



UNIVERSITY OF SWAZILAND

2nd SEM. 2014/2015

FINAL EXAMINATION PAPER

PROGRAMME: All B.Sc. YEAR I

COURSE CODE: AS 101

TITLE OF PAPER: ZOOLOGY

TIME ALLOWED: TWO (2) HOURS

**INSTRUCTIONS: ANSWER ANY FOUR QUESTIONS, TWO QUESTIONS
FOR EACH SECTION**

**DO NOT OPEN THIS PAPER UNTIL PERMISSION HAS BEEN GRANTED
BY THE CHIEF INVIGILATOR**

Section A

QUESTION 1

Observe the pictures below and answer:

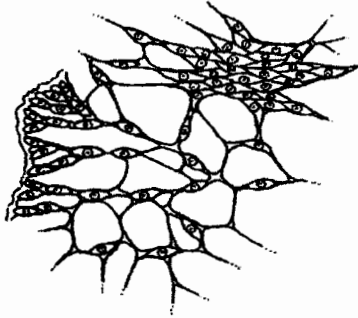


Figure 1

- To which Phylum do the organisms shown in Figure 1 belong? Briefly describe the Phylum. (10.0 marks)
- To which Phylum and Class does the animal in Figure 2 belong? (10.0 Marks)
- Briefly describe the Class. (5.0 Marks)

QUESTION 2

- Write short notes about flagella. (4.0 Marks)
- Explain and illustrate the linkages of DNA organic bases. (10.0 Marks)
- Identify the parts of figure 3 and explain the process that is taking place there. (11.0 marks)



Figure 2

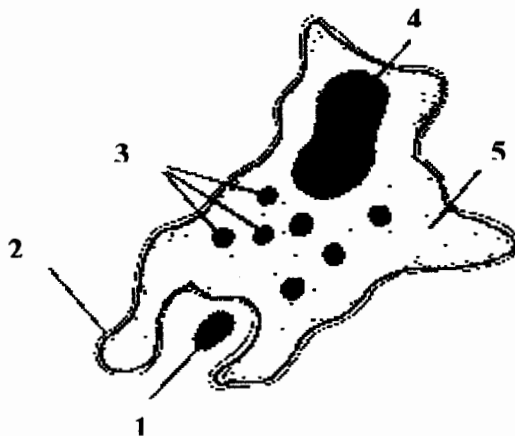


Figure 3.

QUESTION 3

- a) What is essential amino acids? Give 3 examples. (5.0 Marks)
- b) Write short notes about mitosis (objective, number of divisions and number of daughter cells). (15.0 Marks)
- c) Where and when were pigs first farmed? (5.0 Marks)

Section B**QUESTION 4**

CHOOSE THE CORRECT ANSWER:

(22.0 marks)

1. Cardiac muscles are
 - a. striated, syncytial and voluntary
 - b. striated, cross connected and involuntary
 - c. striated, syncytial and involuntary
 - d. smooth, spindle shaped and involuntary
2. Major protein constituent of muscle fibre is
 - a. actin
 - b. tropomyosin
 - c. myosin
 - d. calnexin
3. Cardiac sphincter muscle is a circular band of
 - a. cardiac muscles
 - b. smooth muscles
 - c. striated muscles
 - d. none of these
4. Striped muscle fibres are held together by
 - a. adipose tissue
 - b. white fibrous tissue
 - c. yellow fibrous tissue
 - d. areolar connective tissue

5. Uninucleate muscles are
 - a. smooth muscles
 - b. skeletal muscles
 - c. voluntary muscles
 - d. none of these
6. Myofibrils show dark and light bands in
 - a. cardiac muscles
 - b. stripped muscles
 - c. cardiac muscles and unstriated muscles
 - d. cardiac muscles and stripped muscles
7. Bundles of striated muscle fibres are enclosed in
 - a. peristeum
 - b. epimysium
 - c. endomysium
 - d. perimysium
8. Intercalated discs are present in
 - a. cardiac muscles
 - b. Striped muscles
 - c. unstriated muscles
 - d. ligament
9. Unstriped muscles are present in the
 - a. wall of intestine
 - b. leg muscles
 - c. muscles of fore limb
 - d. heart wall
10. Characteristics of smooth muscle fibres are
 - a. spindle shaped, unbranched, unstriated, uninucleate and involuntary
 - b. spindle shaped, unbranched, unstriated, multinucleate and involuntary
 - c. cylindrical, unbranched, unstriated, uninucleate and involuntary
 - d. cylindrical, unbranched, striated, multinucleate and involuntary

11. The cartilage required for repair of nasal septum is:
- fibrous cartilage
 - elastic cartilage
 - hyaline cartilage
 - calcified cartilage

WRITE TRUE OR FALSE

12. The formation of erythrocytes in mammalian foetus and adult takes place in liver and spleen, red bone marrow. (1.0 Mark)
13. Mature erythrocytes of cattle, sheep goats have no nuclei, they are biconcave, contain iron and haemoglobin, carry oxygen, do not live for more than 120 days, and are not capable of multiplying. (1.0 Mark)
14. Both Lymphocytes and Monocytes have a kidney shaped nuclei which occupy most part of the cytoplasm, and they have no specific cytoplasmic granules. (1.0 Mark)

QUESTION 5

Write short Notes on:

- The Clinical significance of blood cells. (15.0 Marks)
- The main function of granulocytes. (5.0 Marks)
- Connective tissues (5.0 Marks)

QUESTION 6:

a) Explain three differences between compact glands and tubular glands

(10.0 Marks)

b) Label the diagram of figure 4 below:

(10.0 Marks)

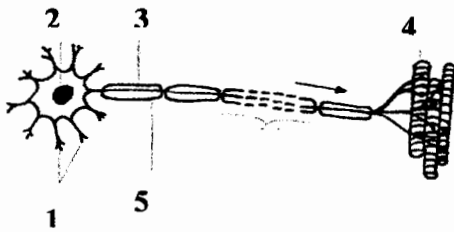


Figure 4

c) Define the process of gametogenesis.

(5.0 Marks)