



Put (✓) on the correct sentence and (X) on the wrong one and correct it.

(1-18 3 marks each, 19-26 2 marks each)

1. Porifera is the only phylum at the parazoan grade of body construction. ( )
2. Porifera function largely like organisms at the unicellular grade of complexity. ( )
3. Un-polluted littoral and tropical reef habitats harbor especially poor sponge faunas. ( )
4. Within any sponge species and population, there is a marked synchrony among individuals in terms of reproductive activity. ( )
5. Choanocytes stream to the archaeocyte mass and are engulfed by phagocytosis ( )
6. In Syconoid sponges each choanocyte canal opens to the atrium by a wide aperture called micropyle. ( )
7. Gemmule dormancy appears to be of three types. ( )
8. Many freshwater sponges produce asexual reproductive bodies (called reduction bodies) ( )
9. Most littoral sponges grow as thick or thin layers on hard surfaces. ( )
10. Many sponge species harbor symbiotic bacteria or unicellular algae that may color the sponge's body. ( )
11. Skeletal structures have proven adequate for developing stable phylogenetic hypotheses and classifications of sponges. ( )
12. Adult sponges are motile suspension feeders; larval stages are sessile and usually lecithotrophic ( )
13. External pinacoderm in subclass calcarenea is replaced by a noncellular dermal membrane ( )
14. Water is pulled through ostia and is driven across the choanoderm by archeocytes. ( )
15. Water is pumped through the sponge body at very high pressures ( )
16. The pinacoderm itself can be a simple external sheet, but typically, it also lines some of the internal cavities of the aquiferous system where choanocytes do not occur. ( )
17. The cells of the mesohyl layer are more stable than those of the pinacoderm and choanoderm. ( )
18. Water flow rate is not uniform through the various parts of the aquiferous system. ( )
19. Incurrent pores in hexactinellids are simple holes in the dermal membrane. ( )
20. Internal, canal-lining pinacocytes (endopinacocytes) are usually more fusiform in shape and have less overlap than outer exopinacocytes. ( )
21. Basopinacocytes create the currents that drive water through the aquiferous system. ( )
22. Archaeocytes can phagocytize material directly through the pinacoderm of water canals. ( )
23. Spherulous cells are large mesohyl cells containing various chemical inclusions. ( )
24. Gas exchange in sponges is by specialized systems. ( )
25. Skeletal elements of class calcarea often not differentiated into megascleres and microscleres ( )
26. Members of class calcarea are all marine ( )

The End of exam

Dr. Ahmed Abada

المستوى الثالث الفترة الصباحية الأصد ٢٠١٧/٢٠١٨

Kafrelsheikh University  
Faculty of Science  
Zoology Department  
Third level (Zoology)  
First Term 2017/2018



Time: 2h  
Subject: Toxicology  
Total Marks: 100 (70 Written, 10 Oral, 20 Practical)  
Date: - /01/2017  
Exam is (1) page.

Write short notes on the following

1. Poisons, toxins, venoms, xenobiotics and antidots.....(10 Marks)
2. Mercury poisoning .....(10 Marks)
3. The concept of ADME .....(10 Marks)
4. Mechanism of action of lead and cyanide as toxicants (The primary cause toxicity) .....(10 Marks)
5. Arsenic toxicity. ....(10 Marks)
6. Mechanism of action of organophosphates insecticides.....(10 Marks)
7. Types of interaction between different toxic agents.....(10 Marks)

*The End of Exam*  
*Best regards*



**I- Answer the following questions. Illustrate your answer with labeled drawings**

(40 marks)

**1- Explain the following:-**

- Development as far as 16-24 hours incubation in chick embryo?
- Organogenesis in the embryo of Amphioxus.
- Eye and ear formation.                      - The Early Tail-Bud Stage

**2- Defined the following:**

Discoid cleavage - The blood islands - Rotation

**II- Write the scientific term of the following:** (10 marks)

- 1- The primordial germ cells undergo repeated mitotic divisions to produce a large number of spermatogonia.
- 2- The successive divisions of the zygote.
- 3- The differentiation of various tissues and organs from the original germ layers.
- 4- These are the amnion, chorion, allantois and yolk sac.
- 5- Includes the formation of male germ cells.

**III-Complete each statement.** (20 marks)

- 1- .....surrounds a depression of the primitive pit.
- 2- These brain ectoderm cells will join those of the hypophysis to form.....
- 3- The first cranial nerves grow from these original placodes to.....
- 4- The opening from the yolk sac into the fore-gut is.....
- 5- The epimere is differentiated into....., ....., .....
- 6- .....is used for respiratory and excretory as in birds
- 7- .....is increases in size pushing its way between the amnion and chorion.
- 8- The cranial flexure, which results from the rapid growth of the .....
- 9- Embryonic Development of the Kidneys arises from .....
- 10- From which germ layer are coeloms produced? .....

*End of Exam*

24. The lens that is within the eyepiece of the light microscope is called:

- a. Scanning
- b. low power
- c. high power
- d. ocular

25. On the image, which letter represents the objective?

- A
- B
- C
- E

26. On the image, which letter represents the coarse adjustment knob?

- B
- C
- D
- E

27. On the image, which letter represents the stage?

- A
- B
- AB
- E

28. On the image, which letter indicates the location of the diaphragm?

- C
- D
- E
- AC

29. using a 2x objective: one graticule unit = 200µm. If a 10x objective was used, what distance would one unit on the graticule correspond to?

- a. 400 m2
- b. 4000 µm
- c. 40µm
- d. 4 µm

30. The scanning, low, and high power objectives are mounted on the

- a. Revolving nosepiece
- b. Stage
- c. body tube
- d. eyepiece

B- Explain briefly the following:- (25 Marks)

- 1- Advantages and disadvantages of cryostat
- 2- Dehydration and drying
- 3- Diamond and glass knives
- 4- Compare between Light and electron microscopy preparations.
- 5- The purposes of fixation

\*Please answer the questions A in the following table

Quest-No.	1	2	3	4	5	6	7	8	-----	30
Answer										

Best regards

Eman H. Moussa

15. What is "compound microscope"?

- a. Microscope with the capability to view oil immersion
- b. Microscope with the capability to view compounds
- c. Microscope with a single lens
- d. Microscope with two lenses
- e. Microscope with three lenses

16 When using the high power objective, you should not adjust the

- a. coarse focus
- b. fine focus
- c. diaphragm
- d. stage clip

17-The wheel under the stage that adjusts the amount of light is :

- a. coarse knob
- b. body tube
- c. stage clip
- d. diaphragm

18- The field of view of a microscope with a 10X ocular and a 4X objective is 5mm. What is will be the field of view with a 10X objective?

- a. 3.14 mm<sup>2</sup>
- b. 20mm
- c. 2mm
- d. 2mm<sup>2</sup>

19. On a microscope, what structure connects the eyepiece to the objective lens?

- a. Base
- b. Nosepiece
- c. Stage
- d. Tube
- e. Diaphragm

20.What must be done to a specimen to increase the contrast of the structures viewed?

- a. illuminated
- b. stained
- c. placed under a cover slip
- d. thinly sliced

21.Which objective provides the greatest field of view?

- a. High
- b. 100X
- c. Low
- d. This depends on if the specimen is stained.

22. For which of the following specimens would you use a dissecting scope?

- a. human skin cells
- b. insect mouth parts
- c. E. coli
- d. newspaper print

23. A microscope has a 5X ocular lens and a 10X objective, what is this microscope's total magnification

- a. 5X
- b. 15 X
- c. 50X
- d. 500X

7- When using a compound microscope, what is the magnification of the oil immersion lens?

- a. 4X                      b. 10X                      c. 40X                      d. 100X                      e. 1000X

8. What is the role of the condenser lens?

- a. Control the aperture of light  
b. Increase the magnification  
c. Focus the light on the specimen  
d. Initial magnification of 10X  
e. Provide light

9- Which microscope would be particularly useful for looking at living cells?

- a. Simple microscope  
b. Compound microscope  
c. Phase contrast microscope  
d. Dissection microscope  
e. Transmission electron microscope

10. What is Wright's stain used primarily for?

- a. Blood  
b. Fat  
c. Nervous tissue  
d. Elastic fibers  
e. Decalcified bone matrix

11. During the preparation of a routine H&E slide, what allows the tissue to be visualized?

- a. fixation  
b. Embedding in paraffin  
c. staining  
d. slicing  
e. dehydration

12. Which of the following would be best suited to visualize reticular fibers?

- a. Wright's stain  
b. Hematoxylin and eosin stain  
c. Sudan stain  
d. Silver impregnation  
e. Masson's trichrome stain

13. During the preparation of a routine H&E slide, what step occurs after the tissue is stained?

- a. Fixation  
b. Embedding in paraffin  
c. Staining  
d. Slicing  
e. Dehydration

14- using a compound microscope, objective lenses can be found to have a magnification of all of the following, EXCEPT?

- a. 4X                      b. 10X                      c. 40X                      d. 100X                      e. 1000X

بمعلومات

Kafrelsheikh University

Faculty of Science

3<sup>rd</sup> level of Zoology Department



(70 Marks)

Final Exam of Histochemistry (2 hours)

January, 3, 2018

Answer the following questions: A-Choose the one best answer (45 Marks)

1. What is the role of the condenser lens?

- a. Control the aperture of light
- b. Increase the magnification
- c. Focus the light on the specimen
- d. Provide light

2. Which of the following stain red with H&E stain?

- a. Cytoplasm
- b. Collagen fibers
- c. Nucleus
- d. Elastic fibers
- e. Decalcified bone matrix

3. Which of the following would be best suited to visualize lipid?

- a. Wright's stain
- b. Hematoxylin and eosin stain
- c. Sudan stain
- d. Masson's trichrome stain

4. What is Mucicarmine stain used primarily for?

- a. Blood
- b. Fat
- c. Nervous tissue
- d. Elastic fibers
- e. None of the above

5. During the preparation of a routine H&E slide, what step occurs after the tissue is preserved?

- a. Fixation
- b. Embedding in paraffin
- c. Staining
- d. Slicing
- e. Dehydration

6. During the preparation of a routine H&E slide, how is the tissue preserved?

- a. Fixation
- b. Embedding in paraffin
- c. Staining
- d. Slicing
- e. Dehydration

18-Along with the nervous system, the \_\_\_\_\_ system coordinates the various activities of body parts.

- a. Digestive
- b. Respiratory
- c. Endocrine
- d. excretory
- e. Circulatory

19- The \_\_\_\_\_ produces the hormone melatonin.

- a. Pituitary gland
- b. Pineal gland
- c. Thyroid gland
- d. Pancreatic gland
- e. hypothalamus

20- The function(s) of oxytocin is/are to \_\_\_\_\_.

- a. Stimulate the release of milk from the mother's mammary glands when her baby is nursing.
- b. induce labor
- c. cause the uterus to contract
- d. all of the above

C- Only define the following abbreviations and mention to its primary function :- (10 Marks)

a- ACTH    b- PTH    c- TSH    d- FSH    e- VP

\*Please answer the questions B in the following table

Quest- No.	1	2	3	4	5	6	7	8	-----	20
Answer										

*Best regards*

*Dr. Eman A. Mousa*



12- Hormones produced by the anterior pituitary that have a direct effect on the body, rather than trigger another gland, are

- a. GH, prolactin, and MSH
- b. TSH, ACTH, and gonadotropic hormones
- c. Testosterone and estrogen
- d. FH, LSH and progesterone

13- Calcitonin is a hormone of the

- a- Adrenal cortex.
- b- Thyroid gland.
- c- Pituitary gland.
- d- Thymus gland

14 -The primary site of erythropoiesis in the foetal life is the:

- a. Liver
- b. Spleen
- c. Bone marrow
- d. All of the above
- e. None of the above

15-GH promotes

- a. Cell division
- b. Protein synthesis
- c. Bone growth
- d. All of the above

16- ADH is secreted by the

- a. Hypothalamus
- b. Posterior lobe of the pituitary
- c. Intermediate Lobe of the pituitary
- d. Anterior lobe of the pituitary

17- Chemical substances secreted by cells into extracellular fluids that regulate the metabolic function of other cells in the body are called

- a. Enzymes
- b. Antibodies
- c. Proteins
- d. Hormones

5. Which of the following is not a function of a hormone

- a. Regulates chemical composition and volume of the internal environment
- b. Regulates metabolism
- c. Regulates glandular secretions
- d. Produces electrolytes

6. Which of these hormones is produced by males?

- a. Estrogen
- b. Testosterone
- c. Oxytocin
- d. all of these

7. Which two glands control calcium levels in the blood?

- a. Thyroid and parathyroid
- b. Thalamus and hypothalamus
- c. Adrenal cortex and adrenal medulla
- d. Spleen and pancreas

8-If you have type A blood, your plasma holds circulating \_\_\_\_\_ that will attack \_\_\_\_\_ erythrocytes.

- a- anti-A agglutinins; Type A
- b- anti-B agglutinins; Type B
- c- anti-A agglutinins; Type B
- d- anti-A agglutinogens; Type A
- e- none of the above

9 - What does the hormone melatonin do?

- a- It increases blood calcium concentrations.
- b- It increases cellular metabolic rates.
- c- It helps to regulate sleep patterns.
- d- It stimulates the release of glucose
- e- none of the above

10-A person with type O blood contains:

- a. anti-A and anti-B agglutinins
- b. anti-O agglutinins
- c. anti-A and anti-B agglutinogens
- d. Type O blood lacks agglutinins.
- e. none of the above

11 -All of the following are endocrine glands EXCEPT:

- a. Adrenal glands
- b. Sweet glands
- c. Pineal glands
- d. Pituitary glands

Kafrelsheikh University

Faculty of Science

3<sup>rd</sup> level Zoology Department



December, 27, 2017

Time (2 hours)

Final Exam of Blood & Endocrinology

**Answer the following questions in 4 pages:(70 Marks)**

**A- Explain briefly the following:- (30 Marks)**

- 1- Erythropoiesis.
- 2- Functions of Leukocytes & Variations of The Leukocytes Count.
- 3- Control of hormones Secretion.
- 4- Fate of red blood cell breakdown (only by diagram).
- 5- General function of plasma.
- 6- Regulation of blood volume.

**B-Choose the one best answer.(30 Marks)**

1. Erythropoietin appears in the plasma when peripheral tissues, especially the kidneys, are exposed to:
  - a. excessive amounts of radiation
  - b. extremes of temperature
  - c. low oxygen concentrations
  - d. high urine volumes
2. The liquid part of blood after the fibrinogen is removed is
  - a. plasma
  - b. lymph
  - c. serum
  - d. pus
3. -Agglutinogens are contained (on, in) the \_\_\_\_\_, while the agglutinins are found (on, in) the \_\_\_\_\_
  - a. mitochondria; nucleus of the RBC
  - b. nucleus of the RBC; mitochondria
  - c. cell membrane of RBC; plasma
  - d. plasma; cell membrane of RBC
  - e. none of the above
4. Blood fails to clot in the absence of \_\_\_\_\_
  - a. magnesium
  - b. calcium
  - c. sulphur
  - d. potassium