

# Mid HLS 2019

## DR-2017

### BioChem (Dr Mamoun)

**1) which of the following enzymes deficiency causes photo-insensitive porphyria**

A- Coproporphyrinogen oxidase

B- uroporphyrinogen decarboxylase

C- ALAS

D- Ferrochelatase

**2) Wrong about HbA1c (glycosylated hemoglobin)**

A- measurement of glucose bound to valine on Beta hemoglobin chains

B- patient should be fasting

C- according to IFCC 100mmol/mol is acceptable

**3) Which of the following doesn't happen in gene expression regulation in hemoglobin**

A- LCR as an enhancer for multiple genes

B- promotor for each gene

C- chromatin looping

D- adding organic groups on genes

E- protein ubiquitination

**4) In blood transfusion, some components are "rejuvenated" because?**

A- hemoglobin affinity towards oxygen is decreased

- B- hemoglobin loses its ability to carry oxygen
- C- To repair the PH
- D- The hemoglobin can't release oxygen because 2,3BPG is broken

### 5) Wrong about allosteric regulation

- A- low Ph decreases the affinity of hemoglobin towards oxygen
- B- the major effect of CO<sub>2</sub> is form carbamate
- C- 2,3BPG does its action by increasing electrostatic interactions
- D- the bohr effect is caused by electrostatic interaction between His with negatively charged amino acid on the same chain

### 6) Wrong about HbE

- A- caused by mutation that affects B chain
- B- common in Africans
- C- produce defect protein
- D- truncated (short) beta-chain is produced

### 7) In Hb Cowtown where His 146 is replaced by Leucine, choose the correct

- A- it stabilizes R state and increases affinity for oxygen
- B- it stabilizes T state and increases affinity for oxygen
- C- it stabilizes R state and decreases affinity for oxygen
- D- it causes degradation of protein

### 8) Hb Barrt means that you have

- A- 4 chains of beta
- B- 4 chains of gamma
- C- 3 chains of beta and 1 chain of alpha

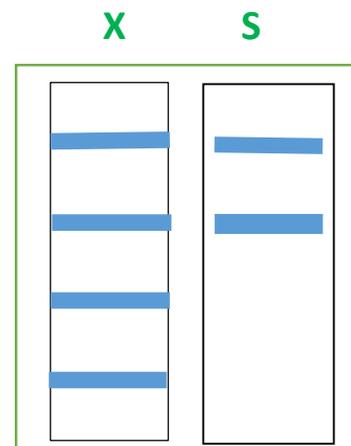
9) you have sample X and S in heme electrophoresis, what is your result according to it (in X you have HbA, HbC, HbS,HbF, NOT ORDERED)

A- HbS homozygous

B- HbS heterozygous

C- HbSC

D- neonate 4 weeks before birth



10) fetal pyruvate kinase influence to have hemoglobin with more affinity by

A- produce more ATP

B- produce more 2,3BPG

C- produce less 2,3BPG

11) G6PD deficiency class 2 (Mediterranean) produce enzyme with

A- more acitivity

B- less stability

C- less acitivity

D- A+B

12)Heme oxygenase function is ?

A- convertes ferric to ferrous

B- Absorption of iron

C- carries iron in blood

D- release iron out of heme

**13) wrong about hepcidin**

A- increased in iron overload

B- decreased in inflammation

C- it decreases iron absorption

**14) regarding blood coagulation and true about Gla domains**

A- warfarin affects coagulation directly by inhibiting formation of these domains

B- chelated domains can bind to platelet negatively charged surface

C- Factor XII contains Gla domain

D- these domains are formed by carboxylation of 1-6 Glu residues

**15) true about the action of protein C and protein S**

A- helps thrombin to bind thrombomodulin

B- binds thrombin with antithrombin 3

C- degrades factor 5 and factor 8

**16) jaundice in neonates is caused by**

A- increased hemolysis

B- decreased release to bile duct

C- decreased transport in blood

D- decreased conjugation

1	2	3	4	5	6	7	8
C	Deleted b+c are right	E	D	B	B	A	B

9	10	11	12	13	14	15	16
D	C	C	D	B	B	C	D

## HISTO (Dr Hiba)

### 1) True about all secondary lymph organs

- A- contain lymph follicles
- B- contain epithelial reticular cells as stroma
- C- contain afferent vessels
- D- contain capsule

### 2) choose the wrong statement

- A- platelets in contrast to RBCs shows never individual nucleated cells in blood
- B- extenuum of eosinophils contains major basic protein

### 3) T cells in spleen are mostly presented in

- A- lymphoid follicles
- B- splenic cords
- C- splenic sinuses
- D- PALT

### 4) the right arrangement of hemoglobin chains synthesis in human

- A- it starts is liver then yolk sac and finally in bone marrow
- B- it starts in yolk sac then liver and finally in bone marrow
- C- yolk sac and liver synthesize hemoglobin for almost the same period in gestation
- D- liver and yolk sac then bone marrow after birth

### 5) wrong about neutrophil

- A- it has its own specific granules
- B- it lives for several hours only and stores glycogen
- C- it has polymorphic nucleus throughout its life
- D- measuring neutrophils from blood represents all neutrophils in our body

**6) cell that contain bi lobed nucleus and large granules that obscure its nucleus**

A- monocyte

B- eosinophil

C- basophil

D- neutrophil

**7) cell with c shaped single non lobulated nucleus**

A- mast cell

B- eosinophil

C neutrophil

D- monocyte

**8) which of the following is covered by stratified squamous non keratinized epithelium**

A- palatine tonsils

B- appendix

C- payers patch

**9) choose the right statement about thymus gland**

A- it has afferent lymph vessels

B- Thymic epithelial cells forms a blood thymic barrier in the medulla

C- thymic epithelial cells forms the stroma of the gland

**10) lymphocytes in the circulation enter lymph node from**

A- afferent vessels

B- marginal zone

C- postcapillary venule

### 11) wrong about reticulocytes

A- Contain DNA not RNA

B- increases in hemolytic anemia

C- can synthesize heme

1	2	3	4	5	6
A	B	D	B	D	C

7	8	9	10	11
D	A	C	C	A

1 missed question ☹

## PHYSIO (Dr Saleem)

### 1) most of the blood exist in?

A- arteries

B- veins

C- heart

D- lungs

E- capillaries

### 2) wrong about eosinophil

A- like neutrophil, they migrate to inflammation site

B- they don't play any role in wound healing

C- easily detected in blood samples

D- with basophils, they form 5% of blood cells

### 3) fibrin stabilizing factor is

A- factor V

B- factor VII

C- factor X

D- factor XIII

E- factor II

### 4) In severe chronic anemia all of the following are compensatory mechanisms, choose the wrong answer

A- PO<sub>2</sub> increases in arterial part

B- 2,3-BPG increases

C- cardiac output at rest is increased

D- affinity of hemoglobin to oxygen is decreased

### 5) A blood sample with MCH=12g/dl , and blood cells count = 3.2m/microL , choose the right answer

A- MCV can be measured

B- MCH can be measured

C- MCHC can be measured

D- this represents normal men values

### 6) wrong about coagulation

A- partial thromboplastin time monitors extrinsic pathway while thrombin time monitors intrinsic pathway

B- neither one of the both pathways can alone cause hemostasis

### 7) wrong about blood Ph

A- acidosis is below 7.35

B- alkalosis is above 7.45

C- blood Ph is different from water Ph as the neutral Ph is 7.4 rather than being 7

D- any change in Ph causes death

**8) regarding hemophilia A , a healthy man has married carrier women, choose the wrong statement regarding their children**

A- half of males are diseased

B- half of females are carriers

C- half of females are healthy

D- All females are carriers

**9) Which of the following isn't true**

A- IDA and sideroblastic anemia are the most common forms of microcytic anemia

B- IDA is common clinical problem throughout the world

C- IDA affects 30% of the worlds population

D- indices calculated from the blood are defined

**10) Choose the wrong statement regarding iron absorption**

A- stomach acidity influence iron absorption

B- non heme iron is absorbed from the whole intestine

C- heme iron is preferential in meat products compared to non-heme iron

**11) Which of the following combinations is not true**

		<b>Haemophilia A</b>	<b>Von-willibrand disease</b>
<b>A</b>	<b>Inheritance</b>	<b>Sex linked</b>	<b>Autosomal</b>
<b>B</b>	<b>Bleeding time</b>	<b>Normal</b>	<b>prolonged</b>
<b>C</b>	<b>VIII:C</b>	<b>Low</b>	<b>Low</b>
<b>D</b>	<b>VIII:AG</b>	<b>Normal</b>	<b>Low</b>
<b>E</b>	<b>Aggregation</b>	<b>Normal</b>	<b>Normal</b>

**12) about hemoglobin, choose the true statement**

- A- hemoglobin saturation curve is dependent on PO2 and hemoglobin concentration
- B- O2 content is dependent only on PO2 and independent on Hemoglobin concentration
- C- hemoglobin saturation curve is independent on hemoglobin concentration

**13) Wrong about haemophilia A**

- A- it is sex linked
- B- causes prolonged bleeding

1 missed question ☹

1	2	3	4	5	6	7
B	B	D	A	B	A	D

8	9	10	11	12	13
D	A	B	E	C	B

😊 GOOOOOOOOOD LUCK 😊