

Assiut University
Faculty of Science
Department of Zoology
Total Mark 50



Vertebrate Taxonomy
Course code 2433
Time: 2 hours

Final Exam. 2018/2019

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Answer the following questions:-

- 1- Complete the following: (30 Mark)
- The upper jaw of *Bradyodonti* is fused to braincase and the is not involved in jaw suspension.
 - In the gill pouches open to the exterior either separately or
 - The gill slits are ventrally placed in
 - In the gills are covered by flap of skin.
 - The pelvic fins are modified to form claspers in.....
 - The paired fins have a fleshy lobe at their base in.....
 - In..... there are two separate dorsal fins.
 - In *Halecomorphi*..... is present together with numerous.....
 - The frontal and parietal bones are is the skull of *Anura*.
 - Limbs and girdles are..... and the body is worm-like in.....
 - The skull has no..... in *Chelonia*.
 - The quadrate bone is..... in *Crocodylian* skull.
 - Skull of birds is....., i.e. with single occipital condyle.
 - In Birds vertebrae with..... centra.
 - Mammals are viviparous except.....
 - Except in *Monotremes* and most of the *Marsupials* is present which supplies nourishment to the embryo.
 - Mammary glands without..... in *Prototheria*.
 - Well developed is present in females of *Metatheria*.
 - Class: *Chondrichthyes* is divided into subclasses..... and
 - Class: *Osteichthyes* subdivided into subclasses.....,and.....
 - Subclass: *Theria* is divided into 3 infraclassesand.....

- Class: *Aves* includes 3 superorders..... ,
.....and
- Phylum *Chordata* includes 3 subphyla..... ,
..... and
- In *Crocodylia*,..... ribs are present in most
vertebrae.
- In *Rhynchocephalia*, the cloacal aperture is.....
and there is no
- In *Serpents* the vertebrae have accessory.....
-In *Birds*, sound production is from.....
- In *Carinatae*, the terminal caudal vertebrae are fused to form
.....
- In *Mammals*, the quadrate and aricular bones are transformed
into andof ear
apparatus.
- In *Mammals*, neck with..... vertebrae.
- In *Mammals*, the tympanic bones are fused to form the
..... which is further modified
into.....
- In *Mammals*,..... connecting the two cerebral
hemispheres.
- The external ear pinna is present in mammals except
in.....and.....
- In *Eutheria*, testes are..... contained
in.....
- In *lagomorpha*, two pairs of present in the
upper jaw, but..... are absent.
- In *Cetacea*, hairs are reduced in adults, only few.....
on the snout.
- In *Proboscidea*, the incisor teeth of upper jaw are greatly
elongated and form.....
- In *Sirenia*, fore limbs are modified into.....
for swimming.
- Members of *Chondrostei* havetail.
- Epidermal glands are present keeping the surface moist
for..... in *Amphibia*.
- In *Mammals* the opening of trachea into the buccal cavity is
guarded by.....
- Primates* have 5-digits protected by.....

2-Mention the taxonomic characters of five only of the following:(20 Mark)

a-Chimaeriformes
c-Sauria
e-Prototheria

b-Anura
d-Ratitae
f-Metatheria

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Best wishes

Prof.Dr.Usama Mahmoud

Assiut University
Faculty of Science
Zoology Department

Final Exam of Developmental
Biology (Z437) For 4th levels
Zoology Students

Jan., 10th 2019
Time: Two hours
Total marks: 50

Answer the following questions using labeled drawings when it is possible: (10 marks each)

- 1- A- Explain the causes of chromosomal nondisjunction and show the differences in timing of occurrence of it. (5 marks)
B- Compare between the two different mechanisms of gastrulation in *Amphioxus* and frogs. (5 marks)
- 2- A- Draw and explain a diagram to show sperm capacitation. (5 marks)
B- What is the significance of each of the following: induction - morphogenesis - pattern formation - differentiation? Explain using an example for each. (5 marks)
- 3- A- Write notes on only three of the following: Parthenogenesis – cryopreservation – intracytoplasmic sperm injection – glycosyltransferase. (6 marks)
B- What are the most characteristic features of cleavage? (4 marks)
- 4- A- Describe the role of only three of the following: resact – cyclin – Securin- Serine protease - glycosaminoglycan. (6 marks)
B - Clarify only two of the following: lampbrush chromosomes - spermiogenesis – Kartagener triad syndrome - vitellogenesis. (4 marks)
- 5- A- Summarize in a chart the sequence of events after gamete membrane fusion. (5 marks)
B- State true or false: (5 marks)
 - i- IP₃ triggers release of Ca⁺⁺ from endoplasmic reticulum during fertilization.
 - ii- Distal centriole functions for the union of male and female pronuclei.
 - iii- Blastopore connects blastocoele with the outside.
 - iv- LH stimulates Sertoli cells to secrete testosterone.
 - v- Albumin and vitelline membrane are tertiary membranes.

End of questions.....Best of Luck

Dr. Reda A. Ali
Prof. Exp. Embryology



Answer all the following questions:

Q1: Describe the structures of the hematologic system and write in details on the erythropoiesis and the factors that controlling this process. (10 marks)

Q2: Write in details about the red cell destruction as one of the important RBCs disorders and polycythemia. (10 marks)

Q3: Write in details about the origin, structure, functions and physiological roles of blood platelets. (10 marks)

Q4: Write in details about the organ transplantation and the associated complications. (10 marks)

Q5: Write briefly on only three of the following items: (10 marks)

- A. The specific inhibitors of clotting factors.
- B. Disorders and diseases of blood coagulation.
- C. Endocrine functions of vessels endothelial cells during hemostasis.
- D. Benign and malignant WBCs disorders.

انتهت الأسئلة

Best wishes

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Assiut University

Faculty of Science

Department of Zoology



Fourth year examination

Reproductive Physiology

27/12/2018

Time: (3hours)

فسيولوجيا التكاثر (٤١١) ح

Answer the following questions:-

وضح بالرسم كلما أمكن ذلك

1- Answer 3 only of the following:-

(15 marks)

- Mention the functions of the testes and draw a cross section of seminiferous tubules showing the stages of spermatogenesis and the interstitial cells.
- Draw the principal parts of the sperm and explain why it is necessary to ejaculate a huge number of sperms although one sperm is needed to fertilize the ovum.
- Semen (seminal fluid) is a mixture of sperms and the secretions of the accessory glands explain this.
- Describe the physiological effects of testosterone.

2- Answer 3 only of the following:

(15 marks)

- Draw a labeled diagram to indicate the sequence of development stages that occur in the ovarian cycle and mention the main hormones present in this cycle.
- Histologically the uterus consists of three layers of tissue and has a good blood supply. Prepare a labeled diagram of the uterus layers and the blood supply.*
- Draw a diagrammatic illustration of segmentation of fertilized ovum and subsequent implantation.
- Describe the structure of mammary gland and write about hormones related to milk production.

3- Write on 4 only of the following:

(12 marks)

- Explain menopause.
- Function of the corpus luteum during menstrual cycle and during pregnancy.
- Draw the structure of placenta and explain functions of placenta and umbilical cord.
- Define the following: ectopic pregnancy, cryptorchidism, colostrums.
- Differences between oestrous cycle and menstrual cycle.
- Functions of prostate gland and epididymis.

4- Please write (✓) or (×) on the following sentences:

(8 marks)

- If the spermatozoa per milliliter falls below 20 million, the man is likely to be sterile.
- The duration of the menstrual cycle in woman normally ranging from 24-35 days.
- A zygote with XX chromosomes is a male.
- During pregnancy, the large amount of estrogen secreted by the placenta increase the formation of prolactin.
- The menstrual cycle normally occurs each month from menarche (the first menses) to menopause (the last menses).
- Corpus luteum secretes androgens.

أ.د/ خديجة عبد الحميد

Good luck