

Q. 1. Answer only **three** of the following questions:

- A. Define: tracheal bronchus, mediastinum.
- B. Describe the right lung of the horse.
- C. What is the pleura.
- D. Enumerate the cartilages of the larynx.

Q. 2. Answer only **two** of the following questions:

- A. Compare between horse, ruminants and dog in the followings:
  - I. Pancreas
  - II. Cecum.
  - III. Mandibular salivary gland
- B. How to classify the following with draw and example: stomach, salivary glands.
- C. Answer the following questions:
  - I. Enumerate the parts of the digestive system in order.
  - II. Write about the liver, their location, fixation and lobulation in the horse.

Q. 3. Answer only **two** of the following questions:

- A. Mention the names and functions of the cranial nerve from VI to XI and enumerate that nerves which carried the parasympathetic fibers, draw a diagram showing their emerge from the skull.
- B. Write briefly about sympathetic division of autonomic nervous system.
- C. Write briefly about spinal meninges and its modification if it present.

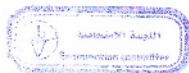
Q. 4. Answer the following questions:

A. Fill the blanks with the correct terms (answer only **four** of them):

- Odors are detected by ..... in the nasal cavity.
- Taste bud cells on the tongue detect the four basic tastes.....and .....
- The eye is responsible for the sense of vision. Light entering the eye is refracted by the ..... and the .....so that an image is focused on the .....
- In the middle ear .....transmit vibrations of the .....to the perilymph of the inner ear.
- All lymph vessels, except the capillaries, contain numerous.....

B. Write true or false (answer only **four** of them):

- Lymph organs include the thymus, which form a protective ring of lymph nodules around the openings of the nasal and oral cavities ( ).
- In porcine nodes, the lymph nodules are located in peripheral cortex close to where the afferent lymph vessels penetrate the capsule ( ).
- In sheep, the "cortical" tissue is central where most nodules lie alongside the trabecular sinuses ( ).
- Cisterna chyli are not found in all species and are most familiar in sheep, in which their dark color ( ).
- Thoracic duct is a large paired vessel that follows the course of the trachea within the neck ( ).



*Good Luck*

Q 1/ Match the letter in list B with number in list A ( 15 ONLY):

A		B	
1	Termination codon	A	Coenzyme in transamination
2	Alanine	B	Precursor for serotonin
3	Pyruvate	C	Participate in urea synthesis
4	pyridoxal phosphate	D	cis-acting genetic element
5	SAM	E	decarboxylation of tyrosine by intestinal bacteria
6	Poly A tail	F	Precursor for serine
7	Dopa	G	Non toxic storage form of NH <sub>2</sub>
8	hnRNA	H	Non sense codon
9	Tyrosin	I	Constituent of pantothenic acid
10	Tyramine	J	Immature RNA
11	Z- form of DNA	K	Large sequence of adenine
12	tRNA	L	Translate genetic information
13	Histidine	M	Source of methyl group
14	Skatol	N	Semi essential amino acid
15	rRNA	O	Zigzag form of DNA
16	Glutamine	P	Indole derivatives of tryptophane
17	ornithine and citrullin	Q	Dihydroxyphenyle alanine
18	phosphoglycerate	R	Ribosomal RNA
19	TATA	T	Precursor for alanine
20	Tryptophane	U	Precursor for Norepinephrine

Q2:- A/Numerate (TWO) of the following:-

1- Characteristic Feature of DNA structure:-

a-

b-

c-

d-

2- Components of Protein synthesis:-

a-

b-

c-

d-

3- Post modification of mRNA

a-

b-

c-

d-

Q2//B// Write the differences between the following:-

a// DNA polymerase RNA polymerase

- |    |    |
|----|----|
| 1- | 1- |
| 2- | 2- |
| 3- | 3- |

b// DNA RNA

- |    |    |
|----|----|
| 1- | 1- |
| 2- | 2- |
| 3- | 3- |

Q3// Complete (FIVE) of the following equations:-

- 1- Glutamic acid + NADP  $\longrightarrow$
- 2 - Argininosuccinate cleavage  $\longrightarrow$
- 2-  $\text{Co}_2 - \text{NH}_3$   $\longrightarrow$
- 3- Phenyl alanine +  $\text{O}_2$   $\longrightarrow$
- 4- Aspartic acid +  $\text{R-NH}_3$   $\longrightarrow$
- 5- Homocystein + serine  $\longrightarrow$
- 6- Glutamic acid + pyruvic acid  $\longrightarrow$

Q4// Numerate (FOUR) only:

A. Component of respiratory chain.

- |    |     |    |
|----|-----|----|
| 1- | 2 - | 3- |
|----|-----|----|

B. Hypothesis suggested for the coupling of oxidation & phosphorylation.

- |    |     |    |
|----|-----|----|
| 1- | 2 - | 3- |
|----|-----|----|

C. Precursors of gluconeogenesis

- |    |     |    |
|----|-----|----|
| 1- | 2 - | 3- |
|----|-----|----|

D. Types of ketone bodies.

- |    |     |    |
|----|-----|----|
| 1- | 2 - | 3- |
|----|-----|----|

E. Three enzymes involved in biological oxidation.

1-

2 -

3-

**Q5 Answer TWO branches of the following:-**

**A // Show the pathway of (THREE) of the following:**

الاجابة في ظهر الورقة

- 1-Oxidative stage of Glycolysis.
- 2-Synthesis of Ketone Bodies.
- 3-Stage of catabolism of CHO, lipid and proteins.
- 4-Types of enzymes inhibition.

**B// Write briefly about (THREE) of the following:**

الاجابة في ظهر الورقة

- 1-Action of steroid hormones in the cell.
- 2-DNA organization.
- 3-Regulation of fatty acid synthesis.
- 4-Medical importance of Pentose phosphate pathway.
- 5-Fate of Glycerol.

**C// 1- Numerate steps of Protein synthesis and explain one of them**

- 2- Explain the post modification of tRNA

Q.1) Mention one function for Five of the followings: ( 2.5 Mark )

function

- 1-Node of Ranvier.
- 2-Apneustic center.
- 3-Troponin-C.
- 4-Juxtaglomerular apparatus.
- 5-Smooth endoplasmic reticulum.
- 6-Dendrites.
- 7- Descending limb of Henle s loop.

Q.2) Answer Five of the followings: ( 6.0 Marks )

1-Enumerate three factors affecting the G.F.R.

a-

B-

c-

2- Enumerate three factors affecting the O<sub>2</sub>-Hb dissociation curve.

a-

B-

c-

3-Enumerate three functions of the kidneys.

a-

B-

c-

4- Enumerate three functions of conducting airways.

a-

B-

c-

5- Enumerate three types of membrane proteins.

a-

B-

c-

6- Enumerate three of inhibitory neurotransmitters.

a-

b-

c-

**Q.3A): Answer one of the followings:**

**( 2.0 Marks )**

1-Define Ficks law .Describe the formula for diffusion of gases according to the Starlings law.

2-Define G.F.R. Describe the formula of net filtration force

**B):Define two of the followings:**

**( 1.5 Marks )**

1-Ventilation:

2-Synapse.

3-Action Potential.

**Q.4) A): Mention only Four of the followings:**

**( 2.0 Marks )**

1-The functions of ovary are :

a-

b-

2-Adrenal gland cortex zone are :

a-

b-

c-

3-Resistance blood vessels are responsible for regulation of:

a-

b-

4-The factors which affected male reproduction are:

a-

b-

c-

5-Functions of testosterone hormone are:

a-

b-

**B) Define Four only :**

**( 2.0 Marks )**

1-Milk ejection reflex:

2-Cardiac output:

3-Sertoli cells:

4-Spermiogenesis:

5-Target organ:



**Q.5) A): Choose the correct answer for Five only: ( 3.0 Marks )**

1-Fertilization of the ova occur in ..... of oviduct.

- a- First portion.      b- second portion.      c- third portion .

2-The non distensible blood vessels are .....

- a- Capillaries.      b- Arterioles.      c- Veins.

3-Ovulation occur by rupture of the wall of :

- a- primary .      b- secodary.      c- mature follicle.

4-The hormone responsible for blood Ca ions regulation is :

- a- cortisol.      b- T4.      c- calcitonin.      d- FSH.

5-Fetal hormone of parturition is :

- a- prostaglandins .      b- cortisol .      c- estrogen.      d- progesterone

6-Complete formation of corpus luteum occur during :

- a- estrus.      b- metestrus..      c- diestrus .

**B): Give Two functions of the following: ( 2.0 Marks )**

1-placenta:

- a-      b-

2-Thyroxne:

- a-      b-

3-Epidydimis:

- a-      b-

**Q.6A): Answer by true (T) or false (F) in front of 8 of the following: ( 2.0 Marks )**

- 1-Secretin hormone secreted from stomach .
- 2-Histamine stimulate secretion of hydrochloric acid by the G-cells.
- 3-The rumen contains numerous laminae that help grind ingesta.
- 4-The main end-products of cellulose and hemi-cellulose is ammonia.
- 5-Stimulation of vagus nerve causes secretion of gastrointestinal sphincters.
- 6-Plasma is a sticky and metallic tasting fluid.
- 7-The half-life of lymphocytes is 3-8 hours.
- 8-Cellular immunity responsible for delayed allergic reaction.
- 9-The glucose concentration in CSF is higher than in the plasma.
- 10-Only proteins cross the blood-brain barrier.

**B): Give the location and the function for 3 of the following: ( 2.0 Marks )**

	<b>The location</b>	<b>The physiological function</b>
<b>Sphincter of oddi</b>		
<b>Crypts of Liebrkuhn</b>		
<b>defensins</b>		
<b>mekakaryocytes</b>		

C) Complete the followings:

( 2.0 Marks )

- 1- A platelet plug: platelet aggregation at the site of injury, forms as followed:
- 2-The specific physiological function of CCK are:

Q.7) Fill in the blanks for four of the followings :

( 3Marks )

- 1- The reflex act is a response to a .....
- 2- The cerebral cortex contains motor and ..... areas.
- 3- The primary visual area is located in the ..... lobe.
- 4- The .....is responsible the coordination of motor movement.
- 5-A sensory neuron is that which carries impulses toward the .....
- 6- The peripheral nervous system includes any neural element lying outside the .....

## Final Examination

1<sup>st</sup>. Attempt

2011 / 2012

Q.1. Answer only **three** of the followings questions:

A. Describe shortly either Islet of Langerhans **or** the two types of the bone marrow.

B. Draw with label only **two** of the followings:

- \* Thyroid
- \* Parathyroid
- \* Olfactory region
- \* Medium-sized bronchus.

C. List in table the differences between large (elastic) and medium-sized muscular artery **or** the differences between trachea and bronchus.

D. Enumerate parts of pituitary gland, and enumerate all type of cells present in the pars distalis.

Q. 2. A. Define **four** of the followings: chromatin, Golgi body, mesangial cell, sweat gland, parietal cells of fundic gland of the stomach.

B. Differentiate between only **three** of the followings:

- \* Rough and smooth endoplasmic reticulum
- \* Proximal and distal convoluted tubules
- \* Dermis and epidermis
- \* Euchromatic and heterochromatic nucleus.

Q. 3. Answer only **three** of the followings questions:

A. Classify the neurons according to their function.

B. Differentiate between **two** of the followings:

- \* Neuron and neuroglia
- \* Cartilage and bone
- \* Hyaline cartilage and elastic cartilage

C. Describe the histological structure of the lymph node.

D. Write about Sertoli cells and Graafian follicle



*Good Luck*

Q.1. Answer only **two** of the followings questions:

- A. Describe the development of the Larynx
- B. Describe the development of the trachea
- C. Describe the development of the lung

Q. 2. A. Write about the metanephros kidney with drawing and labeling

- B. Compare between the pronephros and mesonephros of embryonic kidneys

Q. 3. Answer only **two** of the following questions:

- A. Explain the placentation types in mammals
- B. Write about the fundamental pattern of implantation
- C. Draw a diagram of oogenesis
- D. List the primitive heart regions



**Good Luck**



**NOTE: Answer only (5) five questions.**

**Q1:** Explain the descriptive statistics with examples .

**Q2:** Estimate the selected sample from the following data, from (5) different locations.

- The sample wanted = 100 individuals.
- The numbers of individuals in each location  
( a = 200, b = 300, c = 500, d = 400, e = 600 )

**Q3:** Explain the normal distribution.

**Q4:** Construct the confidence interval in level of ( 95% ) of the following data

- Mean body weight of population of birds is ( 3 ) kg.
- Mean body weight birds and variance of sample consist of ( 100 ) birds are ( 4 ) kg and ( 1 ) kg respectively.

**Q5:** Number of mortalities in ( 4 ) poultry farms as the following

1. ( 100 ) mortalities from ( 1000 ) birds.
2. ( 200 ) mortalities from ( 900 ) birds.
3. ( 50 ) mortalities from ( 800 ) birds.
4. ( 300 ) mortalities from ( 900 ) birds.

- Estimate the  $\chi^2$  value.

**Q6:** Complete the following table

Source of Variation	Degree of freedom	Sum of squares	Mean squares	F value
Between samples	5			
Within samples	45	1800		
Total		2600		

*Good Luck*

Dr.Hussain Yawir



Answer only (Five) question:

Q.1-Define the following :

A-Micro Nutrient.....

.....  
.....

B-Inorganic Nutrient:.....

.....  
.....

C-Diet.....

.....  
.....

D-Growth.....

.....  
.....

E-Maintenance:.....

.....  
.....

Q-2-What are the factors assisting (Ca) to absorption in the animal body?

1. ....

.....

2-.....

3-.....

4-.....

5-.....

6-.....

Q-3-Full this tables:

	Chemical formula	Source	example
1-Monosaccharids Simple sugars.		1-	
		2-	
		3-	
2-Disaccharids double sugars.		1-	
		2-	
		3-	
3-Polysaccharids Complex non -sugar.		1-	
		2-	
		3-	

Q.4- What are the Biological function of lipids

1-.....

.....



2-.....

3-.....

4-.....

5-.....

6-.....

7-.....

**Q-5-What are the characteristic of (vitamins)**

1-.....

2-.....

3-.....

4-.....

5-.....

6-.....

7-.....

Q-6-What are the properties of protein.

1-.....

.....

2-.....

.....

3-.....

.....

4-.....

.....

5-.....

.....

.....

.....

.....

.....

**Dr.Galb AL Qaisy**

Q-1-Mention only the equation of conservation of energy and additivity of reaction heats .

Q-2-Draw the Flow-chart of utilization and distribution of energy consumed by chicken .

Q-3-The use of protein (Amino acids) as a source of energy is Wasteful in many ways.

- 1-.....  
.....  
.....
- 2-.....  
.....  
.....
- 3-.....  
.....  
.....

Q-4-True / False questions :

- 1-(     ) Catalysts are substances which participate in chemical reactions.
- 2-(     ) Catalysts usually to speed up the rate of reactions and changed it.
- 3-(     ) A catalysis cannot force a reaction to higher energy state without the application of external energy .

- 4- ( ) Excess metabolizable energy excreted by the animal body .
- 5- ( ) The major protein of all food consumed by an animal is used for energy .
- 6 - ( ) Energy is stored in the carbohydrates , fats and proteins of food .
- 7- ( ) All materials containing carbon and hydrogen in forms that can be oxidized to carbon dioxide and water represent potential energy for animal .
- 8- ( ) Lactose is of very low energy value for chickens .
- 9- ( ) Basal metabolism is the minimum energy expended in the fasting .
- 10- ( ) The energy required for activity depends upon the degree of activity of the animal .

***Good Luck***