**Keystone Exam Practice Test #2 Answers**

**I Basic Biological Principles**

**1. A**

**2. D**

**3. D**

**4. B**

**Constructed response**

**#1 - Rough ER, transports proteins inside the cell, ribosomes, are on the Rough ER and they make the protein that is then transported through the Rough ER. ; Another organelle would be the Golgi apparatus, it receives the protein from the Rough ER and packages, modifies and puts it in a vesicle for it to be delivered.**

**#2 It is the nucleus and it controls the cell. DNA is associated with this structure as in Eukaryotic cells, the DNA is found inside the nucleus, DNA makes RNA which is used to make the proteins on the ribosomes.**

**#3 Mitochondria - makes ATP/energy for the cell , the Substance is ATP, it is produced inside the mitochondria during cellular respiration. Another cell part is cilia or flagella, they need ATP which is made my the mitochondria to make them move .**

**II Chemical Basis of Life**

 **1. C**

 **2. D**

 **3. C**

 **4. C**

**Constructed Response**

**Pepsin works at a low pH (acid 1-3) in the stomach so if it moves with the food to the small intestine it will be denatured and will not function as the pH changed to a base (7.5-9) which caused the enzyme to fall apart. A fever causes the body temperature to go higher than 37 degrees Celsius and when enzymes are heated above their working temp it will cause the protein that makes the enzyme to fall apart and not function also. Each of these three enzymes have specific substrates that they act upon. They must fit correctly with their substrate’s shape so different enzymes can not work on the same food type as the food is the substrate.**

**III Bioenergetics**

1. **B**
2. **B**
3. **B**

**Constructed Response**

**X is the mitochondria. The process it performs is cellular respiration or changing glucose and oxygen into ATP, water and CO2. The ATP that is produces is the energy that a cell uses for all its functions, it is the power for the cell to make and break down materials, divide, etc.**

**IV Homeostasis & Transport**

**1. B**

**2. C**

**3. B**

**4. C**

**Constructed Response**

**Active transport is different from diffusion because AT goes against the gradient and needs energy or ATP to do that and diffusion does not.**

**V Cell Growth and Reproduction**

**1. C**

**2. D**

**3. B**

**Constructed Response**

**Asexual reproduction results in identical offspring as the DNA copies itself and splits in half to make 2 identical cells, there is no crossing over or finding homologous chromosomes which would make genetically different cells.**

**VI GENETICS**

**1. C**

**2. A**

**3. A**

**4. C**

**Constructed Response**

**THE THIRD (3) sequence would be made. GGA is the code for Proline (amino acid) and TGA is the code for threonine, so the wrong base would be substituted in and could make the shape of the protein wrong.**

**UV rays from the sun can cause a base sequence to change. (smoking, chemicals, )**

**VII Evolution**

**1. C**

**2. C**

**3. B**

**4. B**

**Constructed Response**

**HAWKS will compete for food and need good eye sight to capture their prey. The hawks with better eye sight will catch more food and live and most likely reproduce, passing those traits (genes) onto their young. The ones with bad eye sight will die due to starvation. Over time the frequency of good eye sight will increase in the population. Now if they had weak wing muscles then the ones with bad eyesight could still compete with them as they could fly faster and better to get the food.**

**VIII Ecology**

**1. A**

**2. A**

**3. D**

**Constructed Response (2 DIFFERENT ANSWERS)**

**A. INCREASE in UV rays, due to aerosols giving off CFC’s causing the ozone layer that protects the earth from UV rays to decrease. This lets in more harmul uv rays causing more cancer, destroying crops, plants etc.**

**Ban CFC’s in aerosol cans, air conditioning.**

**B Global warming is due to an increase in the amount of carbon dioxide produced by all types of transportation, burning fossil fuels, which puts more of the greenhouse gas (CO2) into the atmosphere warming up the temp of the earth. This causes flooding, melting of ice caps which led to less ice for polar bears and loss of food for them as they have no ice to walk in and can’t swim long distances in the ocean. Quit burning fossil fuels (coal, oil)**