

BIO 1130MM

An introduction to Organismal biology
Midterm examination
Worth either 15% or 20% of your final grade

Saturday, October 13, 2012

Part A: Multiple choice questions
20 points (1 point/question)

Fill in the bubbles for your name and student number and BIO1130MM for the course code. Fill in the same information in text in the boxes above the bubbles.

Use only a pencil to fill in the answer sheet. If you erase a question be sure to erase all of the pencil mark. Don't place any marks anywhere on the sheet other than where the bubbles are for personal information or your answers.

Do not place any answers on the question sheet.

This is not an open book exam.

CAUTION to minimize paper waste this part of the exam has been printed back to back

NOTE: If you do not fill in the student number and course code as **BIO1130MM** it will be impossible to identify your answer sheet and you will receive a **ZERO** for this part of the exam

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Multiple choice questions - Place your answers on the answer sheet

MM.1 Which of the following kinds of traits was originally used for classifying organisms into taxonomic categories?

- a. DNA and amino acid sequences
- b. geography and ecology
- X c. morphology**
- d. physiology and biochemical pathways

MM.2 Water's high specific heat is mainly a consequence of the

- a. inability of water to dissipate heat into dry air.
- X b. absorption and release of heat when hydrogen bonds break and form.**
- c. fact that water is a poor heat conductor.
- d. high specific heat of oxygen and hydrogen atoms.
- e. small size of the water molecules.

MM.3 At what temperature is water at its densest?

- a. 0°C
- b. 32°C
- c. 212°C
- X d. 4°C**
- e. 100°C

MM.4 This Greek philosopher was one of the first to study human biology:

- a. Aristotle
- b. Pethagerus
- X c. Hippocrates**
- d. Theophrastus

MM.5 Which of the following best describes a Linnean binomen?

- a. A combination of a noun and adjective in Latin
 - b. A name of all living species.
 - c. Two words.
 - d. both a and b.
 - X e. both a and c.**
- The binomen itself is not a name for all living things, how it's used or its implementation is, but not the binomen itself**

MM.6 The "Ancient father of taxonomy" worked with these organisms

- a. Vertebrates
- b. All animals
- X c. Plants**
- d. Both plants and animals
- e. Fungi

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MM.7 Which gas was originally missing in the Miller-Urey experiments

- a. Methane (CH₄)
- b. Hydrogen (H₂)
- c. Ammonia (NH₃)
- d. Carbon dioxide (CO₂)
- e. None of the above.

MM.8 What was the major stumbling block for the acceptance of natural selection as a mechanism for evolution when proposed by Darwin?

- a. lack of a plausible theory of heredity
- b. the incomplete nature of the fossil record
- c. lack of observational and experimental data

MM.9 The date October 23, 4004 BCE was important because:

- a. it established the date for the creation of all the organisms on the planet.
 - b. it established the date of the great flood that was used by Cuvier to explain fossils
 - c. It established a date for the origins of the scala naturae.
 - d. A and C are both correct
 - e. A and B are both correct
- Please note the scala naturae was a model/mechanism to explain the living world as it appeared to Aristotle who proposed it. Aristotle is the origin of the scala**

MM.10 The first classification of plants created during the Greek and Roman ages divided the plants into groups based on:

- a: Seed morphology
- b: The shapes of the leaves of the plant
- c: Their flowers
- d: The reproductive structures of the plant.

MM.11 Meteorite impacts during the stabilizing phase of the Hadean Eon did which of the following

- a. increased the amount of water on the planet
- b. flash sterilized the planet
- c. created the moon that circles the earth
- d. all of the above

MM.12 Currently, taxonomic domains include

- a. Archaea, Bacteria, Eukarya.
- b. North America, South America, Eurasia, Africa, and Australia.
- c. Mammalia, Insecta, Aves, and Planta.
- d. Kingdom, Phylum, Class, and Species.

MM.13 Which of the following taxa were not in Linneaus's origin taxonomy?

- a. Order
- b. Family
- c. Class
- d. Kingdom
- e. Phylum

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MM.14 Which is a defining characteristic that all protocells had in common?

- a. the ability to synthesize enzymes
- b. a surrounding membrane or membrane-like structure
- c. a nucleus
- d. RNA genes
- e. the ability to replicate RNA

MM.15 Which of the following is the best modern definition of evolution?

- a. Change in allele/gene frequencies in a population over time
- b. Survival of the fittest
- c. Descent without modification
- d. Inheritance of acquired characters

MM.16 Which statement about spontaneous generation is false?

- a. Pasteur demonstrated that it does not occur under normal laboratory conditions.
- b. It apparently occurred at least once - when life on Earth began.
- c. It addresses the formation of living cells from previously nonliving material.
- d. It occurs every time a new species evolves from a preexisting species.

MM.17 The proposition that species change through time was first proposed by whom?

- a. James Hutton
- b. Jean Baptiste de Lamarck
- c. Alfred Russel Wallace
- d. Georges Cuvier

MM.18 The dark, or medieval age, lasted for how long in Europe?

- a. approximately 1000 years
- b. about 100 years
- c. close to 500 years
- d. approximately 1500 years

Note: dark and medieval ages are synonyms and this is indicated in the root of the question.

MM.19 Which of these is based on a deduction?

- a. My car won't start.
- b. My car's battery is dead.
- c. I lost my car key.
- d. My car is out of gas.
- e. If I turn the key in the ignition then my car will start.

MM.20 Which type of bond must be broken for water to vaporize?

- a. hydrogen bonds
- b. polar covalent bonds
- c. ionic bonds
- d. nonpolar covalent bonds
- e. covalent bonds