

- ☐ c. TSH is one of the adenohypophysis hormones, and is considered a tropic hormone
- ☐ d. glucagon promotes glycogenolysis, heart produces ANP which increases blood sodium concentration

Assuming that the glomerular hydrostatic pressure is 65 mm Hg, and the oncotic (colloid osmotic) pressure of the glomerular blood is 35 mm Hg, and the capsular hydrostatic pressure is 20 mm Hg, then the net filtration pressure (NFP) is

- ☐ a. 20 mm Hg
- ☐ b. 10 mm Hg
- ☐ c. 5 mm Hg
- ☐ d. 15 mm Hg

With regards to water and

electrolytes balance, choose

the correct answer :

- ☐ a. Extracellular fluids includes the plasma and interstitial fluid in which potassium is the chief cation
- ☐ b. Infants have low body fat, low bone mass and low water contents than adults
- ☐ c. Sodium contribute 280 mOsm of the total ECF solute concentration
- ☐ d. Strong electrolytes completely dissociates in water, high ADH produces diluted urine



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QII. Fill in the blank (10 Points):

Temporal

a) The auditory cortex is located in Temporal lobe and it is responsible forear ~~hearing~~

b) Sensory information from skin, musculoskeletal system are found in the

Parietal ~~Posterior~~ Parietal Lobe.c) The minimum amount of stimulus required to depolarize an excitable membrane and generate an action potential is known as the threshold ~~resting~~ (on -10) Xd) Motor fibers leave the spinal cord's gray matter via anterior ~~anterior~~ ventral Xe) The Interneurons ~~Interneurons~~ are neurons that reside only in the CNS and connect motor and sensory neuron.f) Neurotransmitters are found packaged inside synaptic ~~synaptic~~ vesicles in the axon terminal. (synaptic vesicles)g) The effects of a neurotransmitter on the postsynaptic membrane depends on location ~~location~~ receptor Xh) Excitatory neurotransmitters cause depolarization ~~depolarization~~ and inhibitory neurotransmitters cause hyperpolarization ~~hyperpolarization~~

QIII. A person has been given a drug that blocks sodium channels; will this drug have an effect on neuronal communications? Explain your answer, briefly? (4 points)

This drug will effect actually on neuronal communications because the AP there is a level that must open the sodium channels and the next level that must close it that means:

1. Resting
2. Depolarization
3. Repolarization
4. Hyperpolarization
5. back to resting

these are the levels to AP in the second level that must open the sodium channels and in the third level must close it that must open the right answer to the body, but when the sodium channels have a problem that will effect on the work of the body and this is will make the body have a damage in his work and the person will have a diseases or death because when he see a car and he don't give a reflex and doesn't for he will death or make accident.



Time left 0:20:18

match the following substances with their correct name when present in urine

pus

pyuria



RBC's

hematuria



match the following water disorders with their correct extracellular fluid (ECF) osmotic pressure

hypotonic hydration

ECF osmotic pressure falls



dehydration

ECF osmotic pressure rises



Next page



Question **18**

Not yet
answered

Marked out of
0.50

🚩 Flag question

With regards to the digestive

system , all of the following

options are incorrect EXCEPT :

- ☐ a. acidic chyme in duodenum stimulates CCK release , bile facilitates cholesterol absorption , appendix attaches to posteromedial surface of cecum
- ☐ b. G cells produce gastrin that stimulates HCL secretion , stomach has simple squamous epithelium
- ☐ c. mucosa is the moist layer that lines the lumen of alimentary canal , and consists of epithelium , lamina propria and muscularis externa
- ☐ d. basic electrical rhythm of stomach is initiated by cells of cajal , intestinal juice is largely water , acidic and enzyme poor



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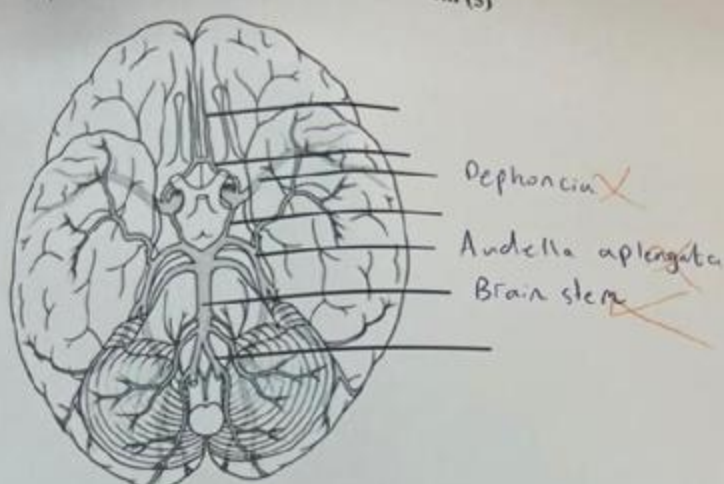
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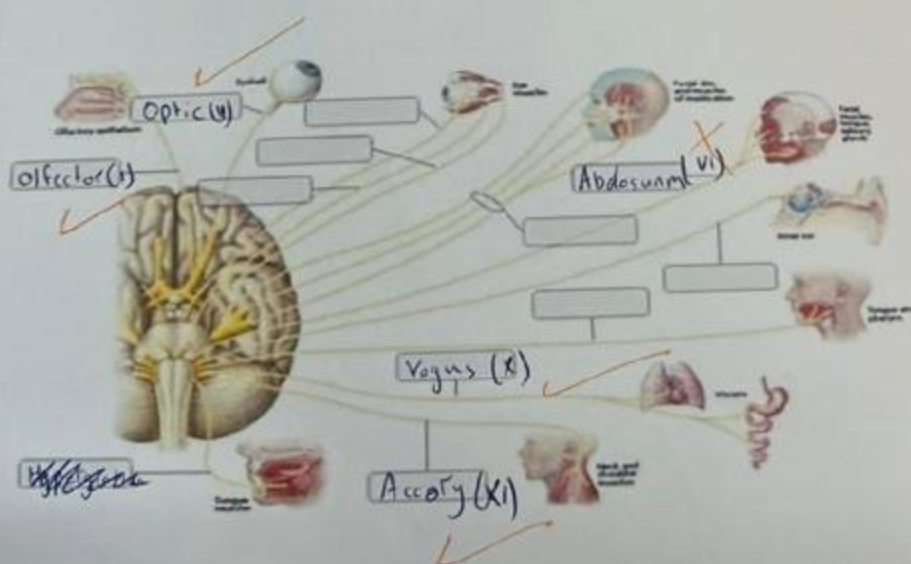
الملفات

QV. Label the following figures (10 points)

A) Choose any five region and label them (5)



B) Choose any five regions and label them, write the Name and the number of the Nerve. (5)



Good Luck 😊

7

AA

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With regards to the endocrine system ,

choose the correct

answer :

- ☒ a. T3 is more active than T4 , hyperinsulinism results in hypoglycemia
- ☐ b. PTH increases calcium level in the blood while calcitonin from the parathyroid gland lowers its level in the blood
- ☐ c. adrenal cortex is glandular part of adrenal gland in which zona glomerulosa is the outer layer and secretes gonadocorticoids
- ☐ d. graves disease is associated with hyperthyroidism , in which T3 and T4 are low and TSH is high

[Clear my choice](#)

with regards to bicarbonate

chemical buffering system

all of the following are false

EXCEPT :

- ☐ a. adding strong base is resisted by weak acid to produce more strong base
- ☐ b. adding strong base is resisted by weak base to produce weak base
- ☐ c. adding strong acid is resisted by weak base to produce weak acid
- ☐ d. adding strong acid is resisted by weak acid to produce more strong acid



Time left 0:54:47

Question 1

Not yet
answeredMarked out of
5.00

Flag question

Excitatory events of gastric

secretion during cephalic

phase includes smell of food

☐ True☐ False

Question 2

Not yet
answeredMarked out of
5.00

Flag question

low K^+ content of ECF

favors principal cells to

secrete potassium in urine

☐ True☐ False

Next page





**Antidiuretic hormone (ADH) is
synthesized in the posterior
pituitary gland**

☐ True

☐ False

match the following organs with their
epithelial lining

stomach

simple columnar epithelium



esophagus

stratified squamous epithelium





6. A physician viewing an injury to the back would look at the patient's _____ side.

- A) lateral
- ☒ B) posterior
- C) cranial
- D) ventral

7. Each of the following effects is associated with the action of postganglionic sympathetic fibers except one. Identify the exception.

- A) Increased sweat secretion
- B) Reduced circulation to the skin
- C) Decrease heart rate
- ☒ D) Dilation of the pupils

8. Neurons of the sympathetic branch of the autonomic nervous system release the neurotransmitter _____ at their effectors.

- A) Acetylcholine
- B) Dopamine
- C) Adrenalin
- ☒ D) Norepinephrine

9. When the neuron is at rest, which statement is true?

- ☒ A) The activation gate is closed
- B) The inactivation gate is open
- C) No sodium is moving through the activation gate
- ☒ D) All of the above
- E) None of the above

10. Conduction speed is enhanced by _____

- ☒ A) Myelin
- B) Larger diameter of the axon
- C) Low resistance
- ☒ D) A and B
- ☒ E) A, B and C

10. This is the site of communication between neurons.

- ☒ A) synapse
- B) axon terminal
- C) axon
- D) cell body
- E) dendrite



4
of
ation

With regards to the acid base balance and buffering systems,

all of the following are true

EXCEPT:

- ☐ a. Chemical buffers act within seconds to bring about changes in pH
- ☐ b. renal control system acts slow and requires hours to days to bring about changes in pH
- ☐ c. bicarbonate buffering system is the main buffering system in the ICF
- ☐ d. phosphate buffering system is effective in ICF

Microvilli for increasing the surface area are present in the proximal convoluted tubules of nephron

☐ True

☐ False

Time left 0:29

9 years old child came to hospital due to
sever vomiting and diarrhea of 4 days
duration, the child has dry flushed skin,
regarding body fluid contents what is the
disorder this child having, and what are
the fluid contents changes that occur in
different body compartments and the
causes of these changes

tion

of



Paragraph

B

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**Low ADH levels produce dilute
urine and reduced volume of
body fluids**

- ☐ True
- ☐ False

Next page



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1Y

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With regards to water

balance all of the following

are true EXCEPT

- ☒ a. in dehydration ECF osmotic pressure falls
- ☐ b. Water intake sources include Ingested fluid (60%) and solid food (30%)
- ☐ c. in dehydration ECF osmotic pressure rises
- ☐ d. Insensible water losses include evaporation (28%), sweat (8%)

Clear my choice

Question **20**

Not yet answered

Marked out of 1.00

🚩 Flag question

match the following substances with their correct site of production

epinephrine

Choose...



growth

hormone (GH)

Choose...



Next page



Excitatory events of gastric

secretion during cephalic

phase includes smell of food

☐ True

☐ False

☐ False

**low K^+ content of ECF
favors principal cells to
secrete potassium in urine**

☐ True

☐ False

match the following disorders with the correct hormonal changes

gigantism

high GH in childhood ⇅

grave's disease

low (T3 , T4) , and low TSH ⇅

on

57 years old smoker male came to hospital with difficulty breathing, his ABG's were as follows:

(pH: 7.21), (P_{CO_2} : 55), (HCO_3 : 40)

what is the acid base disorder, is it compensated or not, mention the cause of this disorder, and explain the mechanism of compensation if it is compensated

Time 1

tion

Paragraph

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In respiratory acidosis CO_2 level

is high , which is compensated by

loss of more bicarbonate in urine

☐ True

☐ False

Glomerular filtration rate GFR

is inversely proportional to the

net filtration pressure NFP

☐ True

☐ False

Time left 0:14

Question 11

Not yet answered

Marked out of 0.50

Flag question

Time left 0:33:31

With regards to the urinary system , all of the following are incorrect EXCEPT :

- ☐ a. Loops of henle of juxtamedullary nephrons invade the medulla , peritubular capillary beds arise from efferent arterioles
- ☐ b. Kidneys filter 200 liters of blood per day , left kidney is slightly lower then the right one
- ☐ c. The glomerular capsule consists of parietal layer and visceral layers , Podocytes are present in the parietal layer of the glomerular capsule
- ☐ d. The outer layer that anchors the kidney is gerota's fascia , calyces empty urine directly to the ureter



18. Language and verbal skills tend to be concentrated on the _____ side of the brain of right-handed people.

- ☒ A) Left
- B) right
- C) left and right
- D) neither

19. This part of the brain is responsible for maintaining consciousness, alertness and attention

- ☒ A) Hippocampus
- B) Thalamus ✓
- ☒ C) Basal ganglia
- ☒ D) Cerebellum

20. What effect would decreasing the concentration of extracellular potassium ions have on the transmembrane potential of a neuron?

- ☒ A) Repolarization
- ☒ B) Hyperpolarization
- C) Hypopolarization
- D) Depolarization

21. Which of these is NOT a site at which acetylcholine is released at a synapse?

- ☒ A) Neuromuscular junctions with skeletal muscles
- ☒ B) Neuron-to-neuron synapses in the PNS
- C) Postganglionic synapses in the sympathetic division of the ANS ✓
- D) All of these are true

22. What happens to the body when homeostasis breaks down?

- ☒ A) Disease
- B) Organ systems malfunction
- C) Death
- ☒ D) All of the above
- E) None of the above

23. If a surgeon makes an incision just inferior to the diaphragm, which body cavity will be opened? *جوف البطن*

- A) The abdominopelvic cavity ✓
- B) The dorsal cavity
- ☒ C) The pleural cavity
- D) The pericardial cavity

With regards to the urinary system , all of the following are incorrect EXCEPT :

- ☐ a. Loops of henle of juxtamedullary nephrons invade the medulla , peritubular capillary beds arise from efferent arterioles
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Time left 0:52:08

**Calcitonin inhibits the
osteoclastic activity of
the bone**

- ☐ True
- ☐ False



Q1. Choose the most Correct Answer: (23 points)

1. The ^{axillary} ~~axillary~~ region is ^{Post bone} to the sternum.

- ☒ A) superior
- ☐ B) lateral ✓
- ☐ C) anterior
- ☒ D) proximal
- ☐ E) deep

2. The umbilical region is ^{عالي} to the lumbar region.

- ☒ A) superior
- ☐ B) lateral ✓
- ☐ C) anterior ✓
- ☐ D) proximal
- ☐ E) deep

3. The cervical region is the

- ☐ A) thigh.
- ☐ B) calf.
- ☒ C) neck.
- ☐ D) head.

4. Which organ system covers the external surface of the body, but not the internal surface of the mouth?

- ☐ A) lymphatic
- ☐ B) digestive
- ☒ C) integumentary
- ☐ D) cutaneous

5. Which statement concerning the anatomical position is FALSE?

- ☐ A) The palms face anteriorly.
- ☐ B) The toes point anteriorly, but the fingers point inferiorly.
- ☐ C) The knees, elbow, and neck are straight (not bent).
- ☒ D) The person is lying down, as straight as possible.

متنور



11. These regions of the neuron direct electrical currents toward the cell body.
- ☒ A) synapse
 - ☐ B) axon terminal
 - ☒ C) axon
 - ☐ D) cell body
 - ☐ E) dendrite
12. Which of the following statements about neurotransmitters is false?
- ☐ A) They alter the permeability of the postsynaptic cell membrane.
 - ☒ B) They are waves of positive charges that travel down axons.
 - ☐ C) They are released from synaptic vesicles.
 - ☐ D) They diffuse across the synaptic cleft.
13. The type of axon that conducts impulses most slowly is
- ☒ A) thick, myelinated.
 - ☐ B) thick, unmyelinated.
 - ☐ C) thin, myelinated.
 - ☒ D) thin, unmyelinated.
14. Which of the following is a descending motor spinal tract?
- ☒ A) dorsal column pathway
 - ☐ B) pyramidal pathway
 - ☐ C) spinocerebellar pathway
 - ☐ D) spinothalamic pathway
15. Locked in syndrome is a result of lesions in the _____
- ☒ A) brain stem *in the pons*
 - ☐ B) occipital lobe
 - ☒ C) cerebellum
 - ☐ D) frontal lobe
16. Lesion to the upper motor neuron results in:
- ☒ A) Increase in motor control
 - ☐ B) Babinski reflex
 - ☐ C) Spasticity
 - ☒ D) B, C not A
 - ☐ E) A, B not C
17. Unilateral damage to the cerebral cortex will produce:
- ☒ A) Unilateral deficit in the lower fascial muscles
 - ☐ B) Unilateral deficit in the upper fascial muscles
 - ☒ C) Contralateral deficit in the lower fascial muscles
 - ☐ D) Contralateral deficit in the upper fascial muscles

Time left 0:15:39

With regards to the endocrine system , all of the following are true EXCEPT :

- ☐ a. progesterone can be produced by placenta , PTH and calcitonin are examples of antagonism regarding hormones interaction
- ☐ b. thyroid hormone release is an example of hormonal stimuli for hormone release
- ☐ c. TSH is one of the adenohypophysis hormones , and is considered tropic hormone
- ☐ d. glucagon promotes glycogenolysis , heart produces ANP which increases blood sodium concentration

63 years old male who has chronic kidney disease

came to hospital due to muscle cramps, his

laboratory results were as follows:

(potassium 4.3), (calcium 7.3), (chloride 104),

(sodium: 138) based on the previous information

what is the expected hormonal changes, the cause

of these changes, and what are the actions of affected

hormone on body organs

-normal values: (potassium:3.6-5.2), (calcium:8.5-10.2),

(chloride:96-107), (sodium:135-145)

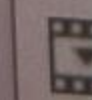
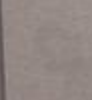
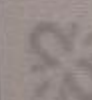
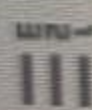
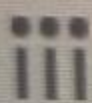


Paragraph



B

I



In metabolic alkalosis bicarbonate level is high , which is compensated by decreasing the respiratory rate

- ☐ True
- ☐ False

Time left

With regards to water
balance all of the following
are true EXCEPT

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- ☐ b. Water intake sources include Ingested fluid (60%) and solid food (30%)
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match the following substances with their correct site of production

epinephrine

Choose...

growth hormone (GH)

Choose...

☐ False

With regards to the digestive system , all of the following

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