



Answer the following questions with Labeled drawing if you need

1- Put \checkmark or X in front of following sentences and correct the wrong one:- (5 marks)

- 1- Amphibians are not sensitive to changes in temperature at all ()
- 2- Chytridiomycosis leads to death of adults and larvae of amphibians ()
- 3- Ammonia can be measured by hydroxylamine in aquaculture tanks ()
- 4- Food supply is a determining factor for frog distribution ()
- 5- Oxygen level can be determined in the water by PH-meter ()

2- Fill the spaces in the following sentences (10 marks)

- 1- As economic importance amphibians can be used as
 - a-.....
 - b-.....
 - c-.....
 - d-.....
- 2- Methods of aquatic vertebrates breeding are
 - a-.....
 - b-.....
 - c-.....
 - d-.....
- 3- Salinity can be measured usingin aquatic environment.
- 4- The temperature inside the aquaculture tanks can be controlled using.....
- 5- The required dietary nutrients in all amphibians life stages are
 - a-.....
 - b-.....
 - c-.....
 - d-.....
- 6- Aquaculturist can provide tanks with oxygen by
- 7- The amphibians malformations such as,, and
- 8- The life cycle of the frog is

3- Answer SEVEN Only of following themes: (35 marks)

- 1- Mention the causes of amphibian decline?
- 2- Why the fish eggs damage rate is high than the amphibians?
- 3- Discuss by drawing the aquarium components?
- 4- Discuss the function of the air injected into aquatic environments?
- 5- What are the hybrid breeding characteristics?
- 6- Discuss the source of feed ingredients?
- 7- Mention why amphibians are so susceptible to mutations?
- 8- Compare between three of the commonly waters and their characteristics?
- 9- What about the aquaculture human safety?
- 10- What are the reproduction strategies in frog?

End of questions

Best wishes.....,

Assiut University

Faculty of Science

Department of Zoology



Fourth year examination

Reproductive physiology

31/12/2019 Time: (3 hours)

فسيولوجيا التكاثر (٤١١ ح)

Answer the following questions:-

وضح بالرسم كلما أمكن ذلك

1- Answer 3 only of the following:- (15 marks)

- The functions of testes are to produce sperms and testosterone, 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)

- Describe the ovaries as glands that produce ova and female sex hormones (draw a labeled diagram of the ovarian cycle in woman)
- Describe the function of the uterine tube in transporting a fertilized ovum to the uterus by drawing diagrammatic illustration of segmentation of fertilized ovum and subsequent implantation in the uterus.
- Histologically the uterus consists of three layers of tissue and has a good blood supply, identify and draw the anatomical portions of the uterus and their functions.
- Describe the structure of the mammary gland and write about hormones related to milk production.

3- Write on 4 only of the following: (12 marks)

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

4- Please write (√) or (X) on the following sentences: (8 marks)

- A zygote with 46Xy chromosomes is a female ()
- If the spermatozoa per milliliter falls below 20 million, the man is likely to be sterile ()
- Corpus luteum secretes androgens ()
- During pregnancy, the large amount of estrogen secreted by the placenta increase the formation of prolactin ()
- Failure of testis of descent into the scrotum is called cryptorchidism ()
- Menarche is the last menstrual cycle ()

Best wishes



Passiut University Faculty of Science Zoology Department	Final Exam of Developmental Biology (Z437) For 4th levels Zoology Students	Jan., 11th 2020 Time: Two hours Total marks: 50
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Answer the following questions using labeled drawings when it is possible: (10 marks each)

- 1- A- Explain the mechanism of cell migration. (5 marks)
B- Show the functions of two somatic cells associated with gametogenesis. (5 marks)
- 2- A- Describe three different methods used for fate maps with advantages and disadvantages of each. (5 marks)
B- Summarize in a chart the sequence of events after gamete membrane fusion. (5 marks)
- 3- A- Write notes on types and factors controlling parthenogenesis. Explain an experiment clarifying why does not parthenogenesis occur in mammals. (6 marks)
B- Show with labeled drawings only the development of heart and differentiation of mesomeres with reference to different types of kidneys. (4 marks)
- 4- A- Describe the role of each of the following: speract – cyclin - serine protease - glycosaminoglycan. (4 marks)
B – What are the different types and functions of cadherin molecules? (6 marks)
- 5- A- What is the significance of each of the following: induction- morphogenesis – pattern formation – differentiation? Explain using an example for each. (4 marks)
B- Show with labeled drawings only the development of mammalian eye. Mention the embryonic origin of each part of the eye. (6 marks)

End of questions.....**Best of Luck**

Dr. Reda A. Ali
Prof. Exp. Embryology



Assiut University
 Faculty of Science
 Department of Zoology
 Total Marks 50

Vertebrate Taxonomy
 Course code Z433
 Time: 2 hours

Final Exam. 2019/2020

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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 in male of dog fish.
 - 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 in 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 have..... centra.
 - Mammals are viviparous except.....
 - Except in *Monotremes* and most of the *Marsupials* is present which supplies nourishment to the embryo.
 - Mammary glands are 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* includes infraclasses....., and.....
- Class: *Aves* includes 3 superorders....., and
- Subclass: *Prototheria* includes orders....., 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 has..... 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* limbs have 5-digits protected by.....

Mention the taxonomic characters of five only of :

(20 Mark)

a-Chimaeriformes

b-Urodela

c-Sauria

d-Carinatae

e-Prototheria

f-Metatheria

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Best wishes

Prof.Dr.Usama Mahmoud