BIO 1130 An Introduction to Organismal biology
Midterm examination
Worth either 15% or 20% of your final grade
Total points for both parts of the exam is 60 pts

Saturday, October 5, 2013

Part B: Written questions

a) Place your name and student number in the space provided below. Be sure that your student number is on the top of each of the following pages – the exam will be separated. ONLY place your student number on the pages where indicated

b) Answer all questions in the space provided on the exam. Do not transfer answers to the back of the page.

c) You may use either pencil of ink for your answers.

d) Answers as written paragraphs are preferred but point form is acceptable as long as the points are logically organized and not random statements or facts

e) This is not an open book exam.

f) There are five pages including this one in part B of the exam, be sure you have all five pages.

g) Enter the multiple choice exam code in the space provided

Name: _____

Student number: _____

Multiple Choice Exam Code (MM or FF): _____

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12 pts Part 1. Briefly explain what each of the following terms or phrases means or the biological contribution made by the person. Where possible include an example in your explanation from a group or an organism to which the term or name applies.

2nd age of sand

{Douglas /Adams}{silica forms microscope lens/invention of the microscope changes science}{allows the first look at the smaller components of life - cells}{alternate view of the history of science}

Proximate cause

{Ask questions that deal with things such as immediate outcomes/effect from a change or manipulation/physical sciences}{Look for the patterns in a series of observations - ex when a stimulus causes an action or behaviour the question asks what happened/genes in action.} {report the findings as results of an experiment} {How questions}{ } Must have first two for a point each – either of the third or the fourth to give the maximum of 3 points

Stabilizing selection

{when the extremes/tails of the distribution have lower fitness than the middle or intermediate}{eliminating the extremes narrows the variation in a population}{Example - birth weight where large and small babies less likely to survive, also gall maggot in golden rod call too big wood peckers are predators, two small wasp is predator}

Folk taxonomy

{way of naming/organizing things/organisms objects}{limit is the brains capacity / limited approximate 500 objects and three levels}{stored and transmitted by word of mouth from one generation to the next}

18 pts Part 2: Fill in the missing word, or provide the one word answer in the space provided at the end of the sentence. If the line is missing, add it to the end of the line.

2.1 Historical narratives ask this type of question. ____**Why**_____

2.2 Type of mutation when the gene sequence along a chromosome changes from abcdefg to abefg. _____ **Deletion** _____

2.3 Genus and species names are written in this language. _____ **Latin** _____

2.4 Early colonists that settled the new world are often an example of this type of genetic drift (Two words). _____ **Founder effect** _____

2.5 This type of trait masks and hides another. _____ **dominant** _____

2.6 Under normal circumstances the range of variation for a phenotype can be represented with this type of curve. _____ **Bell/Normal** _____

2.7 This disease, transmitted by fleas, killed as almost half the population of Europe in (Two words) _____ **Black/Bubonic Plague/death** _____

2.8 The evolutionary history of a group of organisms is expressed as this. _____ **Phylogeny/phylogenetics** _____

2.9 Evolutionary change that results from changes in allele frequencies. _____ **Microevolution** _____

2.10 Taxon below a phylum but above an order. _____ **Class** _____

2.11 Until the start of the 19th century people that studied the living world were commonly referred to as this type of investigator or scientist.

Naturalist/Natural scientist

2.12 While there are lots of different Laws associated with the physical science, laws are not often found in the natural science because of this characteristic of a scientific law. _____ **Universality/Universal** _____

2.13 The name of the 19th century scientist who becomes the father of physiology because of his extensive studies on this system. _____

Circulatory/Harvey_____

2.14 Special typographic formatting that you have to apply to a genus species name when typed. _____ **Italic** _____

2.15 Plural of taxon. _____ **Taxa** _____

2.16 The presence of variation that is based on a genetic program distinguishes this type of science. _____ **Natural** _____

2.17 This type of literature is written by the investigators that work in the field but is a review of a special topic and then reviewed by their colleagues in the same field for accuracy. _____ **Secondary** _____

2.18 The Greek philosopher Aristotle primarily studied this group of organisms.

_____ **Animals** _____

Part three of the exam is on the next page

10 pts Part 3: Answer the following two questions in the space provided.

3.1 What is Darwin's theory on "no constancy of species"? In your answer provide two observations/examples that support the theory.

{challenged the Scala Naturae/general knowledge was that the numbers of species was fixed}{had never changed since the creation of the earth}{Darwin says that there have been changes staying something along the lines of species have been lost or new species have appeared}Examples must include an explanation of why it fits it can't just name an organism{examples could include: animals that have gone extinct}{forms found only in fossils} {The finding of transition species – missing links – evolution of horses, birds and seals were used in class and may be used as an example/or an explanation of transition species/fossils}

3.2 What is gene fixation and how does it come about; what are the consequences for a population that experiences it?

{Extreme form of Natural selection usually by human intervention}{When there is high selective pressure}{against a phenotype or Allele that disappears completely from the population}{Consequence: the remaining allele is fixed and a genetic variant is lost}{example strong selection has resulted in disease/plant/insect resistance to control teatments – resistance and super bugs as an example}