Bio quiz 3 statements

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1. Homeostasis helps maintain a stable internal environment despite external changes.

Answer: True.

2. Red blood cells have a nucleus that helps regulate their functions.

Answer: False. Red blood cells lack a nucleus .

3. Mitosis occurs in somatic cells.

Ans: True.

4. Parthenogenesis is a sexual reproduction.

Ans: False. (Parthenogenesis is an asexual reproduction)

5.Hormones are biochemical catalysts speeding up reactions that would otherwise happen too slowly.

Ans:False(Enzymes are biochemical catalysts speeding up reactions that would otherwise happen too slowly.)

6.Isomerase catalyzes the oxidation and reduction reactions.

Ans:False(oxidoreductase catalyzes the oxidation and reduction reactions)

7.Bacteria cell divide into multiple cells by the process of mitosis. (False)

= Bacteria cell divide into 2 identical cells by the process of binary fission.

8. Chlorophyll Works as a CATALYST in photosynthesis Reaction & speed up the process. (True)

9. Xanthophylls are green. (False)
Correct ans: Xanthophylls are yellow

10.Carotenes & Xanthophylls assist photosynthesis reaction by absorbing different colors and help Chlorophyll(True)

11.Fever is caused by a decrease in the body's core temperature. (False)
True:fever is caused by an increase in the body's core temperature.

12.Shivering helps generate heat to keep the body warm in cold weather. (True)

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1. The dermis layer of the skin contains hair follicles, sweat glands, and blood vessels.
ANSWER : TRUE
2. The hypothalamus detects changes in blood temperature and adjusts core body temperature via the TRC.
ANSWER : TRUE
3. Dna must be copied before cell division so that each new cell has an identical copy of the DNA.
ANSWER : TRUE
4. The Calvin Cycle requires direct light exposure to synthesize glucose.
ANSWER : (FALSE)- The Calvin Cycle uses ATP/NADPH from light-dependent reactions but does not need light directly.

5. Cellular respiration breaks down glucose into carbon dioxide and water, releasing energy stored in ATP.
ANSWER : TRUE
6. Hypothermia occurs when the body temperature rises above 100°F.
ANSWER : (FALSE)- Hypothermia occurs when the body temperature falls below 95°F.
7. The G2 phase of the cell cycle involves DNA replication
ANSWER : (FALSE)- DNA replication occurs in the S phaseG2 involves final preparations for mitosis.
8. The light-dependent reactions of photosynthesis occur in the stroma of the chloroplast.
ANSWER : (FALSE)- Light-dependent reactions occur in the“thylakoid membranes” not the stroma.
9. Hormones are transported through the bloodstream to regulate cellular functions.
ANSWER : TRUE
10. The hypodermis is a layer of the skin responsible for synthesizing vitamin D
ANSWER: (FALSE) -Vitamin D synthesis occurs in theepidermis (via UV exposure)

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1.All prokaryotic cells store genetic information in chromosomes.
Ans :False.All eukaryotic cells store genetic information in chromosomes.
2.Duplicated chromosomes are called chromatids & are held together by the centromere.
Ans :true
3. The skin protects our body against damage, dirt and germs.
Ans :true
4.In DNA replication the double circular DNA molecule is replicated.

Ans: (false) In DNA replication the single circular DNA molecule is replicated.

5.In meiosis 1 the germ cell has 44 chromosomes organized into 22 pairs.

Ans: (false) In meiosis 1 the germ cell has 46 chromosomes organized into 23 pairs.

6.respiration includes 3 phases

Ans- false , respiration has 2 phases

7.osmoregulation controls the amount of dissolved substances in the blood and tissue fluid

Ans - true

8.O2 is carried away from the cell through blood circulation.

Ans :false.Carbon dioxide is carried away from the cell through blood circulation.

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1. The G1 phase is when the cell grows and prepares for DNA replication.

True

2. Cyclins and CDKs are only active during the mitotic phase of the cell cycle.

False - Cyclins and CDKs are active throughout the cell cycle, not just during the mitotic phase.

3. The heart pumps only oxygenated blood.

False - The heart pumps both oxygenated and deoxygenated blood.

4. The kidneys filter only urea.

False -The kidneys filter urea, uric acid, excess ions and water.

5. Sweating is an example of a positive feedback mechanism.

False - Sweating is a negative feedback mechanism because it helps lower body temperature when it rises.

6. The pancreas helps regulate blood sugar levels through insulin and glucagon secretion.

True

7. Negative feedback loops help maintain homeostasis by reversing changes in the body.

True

8. The skin helps maintain body temperature.

True

9. All cells originate from spontaneous generation.

False – All cells are derived from pre-existing cells.

10. Eukaryotic and prokaryotic cells divide in the same way.

False – Prokaryotes divide by binary fission, while eukaryotes undergo mitosis or meiosis.

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1. Cellular respiration is the process by which living cells break down glucose molecules and release stored chemical potential energy.

Answer: True.

2. Cellular respiration occurs in the nucleus of the cell.

Answer: False,Cellular respiration occurs in the mitochondria.

3. The wavy lines () in ATP represents low energy phosphate bonds.

Answer: The wavy lines in ATP represent high-energy phosphate bonds.

4. Most eukaryotes have between 100 and 500 chromosomes in their body cells.

Answer: False,Most eukaryotes have between 10 and 50 chromosomes in their body cells.

5. Human body cells have 46 chromosomes.

Answer: True.

6. The human body contains about 10 trillion cells.

Answer:False,The human body contains about 100 trillion cells.

7. Approximately 10-20% of the adult human body is fluid.

Answer: False, Approximately 60-80% of the adult human body is fluid.

8. Asexual reproduction involves a single cell dividing to produce two identical daughter cells.
Answer: True.
9. After the reaction, the enzyme is permanently changed and cannot be used again.
Answer: False, Enzymes remain unchanged and can be reused.
10. Binary fission and budding are examples of sexual reproduction.
Answer: False, Binary fission and budding are examples of asexual reproduction.
11. Enzymes are complex chemicals that control reactions in living cells.
Answer: True.
12. The process of cellular respiration is also known as the oxidation or "burning" of glucose.
Answer: True.

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1. **DNA** is tightly wrapped around **proteins** known as **histones**.
Ans: **True**.
2. The cell cycle contains **five** major checkpoints that ensure proper cell division.
Ans: **False**. The cell cycle contains **three** major checkpoints that ensure proper cell division.
3. When a phosphate bond in ATP is broken, **5 K.cal** of energy is released.
Ans: **False**. When a phosphate bond in ATP is broken, **7 K.cal** of energy is released.
4. Homeostasis is controlled by a feedback mechanism which consists of three parts.
Ans : **True.**
5. **Division of nucleus** is known as **karyokinesis**.
Ans: **True.**
6. Human bodies have 30 pairs of identical chromosomes.
Ans: **False**. Human bodies have 23 pairs of identical chromosomes..
7. Inspiration is the transport of carbon dioxide from tissue to atmosphere through the mouth.
Ans: **False**. Inspiration means the supply of oxygen from the atmosphere to tissue through respiratory tract and blood.
8. Hormones are chemical substances secreted from the **8 major** endocrine glands.

Ans: **True.**

9. Complete oxidation of glucose can generate a maximum of 38 ATPs.

Ans: **True.**

10. Alcohol fermentation occurs in certain **virus and muscle** cells that thrive in anaerobic environments.

Ans: False. Alcohol fermentation occurs in certain bacteria and yeast **that thrive in** anaerobic environment

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Statements:

1) The nature of the Catabolism is reductive.

Ans: False.

Correct Ans: The nature of the Catabolism is oxidative.

2) Every molecule of Glucose is oxidized to 38 molecules of ATP.

Ans: True.

3) Cellular respiration is Anaerobic respiration.

Ans: False.

Correct Ans: Cellular respiration is aerobic respiration.

4) Chlorophyll is found in Chloroplast.

Ans: True.

5) Duplicated chromosomes are called histones.

Ans: False.

Correct Ans: Duplicated chromosomes are called chromatids.

6) During adulthood the number of cell divisions is equal to cell deaths.

Ans: True

7) Mitosis has 5 stages.

Ans: False.

Correct Ans: Mitosis has 4 stages.

8) The role of Meiosis is sexual reproduction.

Ans: True.

9) The heart keeps blood and tissue fluid clean by filtering the substance not needed by the cells.

Ans: False.

Correct Ans: Kidneys keep blood and tissue fluid clean by filtering the substance not needed by the cells.

10) The sweat evaporates and cools us down.

Ans: True.