

Q1// Fill in the blanks (12 only) :-

- 1- In promoter region, cis acting genetic elements including and
- 2- The strand of DNA transcribed to RNA is called....., while others is called strand
- 3- Transcription unit in RNA synthesis is extended from..... to
- 4- In Eukaryocyte, RNA transcription, RNA can be synthesized from precursor called or RNA
- 5- Tryptophane could be used for synthesis of the hormone While tyrosine is used for synthesis of hormone
- 6- The term Dopa means..... while IFs Means
- 7- Cop region is characterized by presence of Of t^l end
- 8- tRNA is adapted for of genetics information and participate in synthesis
- 9- Termination codons included UAA, and
- 10- Initiation codon means
- 11- Gene expression means
- 12- is an Initiation codon codes for a. a.
- 13- In Bacteria, Rh factor is required for the release of which is called
- 14- Alanine is recognized as component of cell wall and constituent of Acid

Q2// A // Explain with equations the biosynthesis of (TWO) of the following amino acids:-

- 1- Alanine :-
- 2- Tyrosine :-
- 3- Glutamine

Q2// B// Numerate FIVE only:-

- 1- Protein targeting
a- b- c-
- 2- steps of RNA synthesis
a- b- c-
- 3- Fate of acetyl – CoA
a. b- c-
4. characteristics of purine base :
a- b- c-
5. Classes of lipids present in blood:
a- b- c-
- 6- differences between:-

<u>5 capping</u>	<u>poly A tail</u>
1-	1-
2-	2-
3-	3-

Q3// Explain (FIVE) of the following:

الاجابة في ظهر الورقة

- A. Effect of temperature on enzymatic reaction .
- B. More accepted hypothesis concerning the coupling of oxidation & Phosphorylation.
- C. Methods used for expressing enzyme activity.
- D. K_m & V_{max} .
- E. Non oxidative stage of Glycolysis.
- F. Competitive, non-competitive and uncompetitive inhibition of enzymes.
- G. Classes of enzymes.
- H. Degradation of Triacylglycerol by pancreatic enzymes.

Q4// Illustrate (THREE) of the following:

الاجابة في ظهر الورقة

- a- Pyrimidine bases.
- b-Cholesterol transport and storage.
- c-Gluconeogenesis.
- d-Action of hormones through calcium and phosphatidylinositol.

Q5// Define (FOUR) of the following:

- a- Glycogen Phosphorylase.
- b- Components of cytoskeleton.
- c- Fatty acid synthase complex.
- d- β -oxidation of fatty acids.
- e- DNA replication.

Good Luck

NOTE : Answer (5) Five Questions Only.

Q1: Define the following

- a- DNA
- b- Sex-Chromosome
- c- Allels
- d- Heterozygous
- e- Hybrid

Q2: Numerate the types of chromosome depend on the centromer location.

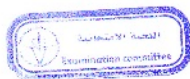
Q3: Numerate the types of monohybrid.

Q4: Numerate five sex linked inheritance disease.

Q5: Describe the types of blood groups.

Q6: Numerate the causes of mendelian successful theory.

Q7: Numerate the causes of deviation from the mendelian ratio.



Good Luck

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

- A. Enumerate the paranasal sinuses
- B. What are the nasal conchae
- C. Draw with labels the tracheal rings in different animals.
- D. What is the vomeronasal organ.

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

- A. Write about the salivary glands in horse, their shapes, location and ducts.
- B. Draw a diagram showing the external features of the stomach in ruminants.
- C. Compare between horse, ruminants and dog in the followings:
 - I. Liver
 - II. Sublingual salivary gland
 - II. Stomach

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

- A. Write briefly about spinal dura mater and cranial arachnoid meninges.
- B. Illustrate by diagram with label dorsal surface of brain stem.
- C. Write about parasympathetic cranial nerves.



Q. 4. Answer the following questions:

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

- Odors are detected by retina in the nasal cavity ().
- Taste bud cells on the tongue detect the four basic tastes: sour, salty, bitter and sweet ().
- The eye is responsible for the sense of vision. Light entering the eye is refracted by the cornea and the lens so that an image is focused on the retina ().
- In the middle ear, the ear ossicles transmit vibrations of the tympanic membrane to the perilymph of the inner ear ().
- All lymph vessels, except the capillaries, contain numerous valves ().

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

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

Good Luck

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

- A. Describe the development of the lung
- B. Describe the development of the nasal cavity
- C. Describe the development of the bronchi

Q. 2. A. Compare between the pronephros and mesonephros of embryonic kidneys

- B. Write about the metanephros kidney with drawing and labeling

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

A. Define only four of the followings:

- * Placenta
- * Gametogenesis
- * Morula
- * Implantation
- * Oogenesis
- * Yolk sac

- B. Draw a diagram of spermatogenesis
- C. Explain the fundamental pattern of implantation
- D. Enumerate the placentation types in mammals



Good Luck



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Note: Answer (5) question only.

Q1: What are the chemical formation of saturated fatty acids and their properties?

-
.....
.....
.....
1.
 2.
 3.
 4.

Q2: A- Compare between the :-

Vitamin soluble in water

Vitamin soluble in fat

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

B- Numerate each one:-

Vitamin soluble in water

Vitamin soluble in fat

.....
.....
.....
.....
.....
.....

Q3: Explain the importance of potassium (K) and what causes the deficiency of this mineral?

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Q4: Describe the vitamin (Folic acid) :

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And explain the:-

a - properties:

1.
2.

3.

4.

b – function:

1.

2.

3.

4.

Q 5:- What are the factors which help to increase animal production?

1.

2.

3.

4.

Q6: Which one from this is more important for animal and why?

1. Carbohydrate.

2. Protein.

3. Fat.

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Q1: Define vitamin A.

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Q2: Mention only role of vitamin A in body processes.

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Q3: What is the difference between broiler and layer diet?

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Q4: Mention only the program of compensatory growth.

.....

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.....

.....

Q5: Draw the flow chart for breeding period of the broiler to get compensatory growth.

Good Luck



Q.1) Mention one function for five of the followings:

(2.5 Marks)

function

- 1- Golgi complex.
- 2- Pneumotaxic center.
- 3- ADH.
- 4- Calmodulin.
- 5- Sarcoplasmic reticulum.
- 6- Dendrites.
- 7- Ascending limb of loop of Henle .

Q.2) Answer Five of the followings:

(6.0 Marks)

1- Enumerate three types of adrenergic receptors:

a-

B-

c-

2- Enumerate three function of kidneys:

a-

B-

c-

3- Enumerate three types of the lung volumes:

a-

B-

c-

4- Enumerate three methods of transport of large molecules across the cell membrane:

a-

B-

c-

5- Enumerate three types of excitatory neurotransmitters:

- a-
- B-
- c-

6- Enumerate three of the alveoli:

- a-
- b-
- c-

Q.3A): Answer one of the followings: (2.0 Marks)

1- Draw and label of an action potential of a nerve cell.

2- Draw and label the layers of blood-gas barrier.

B): Define Two of the followings: (1.5 Marks)

1- Surfactant:

2- Physiology:

3- Clearance:

Q.4) A) Define Three only:

(1.5 Marks)

1-Hormones:

2-Ovulation:

3-Baroreceptors:

4-Heart rate:

B): Give the main function of the followings: (3.0 Marks)

Function

1-Parathyroid hormone

2-Ovary

3-Seminal plasma

4-Arterioles

Q.5)A) Mention only for two of the followings: (1.5 Marks)

1-Function of placenta:

2-Factors that help in transport of the ova to the ampulla:

3-Factors that affect blood flow:

Q.5) B): Choose the correct answer ((Four only)) : (3Marks)

- 1-Norepinephrine cause of heart by .
a- increase. b- decrease . c- no effect.
- 2-Corpus luteum destroyed byhormones.
a- Prostaglandin F_{2α} . b- LH. c- .Estrogen
- 3-Calcitonin hormone synthesis and release from
a- Thyroid gland . b- adrenal gland. c- parathyroid gland.
- 4-Blood vessels responsible for conduction of blood from the heart are
a- Venules. b- arteries. c- capillaries.
- 5-Receptors of protein hormones located in
a- nucleus . b- cytoplasm. c- cell membrane.

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

- 1-The oral stage of swallowing is voluntary.
- 2-Histamine stimulate secretion of hydrochloric acid by the G-cells.
- 3-Secondary contractions occur in all parts of the rumen.
- 4-The main end-products of cellulose and hemi-cellulose is ammonia.
- 5-Exocrine pancreatic secretion is stimulated by chyme in the duodenum.
- 6-Hypotonic solution ,means having solution with low solute concentration.
- 7-Blood transports nutrients from gastrointestinal tract to the liver.
- 8-Fibrinolysis removes unneeded clots by the action of the prothrombine.
- 9-The body produce anti bodies called agglutinogens against the AG not present.
- 10-The PCO₂ in the CSF is higher than in the plasma.

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

	The location	The physiological function
Flap valves		
Sphincter of oddi		
HSCs		
Oxyntic gland		

C) Complete the followings:

(2.0 Marks)

1- Phases of gastric secretion :

2-Mechanisms of homeostasis:

Q.7) Answer by (T) for the correct answer and (F) for incorrect answer for (4) of the followings: (3Marks)

- 1- The telencephalon is the largest part of the brain .
- 2- The medulla oblangata a term which means : long white marrow structure.
- 3- The white matter of the spinal cord contains cell bodies of nerve cell.
- 4- The primary motor area is situated in the postcentral gyrus.
- 5-The cerebellum is connected to rest of the brain through the medulla oblangata .
- 6- The cerebrum of birds is characterized by the presence of gyri and sulci.

NOTE : Answer (5) Five Questions Only .

Q1: Define the following :-

Statistics , Infinite population , Variables , Sample , Probability

Q2: If you have the following data (1 , 2 , 3 , 2) . Estimate the (Mean , Mode , Median , Standard error) .

Q3: Enumerate the types and laws of probability

Q4: If you have the following data, estimate the (t-value) .

	<u>First Group</u>	<u>Second Group</u>
No. of sheep	100	100
Mean body weight (Kg)	70	60
Standard error	3	2

Q5: Complete the following table

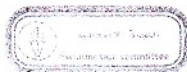
<u>S.O.V</u>	<u>DF</u>	<u>SS</u>	<u>MS</u>	<u>F</u>
<u>Between samples</u>	9	----	----	
<u>Within samples</u>	90	900	----	
<u>Total</u>		1080		

Q6: Answer the following questions

a- Estimate the probability value that (5) of (10) birds infected with C.R.D, if the infection percentage with C.R.D = 0.1

b- Construct the confidence interval in level of (95%) of the following data

1. Number of birds = 100 individual
2. Population mean body weight = 4 Kg
3. Standard error of mean body weight = 0.1



Good Luck

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

- A. Describe shortly either thyroid or parathyroid
- B. Draw with label only **two** of the followings: respiratory region, capillary, alveolus, adrenal gland
- C. List in table the differences between sinusoids and capillaries
- D. Classify the white blood cells and then describe either Monocyte or lymphocyte

Q. 2. A. Draw and label the nephron.

B. Describe the histological structure of only **three** of the followings:

- * Dermis
- * Collecting duct
- * Fundic gland of the stomach
- * The cell

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

- A. Classify the neurons according to the number and shape of their processes
- B. Differentiate between elastic cartilage and fibrocartilage
- C. Describe the histological structure of the spleen
- D. Writes about **both** interstitial cells (Leydig cells) **and** about zona pellucida



Good Luck