erythropoiesis in human body. (2)
- ~~Q4.~~ A) Define and draw "Action Potential" in a nerve fiber. Enlist its phases and ionic channel events in each phase. (3)
B) Compare the impulse conduction in myelinated and unmyelinated nerves. (2)
- ~~Q5.~~ A) Discuss briefly the mechanism of skeletal muscle contraction. (2.5)
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.
i) What is the most probable diagnosis? (1)
ii) Explain the underlying pathophysiology of the disease. (1)
iii) How can she be treated? (0.5)
- ~~Q6.~~ Define "Cardiac Cycle". Briefly describe the events in systole and diastole. (5)
- ~~Q7.~~ A) Define "Cardiac Output". Enlist the factors regulating cardiac output. (3)
B) Diagrammatically explain left ventricular pressure changes during a cardiac cycle. (2)
- ~~Q8.~~ A) Define "Blood Pressure". (1)
B) Enlist the mechanisms causing "Short Term Regulation" of blood pressure. Explain briefly the baroreceptor reflex. (4)
- ~~Q9.~~ A) Draw Oxy-Hb dissociation curve and Give the factors shifting the curve to right side. (3)
B) A deep sea diver ascends to sea level quite rapidly. He develops severe pains in his body joints along with breathlessness and dizziness.
i) Diagnose the disease. (1)
ii) What pathophysiology underlies this disease? (1)
- ~~Q10.~~ A) Describe the mechanism of heat loss by sweating and the impact of acclimatization on it. (2.5)
B) Discuss in detail the role of hypothalamus in regulating the body temperature. (2.5)

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Send up paper Part I,
MBBS 2015-16
(Physiology-Subjective)

INSTRUCTIONS

- 1-All subjective part is to be submitted within 120 minutes, no extra time will be given.
2-Neat handwriting, use of margins will increase the outlook /presentation of your paper.

ATTEMPT ALL QUESTIONS; ALL QUESTIONS CARRY EQUAL MARKS.

TOTAL MARKS = 50
TIME = 2 hours 10 min

DATED: 22-9-2016

- Q. A) List the means of transport across the membrane? (2)
B) Define Active transport? Explain its types with examples? (3)
- Q2.A) Draw the action potential in a nerve fiber. Explain all phases of action potential with ionic channels involved (3)
B) Explain the mechanism of impulse conduction in a myelinated nerve fiber. (2)
- Q3. A) Explain the mechanism of muscle contraction. (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.
i. What is the most probable diagnosis? (0.5)
ii. Explain the underlying pathophysiology of the disease. (1)
iii. How can she be treated? (1)
- Q4. A) Define hemostasis. List all the steps involved? (2)
B) 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 in detail you will expect in this case (3)
- Q5. Define shock. Classify it according to causes. Give the compensatory mechanisms operating in non-progressive compensated shock? (5)
- Q6. A) Define cardiac output, stroke volume, end diastolic volume and end systolic volume. (2)
B) Discuss in detail the regulation of cardiac output. (2)
- Q7. A) Draw and describe origin and conduction of cardiac impulse along with time scale. (3)
B) List the short term mechanisms for blood pressure regulation. (2)
- Q8. A) Draw and label oxy Hb dissociation curve? Name the factors shifting the curve to the right side. What is P50? (3)
By 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 reasons for these symptoms. (0.5)
iii. How can this person be treated (0.5)
- Q9. A) Give a brief account of movements of large intestine? (2)
B) Draw and briefly explain defecation reflex? (3)
- Q10. A) Define respiratory unit? Explain the factors affecting the rate of diffusion of gases across respiratory membrane? (3)
B) Describe the site of secretion & functions of gastrin hormone (2)

AZRA NAHED MEDICAL COLLEGE LAHORE

PHYSIOLOGY DEPARTMENT
1st Year MBBS 2017-18

SEND UP EXAM

SEQ (SHORT ESSAY TYPE QUESTIONS)

ATTEMPT ALL QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.

MARKS= 50
TIME = 2 hrs

DATED: 24-09-2018

Fatzeen Akbar
112

- Q1. Explain the means of transport across the membrane?
a) Differentiate between Simple and facilitated diffusion? At least three points
b) Define active transport. Give its types and explain primary active transport with the help of examples. (1.5+1.5+2)
- Q2. 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. Explain the transfusion reaction in case of mismatch blood transfusion?
b) A 27 year old healthy woman who's blood type is B+, delivered her second child with a blood group B+. The father's blood type is also B+. What will you expect to find in the child? (3+2)
- Q4. Classify nerve fibers according to their conduction velocity?
b) Draw nerve fiber action potential, label all the phases and describe the ionic events involved in these phases. (2+3)
- Q5. Explain the mechanism of muscle contraction in detail with emphasis on the molecular mechanism of muscle contraction?
a) Draw and label defecation reflex? What will happen to the defecation reflex if the spinal complete section occurs above the level of spinal cord? (5)
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 becomes intense with spicy & hot food & is relieved with taking chilled milk. What is the probable diagnosis? What is the treatment for this condition? (3+2)
- Q6. Draw & label normal ECG. Discuss the physiological and clinical significance of PR interval.
b) A 60 year-old male patient's ECG shows constant prolongation of PR interval from normal 0.16 sec to 0.24 sec with the disappearance of QRS complex. (3+2)
I. What is the probable diagnosis on the basis of these ECG findings?
II. What is the pathophysiology of this condition?
- Q8. 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 (NO. 20mmHg) 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. 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. Draw O₂-Hb dissociation curve.
b) Explain in detail the effect of exercise on O₂-Hb dissociation curve?
c) Define P₅₀ & explain the effect of exercise on P₅₀. (2+1.5+1.5)

7-12-18

7-12-18
40-70 mmHg
15-40 mmHg
5-15 mmHg

Roll No "86"

INSTRUCTIONS

- All subjective part is to be submitted within Two Hours, no extra time will be given.
- 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 50

Time = 120mins

- ✓ Define a negative feedback control system Give its components and explain with at least one example the way it maintains homeostasis? 1+1+2marks
- ✓ Compare and contrast the Lysosomes and Peroxisomes. List the chemical steps for translocation. 2.5+2.5marks
- ✓ Draw and label normal ECG with normal waves, intervals and segments
 ✓ What is the cause of each ECG wave 3+2 marks
- ✓ Define Cardiac Cycle. Enlist the events of cardiac cycle
 ✓ Explain with help of diagram the pressure changes in left ventricle during a cardiac cycle 3+2 marks
- ✓ Describe the mechanism of heat loss by sweating and the impact of acclimatization on it
 ✓ Discuss the role of hypothalamus in regulating the body temperature. 2.5+2.5marks
- ✓ List the changes in circulatory system during exercise? 5 marks
- ✓ A. List the neural reflexes responsible for short term control of blood pressure. Explain briefly the Jansenore reflex
 B. Give the stages of erythropoiesis. 3+2 marks
- ✓ Give the blood picture of megaloblastic anemia - 5 (a + b) marks
 B. Ahmad met a road accident, was taken to a hospital where no blood grouping was found to be B Positive. By mistake he was transfused with A Positive blood. Give the reactions you will expect in this case? 2+3 marks
- ✓ Mention briefly the mechanism of skeletal muscle contraction.
 ✓ Explain with the help of diagram the saltatory conduction in a nerve fiber. 2.5+2.5marks
- ✓ Draw and label Oxy - Hb curve. Label it for P50. 2+3 marks

[Handwritten scribbles and repeated words like 'Lungs', 'Heart', 'Blood', 'Oxygen', 'Carbon Dioxide' covering the bottom half of the page.]



THE SUPERIOR COLLEGE, LAHORE

1st PROFESSIONAL MBBS
ANNUAL EXAMINATION 2018
PHYSIOLOGY

(SEQ'S)

Roll No. 127
Total Marks: 45

Time Allowed: 2 hours

Instructions

1. Attempt all questions.
2. All question carry equal marks.
3. Neat Hand Writing use of margin and marker for headlines will increase the presentation of your paper.
4. Do not write your name or disclose your identity in anyway.

Q-No: 1

- a) Draw and describe the biochemical components of cell membrane along with the functions of these components. 2
- b) Define and describe the mechanism and two in vivo examples of:
 - a. Endocytosis
 - b. Counter Transport
 - c. Secondary active Transport1
1

Q-No: 2

- a) Define inflammation? Explain in detail the responses of different WBCs during inflammation? 3
- 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? 2

Q-No: 3

- a) Define and enlist different functional stages of Hemostasis. Describe the functions of Thrombocytes in Hemostasis. 2.5
- b) Define and classify different Human Blood Group Systems. Describe the Physiological Classification and Clinical significance of Rhesus Blood Group System. 2.5

Q-No: 4

- a) Define Resting membrane potential (RMP)? Describe the mechanism of its origin in a large myelinated nerve fiber? 2.5
- b) Classify nerve fibers according to conduction velocity. 1.5
- c) Compare the transmission of nerve impulse in myelinated and unmyelinated nerve fiber. 1.5

AZRA NAHEED MEDICAL COLLEGE LAHORE

First YEAR MBBS 2014-15

(Physiology-Subjective)

INSTRUCTIONS

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

- 2015
- 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 23 year 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 WBC count = 20,000/mm³ and clotting time is normal while bleeding 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 45 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)
B) A soldier was posted in emergency at Siachen 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)
- 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)

2017
Call level
circulation

AZRA NAHED MEDICAL COLLEGE LAHORE

PHYSIOLOGY DEPARTMENT
1st Year MBBS 2017-18

SEND UP EXAM

SEQs (SHORT ESSAY TYPE QUESTIONS)

ATTEMPT ALL QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.

MARKS= 50
TIME = 2 hrs

DATE: 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?
 B) Draw nerve fiber action potential, label all the phases and describe the ionic events involved in these phases. (2+3)
- 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 became 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) 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.
 B) Explain in detail the effect of exercise on O2-Hb dissociation curve?
 C) Define P₅₀ & explain the effect of exercise on P₅₀. (2+1.5+1.5)

O₂-Hb curve will shift to right.



THE SUPERIOR COLLEGE, LAHORE

First Professional MBBS (Part-I) Annual Examination 2013

(PHYSIOLOGY)

SUBJECTIVE (SEC-9)

Total Marks 45

DATED: 06-09-2013

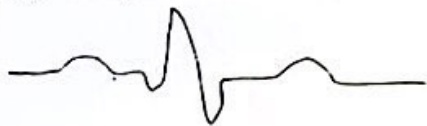
Total Time 2 Hrs & 10 Mins

INSTRUCTION
 1 All subjective part to be submitted within 120 minutes, no extra time will be given.
 2 Neat handwriting, use of margins will increase the clarity/presentation of your paper.

ATTEMPT ALL QUESTIONS; ALL QUESTIONS CARRY EQUAL MARKS.

155

1. Compare and contrast primary active transport with secondary active transport. (5) (2)
2. Draw and label normal Electrocardiogram with normal waves, intervals and segments. (3) (2)
 What is the cause of each ECG wave? (3) (3)
3. Define Cardiac Cycle. Enlist the events of cardiac cycle. (3) (3)
 Draw and label Cardiac Ventricular Action Potential and its phases and give ionic bases of each phase. (2) (2)
4. Define blood pressure. List reflexes in short term control. Explain short term control of blood pressure. (5) (5)
 baroreceptor reflex. (5) (5)
5. Define "Cardiac Output". Enlist the factors regulating cardiac output. (5) (5)
6. What is saltatory conduction? Explain with the help of diagram. (5) (2)
 Define and draw a sarcomere. Enumerate changes occurring in it during muscle contraction. (5) (3)
7. Define active immunity. Give its types. Explain cellular immunity, different types of T cells and their functions briefly. (5) (5)
8. Draw and label the respiratory membrane. (4) (2.5)
 Name the factors affecting the diffusion of gases across respiratory membrane. (4) (2.5)
9. Describe the mechanism of heat loss by sweating and the impact of acclimatization on it. (2) (2)
 A 6 year old boy bruises easily and has come with complaint 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. (4) (4)
 i. Give your diagnosis. (1) (1)
 ii. List the possible cause. (1) (1)



THE SUPERIOR COLLEGE, LAHORE

1st PROFESSIONAL MBBS (PART - I)
SUPPLEMENTARY EXAMINATION 2014

PHYSIOLOGY

SEOS

TOTAL MARKS: 45

TIME: 2 1/2 HOURS

Roll No. _____

Instructions

- All answers must be attempted on the given and returned at the stipulated time (2 1/2 HOURS) after you have received the question paper.
- Any scribbles or overwriting in answering the objective part will not be accepted and no marks will be given even if the answer is correct.
- Write your Roll No. only on the perforated portion of the OMR page.
- Do not write your name or draw line your identity in anyway.

ATTEMPT ALL QUESTIONS; ALL QUESTIONS CARRY EQUAL MARKS.

- Q1. A) What is primary active transport? Explain it with an example. (2)
 B) Compare the iron deficiency anemia with megaloblastic anemia. (3)

- Q2. Define immunity. Give classification of immunity. Give the mechanism of cellular immunity. (5)

- 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.

- What is the most probable diagnosis? (1)
- Explain the underlying pathophysiology of the disease. (0.5)
- How can she be treated? (0.5)

- Q4. A) Draw and label cardiac ventricular action potential with all phases. Mention ionic bases of each phase. (3)

- B) Enumerate the properties of cardiac muscle. (2)

- Q5. Give the laws of hemodynamics governing over the blood flow in the blood vessels? (5)

- Q6. 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.

- What is the role of baroreceptors in this case to regulate the blood pressure? (2.5)
- How kidneys will play their role to regulate the cardiac output? (2.5)

- Q7. What are volume changes in the ventricles in cardiac cycle? Define ejection fraction. (4, 1)

- Q8. A) Describe in detail the nervous control of respiration. (2)

- B) Define compliance. Explain it with help of compliance graph. List the factors on which it depends. (3)

- Q9. A) What is core body temperature? Give the normal range. How it differs from skin temperature? (2.5)

- B) Abdullah, a Pak. Army soldier, gets entrapped in snow storm while performing his duties on Siachin Glacier. His right leg till mid calf remained embedded in a heap of snow for at least 10 minutes till the rescue team arrived.

- What will he suffer from? (1)
- Give the details of changes that could have taken place in his body and their outcome. (1.5)

PHYSIOLOGY**SEQS****Instructions**

- All SEQ's are to be attempted on the paper and returned to the invigilator within 2 (two) hours after you have started the specimen paper.
- Any erasing or overwriting in answering the objective part will not be accepted and no marks will be given even if the answer is correct.
- Write your full Name only on the perforated portion of the role page.
- Do not write your name or disclose your identity in anyway.

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. (1.5)
- Q2. A) List all means of transport across the cell membrane. (2)
 B) Compare simple diffusion and facilitated diffusion. (2)
- Q3. A) Describe the stages of Erythropoiesis with the help of diagram. (2)
 B) A young man received a cut during shaving which started bleeding but after few minutes the bleeding stopped spontaneously. (1.5)
 i. Name the mechanism involved in the spontaneous arrest of bleeding in this man. (1.5)
 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: (1)
 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? (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. (2)
- 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)