

UNIVERSITY OF SWAZILAND

2<sup>nd</sup> SEM. 2016/2017

FINAL EXAMINATION PAPER

PROGRAMME: All BSc. YEAR I

COURSE CODE: ASC 104

TITLE OF PAPER: ZOOLOGY

TIME ALLOWED: TWO (2) HOURS

INSTRUCTIONS: CHOOSE ANY FOUR (4) QUESTIONS  
WRITE YOUR ANSWERS ON THE ANSWER BOOKLET.

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

**QUESTION 1**

a. Write True OR False on the answer script.

(2.0 Marks Each)

- 1) Fish, amphibians, are warm blooded, breathe with lungs or gills
- 2) Reptiles have type of body covering, warm blooded, live birth.
- 3) Birds breathe with gills, give birth live ones, covered with scales.
- 4) Elephants breathe with lungs, hatch young from eggs, do not have a skeleton.
- 5) All living things have these characteristic responsiveness, reproduction, feeding, movement, growth, energy release, nucleic acids, adaptation, excretion.
- 6) Boundary of the animal cell is made of a phospholipid bilayer membrane.
- 7) The cell nucleus contains the nucleolus, chromosomes, surrounded by a double membrane and not the easiest organelle to see under a microscope.
- 8) The cytoskeleton provides shape and structure, helps move organelles around the cell.
- 9) The Rough endoplasmic reticulum is connected to nuclear membrane, studded with ribosomes, it makes proteins and lipids.
- 10) Lysosomes work with plasma membranes, golgi apparatus, rough endoplasmic reticulum and mitochondria.
- 11) Lysosomes contain digestive enzymes that break down wastes by phagocytosis and digestion.

b. Write short notes on ribosomes.

(3.0 Marks)

**QUESTION 2**

**Choose and Write the Letter of the Correct Answer:**

(2.0 Marks Each)

1. Somatotrophic hormone is also called
  - a. Prolactin
  - b. Thyroxine
  - c. Luteinizing hormone
  - d. Growth hormone
2. Gene mutation takes place in
  - a. Mitochondria
  - b. Ribosomes
  - c. Deoxyribose Nucleic Acid
  - d. Chloroplast



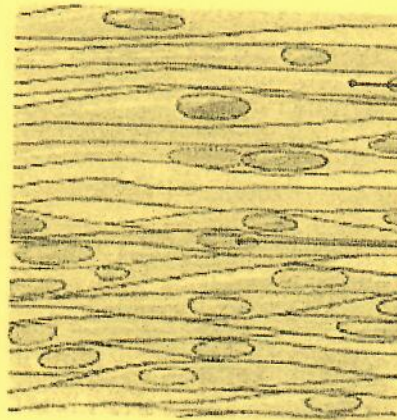
3. The Pituitary gland in the animal body is an example of
  - a. Exocrine gland
  - b. Compound saccular gland
  - c. Endocrine gland
  - d. Skin gland
4. The largest living animals belong to the group of
  - a. Fishes
  - b. Reptiles
  - c. Mammals
  - d. Birds
5. Glucose is stored in the body of animals in the form of
  - a. Insulin
  - b. Glycogen
  - c. Amino acids
  - d. Fat
6. "Sex-linked genes" refer to genes:
  - (a) present in a particular sex
  - (b) controlling secondary sexual characters
  - (c) controlling both primary and secondary sexual characters
  - (d) present on the sex chromosomes
7. Insertion or deletion of a nucleotide in a class of mutation resulting in a sequence of codon that makes nonsensical polypeptide chain is called:
  - (a) translocation
  - (b) inversion
  - (c) chromosome mutation
  - (d) lethal mutation
8. Cancer causing genes are called:
  - (a) operons
  - (b) oncogenes
  - (c) recons
  - (d) mutons

9. Which one of the following enzymes is not proteinaceous in nature?
- (a) Rennin
  - (b) Ribozyme
  - (c) Pepsin
  - (d) Trypsin
10. Which enzyme catalyzes the unwinding of DNA helix during replication?
- (a) Primase
  - (b) Topoisomerase
  - (c) DNA-polymerase
  - (d) Helicase
11. If a mutation occurs in a gamete it would influence:
- (a) a particular sex of the progeny, whose gamete has mutated
  - (b) a single individual
  - (c) all successive generation of the parents
  - (d) sterility in the progeny
12. The cytoskeleton is made of three types of filaments:
- (a) mutated gamete, Protein, hormone
  - (b) Amino acids, polypeptide, Adipose tissue
  - (c) collagen, cartilage, a tendon
  - (d) actin filaments, microtubules, intermediate filaments

13) Identify the two (2) tissues shown in the Figures below.

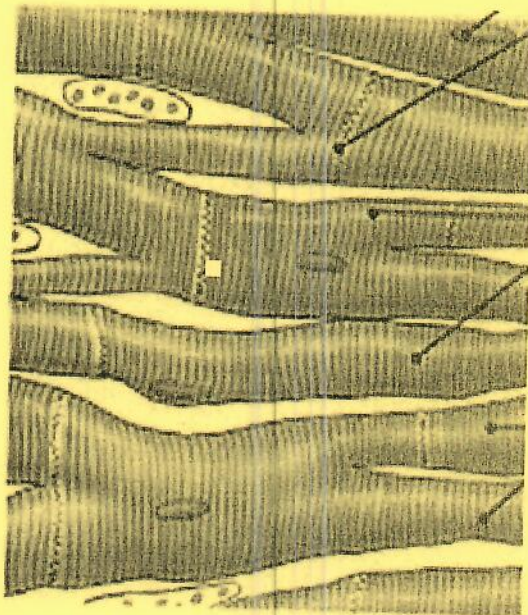
**Tissue A.**

**(1.5 Mark)**



**Tissue B.**

**(1.5 Mark)**





### QUESTION 3

- a) Copy both Table 1 and Table 2 onto your answer book and complete it by filling your answers in the empty boxes.

Table 1.

(9.0 Marks)

Animal	Tapeworm	Brown ear tick	Round worm
Phylum			
Class			
Order			
Family			
Genus			
Species			

Table 2

(9.0 Marks)

Animal	Pigs	Poultry	Sheep
Phylum			
Class			
Order			
Family			
Genus			
Species			

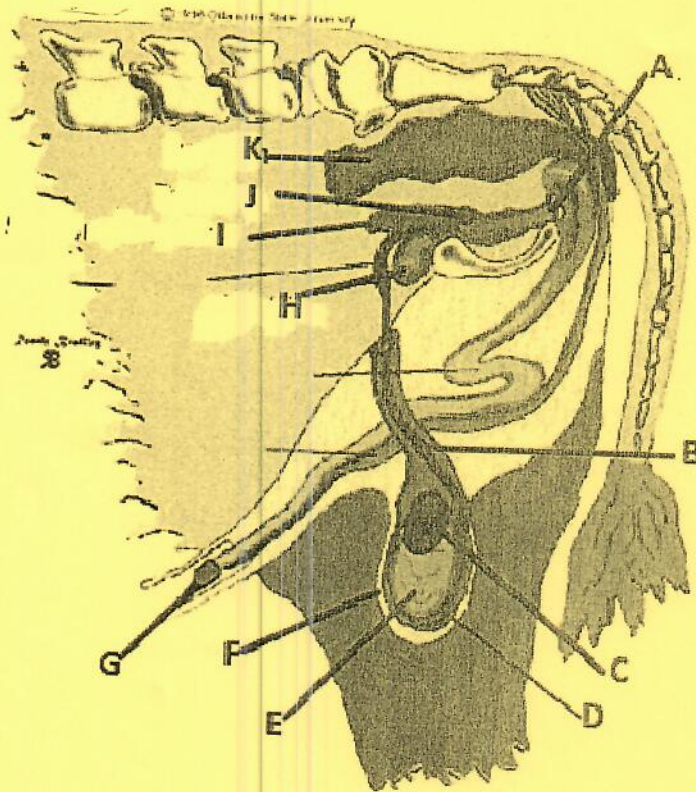
- b) List the basis of Classifying living organisms.

(7.0 Marks)

### QUESTION 4

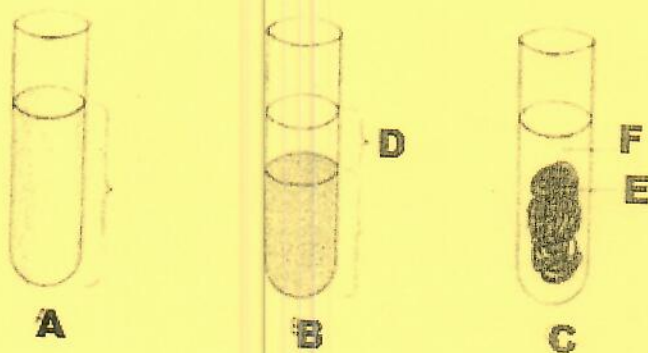
i). Name the structure labelled A to K, write your answers on the answer book.

(11.0Marks)



ii). Name the parts labelled A to F in the Figure below.

(14.0 Marks)



**QUESTION 5****Page 8 of 8**

- a) State four (4) possible reasons for a Red blood cell to appear to be nucleated when examined under a Microscope. (4.0 Marks)
- b) List the main causes of anaemia. (6.0 Marks)
- c) List the functions of blood. (6.0 Marks)
- d) Explain the reasons why avian testicles are softer than mammalian testicles. (3.0 Marks)
- e) List the inner regions of an avian ovary. What type of a gland is an avian ovary? (6.0 Marks)