

ABIA STATE UNIVERSITY, UTURU
FACULTY OF BIOLOGICAL AND PHYSICAL SCIENCES
FIRST SEMESTER EXAMINATION 2014/2015 SESSION
BIO 101: INTRODUCTORY BIOLOGY I

TIME ALLOWED: 2 HOURS

SECTION A

- 1a. What is biology?
- b. List the hierarchies of biological organization
- c. In tabular form compare cell division in prokaryotes to that of eukaryotes

- 2a. Draw and label the animal cell
- b. Highlight the functions of the nucleus, centrioles, mitochondrion, cell and the endoplasmic reticulum.

3. Write short biological notes on the following:
 - a. Natural selection
 - b. Development of respiratory surfaces in animals
 - c. The cell cycle and mitosis

SECTION B

Papillion

- 1a. List any four of the general principles about life that are called "BIOLOGICAL UNIVERSALS"
- b. Write brief notes on "ALTERNATION OF GENERATION" in plants.
(Diagrams essential)

- 2a. Using an illustrative diagram indicate the four major plant organs
- b. Give two major functions of each organ shown in A above

3. Write brief note on EITHER
 - a. Algae and their uses in industries OR
 - b. Photosynthesis and the factors that affect the rate of photosynthesis.

ABIA STATE UNIVERSITY UTURU

FACULTY OF BIOLOGICAL AND PHYSICAL SCIENCES

FIRST SEMESTER EXAMINATION 2016/2017 SESSION.

BIO 101: Introductory biology 1. Register your courses online

Answer question 1 (i-xv) **answers only (objective)**, and any other two questions (theory) from section A., then turn overleaf for Section B. Total time allowed for Sections A and B. 2 hours

SECTION A

1. i. life arose more than _____ years ago
- ii. First living organisms (living things) were _____ celled.
- iii. The organism is the basic unit of life. True or False.
- iv. _____ are specialized structures carry out the cell's processes.
- v. A set of genetic instructions contained in cells is called _____.
- vi. Natural selection can also be called _____.
- vii. Studies of how genes exert their action and the function of molecules found in cells _____.
- viii. The unifying concept of biology was greatly stimulated by the English Zoologist _____.
- ix. Animal behavior is also called _____.
- x. AIDS damages the _____ system.
- xi. The movement of molecules of solutes, liquids or gases from one place to another is referred to as _____.
- xii. It is on _____ that proteins are synthesized.
- xiii. In _____ the parent organism divides into two approximately equal parts and each daughter cell becomes a new individual.
- ✓xiv. _____ cells are major decomposers in most ecosystems.
- xv. If organelles are removed from a cell, the soluble part left is called _____.
2. Aided by a labeled diagrams describe the phases of the cell cycle and mitotic cell division.
3. Write short notes on any two of the following (a) new biology and biomedicine (b) chromosome numbers (c) differences between prokaryotes and eukaryotes.
4. (a) List the hierarchies of biological organization (b) What is crossing-over?

DEPARTMENT OF PLANT SCIENCE AND BIOTECHNOLOGY,
ABIA STATE UNIVERSITY, UTURU
1ST SEMESTER EXAMINATION, 2016/2017

BIO 101, INTRODUCTORY BIOLOGY 1
SECTION B

ANSWER QUESTION NUMBER 1 (GIVE ANSWERS ONLY. DO NOT REPEAT THE QUESTIONS). QUESTIONS 2,3,4, ANSWER ANY TWO

- 1a. _____ deals with the science of life generally
- b. Plants have four major organs namely, _____, _____, _____ and _____
- c. _____ anchor plants firmly in the soil
- d. Two major root systems are: (1) _____ (2) _____
- e. In alternation of generations in plants the _____ alternates with the _____
- f. Angiosperms are known as _____ plants. They are broadly classified into two groups namely: (1) _____ (2) _____
- g. Algae are classified, based on their colour or pigmentation into the following
 1. _____
 2. _____
 3. _____
 4. _____
 5. _____

Papillion

- 2a. On what basis are bacteria classified?
- b. By means of illustrations, classify bacteria
- c. Give two examples each on: (i) Harmful effects of bacteria
(ii) Uses of bacteria
3. Living things are highly organized. Beginning with the cell, trace the hierarchy to the level of the organism
4. Write brief notes to show your understanding of the following branches of biology
 - (a) Anatomy (b) Cytology (c) Genetics (d) Ecology
 - (e) Taxonomy (f) Embryology (g) Mycology (h) Physiology
 - (i) Morphology (j) Pathology

Papillion

ABIA STATE UNIVERSITY UTURU

FACULTY OF BIOLOGICAL AND PHYSICAL SCIENCES

FIRST SEMESTER EXAMINATION 2017/2018 SESSION

BIO 101: Introductory biology 1. Register your courses online

Answer question 1 (i-xv) answers only (objective), and any other two questions (theory) from section A., then turn overleaf for Section B. Total time allowed for Sections A and B. 2 hours

SECTION A

1. i. Maintenance of very stable internal conditions is termed _____
ii. Diffusion entails surface area increasing by _____ and volume by _____
iii. The study of cells is called _____
iv. _____ was first introduced by the Swedish Naturalist Carl Linnaeus in 1735.
v. _____ are the organelles responsible for protein synthesis
vi. There is cytoplasmic streaming in prokaryotes. True or false?
vii. Glandular epithelia are chiefly characteristic of _____
viii. _____ is the possession of two similar alleles at two corresponding loci on a pair of chromosomes.
ix. Animal behavior is also called _____ system.
x. AIDS damages the _____ system.
xi. *Homo sapiens* possess _____ number of chromosomes.
xii. When an organism bears only one type of spores, it is said to be _____.
xiii. _____ is the study of groups of organisms and their relationship with the biotic and abiotic environment.
xiv. Charles Darwin published the book titled _____ in 1860
xv. If organelles are removed from a cell, the soluble part left is called _____
2. (a) Aided by a labeled diagrams describe the phases of the cell cycle.
(b) Compare metaphase of mitosis to metaphase of meiosis.
3. (a) Draw and label the animal cell. (b) Highlight the functions of all the labelled organelles.
4. Write short biological notes on any two of the following- (a) Biomedicine and the new biology (b) Homologous chromosomes and crossing over (c) Prokaryotes and eukaryotes *

ABIA STATE UNIVERSITY, UTURU
FACULTY OF BIOLOGICAL AND PHYSICAL SCIENCES,
FIRST SEMESTER EXAMINATION 2017/2018 SESSION

BIO 101: Introductory Biology 1

(SECTION B)

Instructions: Answer question 1 (Give answers only and do not repeat the questions) and any other.

- 1a. i. Lower plants are also known as _____ Papillion
ii. _____ and _____ are lower plants that live on land
iii. Lower plants do not possess a vascular system and are thus known as _____ plants
iv. _____ is the waxy layer that protects plant from water loss through evaporation
v. The principal generation in lower plants is often the _____
vi. The lower plants do not produce flowers/seeds; thus are referred to as _____ or _____
vii. _____, _____ and _____ are the three main groups in which lower plants are classified.
- b. i. The branch of Science which studies Fungi is called _____ and the name
ii. is derived from two Greek words _____ and _____
iv. Fungi stores food as _____
- c. Mention the four types of Virus based on their nucleic acid components
-
- 2a. i. By means of illustrations, classify bacteria
b. Group the following bacteria into their different classes
i. *Staphylococcus aureus* ii. *Spirochaete* iii. *Bacillus typhosus*
iv. *Micrococcus sp.* v. *Mycobacterium tuberculosis* vi. *Streptococcus faecalis*
- 3a. Classify Algae based on their colour or pigmentation
b. Mention the principal pigment found in each Algae classified above.