



DEPARTMENT OF ANIMAL AND ENVIRONMENTAL BIOLOGY
RIVERS STATE UNIVERSITY, NKPOLU-PORTHARCOURT
FIRST SEMESTER EXAMINATION, 2021/2022 SESSION

COURSE TITLE: BASIC BIOLOGY I COURSE CODE: BIO 101 MAX.MARKS 70%
CREDIT UNIT :3 TIME ALLOWED :2HRS DATE OF EXAMINATION 06/07/2022

NAME OF CANDIDATE..... MATNO.....

DEPARTMENT.....

SECTION A (40marks)

INSTRUCTIONS: ANSWER ALL QUESTIONS FROM SECTION A AND ANY THREE FROM SECTION B. NO STUDENT IS ALLOWED TO ENTER THE EXAMINATION HALL WITH MOBILE PHONES.

1. The process via which multiple organisms gain a greater or lesser share of a limited resource is termed.....
2. -----and..... are the types of evolution
3. The deliberate management of communities and ecosystems in an attempt to regenerate historical levels of native biodiversity is known as.....
4.is the primary source of energy to all ecosystems
5. Plants which require large amount of water for growth are known as.....
6. Living organisms can use energy in two forms which are..... and
7.is the process by which an organism develops an adaptation that create an entirely new species .
8.is a significant long-term increase in mean global temperatures
9. The branch of biology dealing with interactions among organisms and between organisms and their environment is called.....
10. In the following food chain, which organism is the secondary consumer? Grass-rabbit-snake-hawk. A Grass B Rabbit C Snake D hawk
- 11) Cells divide and reproduce in 2 ways:_____ and _____
- 12) At the end of Mitosis, the cytoplasm divides around the two new nuclei in a process called _____
- 13) Meiotic division takes place in _____ Cell

- 14) The _____ is the brain box of the cell
- 15) _____ is the protective outer covering of the animal body and plays the same function as the _____ in plants.
- 16) Shuffling of genes occur during _____ division
- 17) _____ and _____ are complex tissues in plants
- 18) _____ organelle is responsible for producing energy within the cell
- 19) The tissues and organs in the animal body is supported and held in position by the _____ tissue
- 20) The fine structure of the cell can be observed under the _____ microscope
- 21) was the first person to report the role of microorganisms in fermentation in 1848
- 22) verified the germ theory of disease by relating a specific organism to the specific disease
- 23) The gut microbiome can be kept in good shape by taking and
- 24) are bacteria that produce their own food using inorganic sources such as CO_2
- 25) Mention any two taxonomical aspect in microbiology and
- 26) The roles of microorganisms in geochemical cycles were established by and
- 27) Animal wastes, domestic refuse biomass and grain can be converted to biofuels such as and by microorganisms.
- 28) In the nitrogen cycle, fixation of atmospheric nitrogen is carried by only
- 29) Microorganisms resident on the skin include and
- 30) The most abundant vaginal microorganisms found in premenopausal women are from the genus
- 31) The process of producing a RNA polymer from a DNA template is called
- 32) Each organisms has a unique combination of characters encoded in molecules of
- 33) Considering the double stranded DNA, what kind of bonds hold one complimentary strand to the other
- 34) The DNA strand from which the mRNA is transcribed is known as

35 The chemical bonds in DNA by which the sugar component of adjacent nucleotides are linked through the phosphate groups are called

36 The enzyme that breaks the hydrogen bonds between complementary bases is called

37) The two types of nucleic acids are.....and.....

38 For the codon AUG on a mRNA, the tRNA that will bind at the P-site will carry the anticodon

39 Given a single strand of DNA 3' CTA GCA GCT 5', what will be the mRNA chain which would be made from the strand?

40 What is meant by "nonsense" codon?.....

SECTION B (30 Marks)

INSTRUCTION: ANSWER THREE QUESTIONS ONLY FROM THIS SECTION

1 Differentiate between microbiome and Microbiota

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2) Mention three major types of plant tissues and their functions

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3) Distinguish between i) population and community ii) food chain and food web

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4 In a tabular form, state the four major differences between DNA and RNA