



Tanta University  
Faculty of Science  
Zoology Department

Subject:- comparative anatomy  
Code:-ZO4240

Time:-2 hours

Fourth year chemistry-zoology

Date:-9-6-2018

**Part one.....(.50 point)**

**First question.....(15 point)**

**1-Identify the following**

Dermal papilla-pulp cavity-basal plate-velvet-uropygial gland?

**2- compare by drawing between**

Hoof-Nail-and Claw?

**Second question.....(20 point)**

**1-complete the following**

a-)Many lizards possess rows of.....along the underside of hind limb

b-) In birds there are two types of glands .....and.....

**2- Explain by drawing only**

The development of the cycloid scales (Bony scales)?

**Third question.....(15 point)**

1-Compare between the mucus glands and the poisonous glands in toad?

2-Mention the role of the integument glands of reptilian?

**Part two.....(.50 point)**

**Question (1):.....(10 points)**

Compare **with drawing** between anapsid and diapsid skulls.?

**Question (2): with drawing illustrate:.....(30point)**

a. Roofing bones of generalized dermatocranium?

b. Ethmoid ossification centers of bony fishes and tetrapods?

c. Secondary palate and its function?


**Question (3):..... (10 points)**

Discuss **with drawing** the developmental stages of the chondrocranium?

Best wishes

Atteyat selim      Abeer Alum Eldeen



 1989	<b>TANTA UNIVERSITY</b> <b>FACULTY OF SCIENCE</b> <b>DEPARTMENT OF ZOOLOGY</b>		
	<b>EXAMINATION FOR LEVEL THREE STUDENTS OF SPECIAL ZOOLOGY</b>		
<b>COURSE TITLE:</b>	<b>Physiology 1</b>		<b>COURSE CODE: ZO3242</b>
<b>DATE:</b>	<b>JUNE, 2018</b>	<b>SECOND TERM</b>	<b>150 POINTS</b>
			<b>TIME ALLOWED: THREE HOURS</b>

### Part I.....

**1. What is the function of:** (20 points)

- a) Hexose monophosphate shunt.                                  b) Liver glycogen. (20 points)

**2. Explain these facts:**

- a) Krebs's cycle is the meeting points of carbohydrate, protein and fat metabolism.  
 b) Cori Cycle involves the utilization of lactate to produce glucose.

**3. Compare between:** (20 points)

- a) Aerobic and anaerobic oxidation.  
 b) Type I and type II of Diabetes mellitus.

4. Calculate the net energy gained from oxidation of fatty acid containing 14 carbon atoms with details. (15 points)

### Part II.....

**1. Compare between the feeding methods in:** (20 points)

Hydra , amphioxus , whales , snakes and cestodes .

**2. There are two basic forms of motility in the human digestive system. (15 points )**

- a) Explain the two forms.  
 b) Discuss the differences between propulsive movements and mixing movements.


**3. What is the functions of :** (20 points )

Secretin – trypsin – enterogastrone – HCl – lysozyme - renin.

4. Explain the absorption of carbohydrates, proteins , and fats through the small intestine. (20 points)

EXAMINERS	DR. ZEINAB ATTIA	DR. HALA ABDELAZEEM
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	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF ZOOLOGY			
	EXAMINATION FOR THIRD YEAR STUDENTS OF SPECIAL ZOOLOGY			
	COURSE TITLE:	MOLECULAR EMBRYOLOGY		COURSE CODE: ZO 3212
DATE:	JUNE, 2018	TERM: SECOND	TOTAL ASSESSMENT MARKS: 100	TIME ALLOWED: 2 HOURS

**Answer the following questions**

**First Question:**

*(Total 25 marks)*

- 1- Explain **in detail** the technique for generating transgenic cows ( For milk production)?

**Second question:**

*(Total 25 marks)*

- 1- The nuclear transfere technique has been applied to several mammalian species, explain an experiment has been carried out with sheep?
- 2- Explain an experiment showing that gene expression changes upon new cytoplasmic environment

**Third question:**

*(Total 25 marks)*

- 1- Explain an experiment showing that oocyte cytoplasm can re-program nuclei from kidney cells to express oocyte-specific proteins?
- 2-Most blastomere cells (2, 4, 8, 16 stage) are able to form a range of structures. Give an examble for only one stage?.

**Fourth question:**

*(Total 25 marks)*

- 1- How the researchers can establish transgenic mice by DNA microinjection?
- 2- The inner cell mass (ICM) cells within the human blastocyst have the potential to differentiate into different cell types ( Explain ).

*With Best Wishes*

EXAMINERS	PROF. FOUAD AFIFI ABOU-ZAID
	PROF. NABIL KMAL EL-FEKY



