**Science 9 – Daily Science Review Questions/ANSWERS for Exam – REPRODUCTION**

**NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ JANUARY 2017**

**REPRODUCTION**

**Part 1**

1. What is the name of the four parts of the cell cycle?
2. **ANS: G1, S, G2, and M or cell division**
3. Name the two parts of cell division? **ANS: mitosis and cytokinesis**
4. Name (in the proper order) are the four phases of mitosis? **ANS: prophase, metaphase, telophase, and anaphase**

**Part 2**

1. Name the structure of the cell responsible for regulating what enters or exits the cell.

**ANS: cell or plasma membrane**

1. What is the function of the cell wall?

**ANS: The function of the cell wall is to provide support and protection.**

1. What organelles make an animal cell different from a plant cell?

**ANS: Centrioles found in animal cells only and plant cells have chloroplast, cell wall and one large vacuole.**

1. What structure is responsible of the making of proteins?

**ANS: The structure responsible for making of proteins is the ribosomes**.

**Part 3**

1. This type of reproduction involves the union of sex cells to produce an organism.

**ANS: Sexual reproduction**

1. Name the three parts of the cell theory.

**ANS:(1) All living things are composed of cells.**

**(2) Cells are the basic units of structure and function in living things.**

**(3) New cells are produced from existing cells.**

1. What is a zygote?

**ANS: A zygote represents the union of an egg cell and a sperm cell (fertilized egg).**

1. What are changes in the genetic code called?

**ANS: The changes in the genetic code are called mutations.**

**Part 4**

1. During which phase of mitosis are chromosomes visible?

**ANS: Chromosomes are visible during prophase of mitosis.**

1. During which phase of mitosis are chromosomes aligned at the center of the cell?

**ANS: Chromosomes align at the center of the cell during metaphase of mitosis.**

1. How is cytokinesis different in animal and plant cells? Diagram

**Animal cell – furrow develops which is the in-pinching of the cell or plasma membrane**

**Plant cell – the formation of a cell plate on the inside of the cell to the outside forming a cell wall.**

**Part 5**

1. What is another name for cell membrane?

**ANS: cell or plasma membrane**

1. What is the cell membrane composed of?

**ANS: bilipid layer (or phospholipid layer)**

1. What is the nucleus composed of?

**ANS: chromatin (or chromosomes), nucleolus, nuclear envelope, and nuclear pores**

1. What is the function of the nucleus?

**ANS: The function of the nucleus is to be the control center of the cell of the cell’s activities and processes.**

**Part 6**

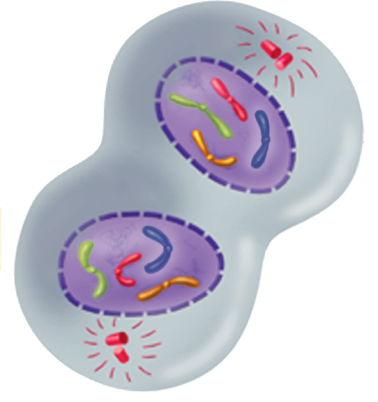
1. What are chromosomes composed of?

**ANS: Chromosomes are made up of DNA and proteins.**

1. DNA replication takes place during this phase of the cell cycle.

**ANS: S phase of the cell cycle**

1. Answer the following questions based on the events of a cell during telophase.



1. What structures reaches the opposite end of the poles? **ANS: centrioles**
2. Where are the newly formed chromatids located? **ANS: Inside the reappearing nuclei.**
3. What structure is reappearing? **ANS: nuclei**

What type of cell is represented in the diagram? **ANS: Animal cell due to the presence of centrioles.**

1. Cytokinesis begins and the **cytoplasm** and **organelles** separate.

What is the final product of cytokinesis? **ANS: Two identical daughter cells is the final product of cytokinesis.**

**Part 7**

1. What is the cytoplasm of the cell?

**ANS: Cytoplasm is all the living substance in a cell except the nucleus. Most cells are made up of cytoplasm.**

1. TRUE OR FALSE: Most of the life processes takes place within the cytoplasm of the cell.

**ANS: TRUE**

1. Indicate the function of the following organelles:
2. Mitochondria **(ANS: The mitochondria (or powerhouse) break down glucose (or sugar) to provide the cell with energy.**
3. Endoplasmic reticulum **(ANS: To assist with the management or the movement of substances within the cell)**
4. Vacuole **(ANS: A large liquid filled sac that stores materials such as water, salts, protein, & carbohydrates)**
5. Ribosomes **(ANS: Aids in the making of proteins on the rough ER)**
6. Centrioles **(ANS: Are two small structures involved in cell reproduction)**

**Part 8**

1. Name any three types of asexual reproduction (page 160) of textbook.

**ANS: Binary fission, budding, fragmentation, spore formation, and vegetative reproduction**

1. Name two specialized cells that contain genetic information to produce a new organism.

**ANS: sperm and egg cell**

1. Is it possible for organisms to reproduce asexually and sexually? Give an example

**ANS: Yes, bacteria cells reproduce mostly asexually but are capable of also reproducing sexually. Most plants reproduce sexually (process that results in seeds) but many reproduce asexually.**

1. Name any two characteristics about cancer cells.

**ANS: Cancer cells divide uncontrollably, divide more quickly than normal cells, and are caused by mutations in the genes that regulate cell division.**

1. A substance or energy that causes mutation is called a **carcinogen**.
2. Name three carcinogens.

**ANS: viruses, radiation, and hazardous chemicals**

**Part 9**

1. What occurs during the G1 or First Growth Phase of the cell cycle?

**ANS: The cell increases in size (period of growth) and synthesizes new proteins and organelles.**

1. At the end of which phase of the cell cycle is the cell ready to start cell division?

**ANS: Once G2 is complete, the cell is ready to start cell division.**

1. Interphase includes what three phases of the cell cycle?

ANS: **Interphase includes G1, S, and G2 phases.**

1. The series of events that cells go through as they grow and divide is called the **cell cycle**.
2. All of the following statements are false. What word(s) need to be changed to make the statements true?
3. DNA replication takes place during the **M phase (cell division)** of the cell cycle. **ANS: S phase**
4. Cytokinesis usually occurs during **anaphase** of mitosis. **ANS: telophase**
5. During mitosis, sister chromatids separate from one another during **metaphase**. **ANS: anaphase**
6. The two major stages of cell division include **G2** and **prophase**. **ANS: mitosis and cytokinesis**

**Part 10**

1. Name structures only found in animal cells and plant cells.

**ANS: animal cells have centrioles and smaller vacuoles than plant cells, plant cells have cell wall, chloroplast, and a large central vacuole**

1. These structures contain the green pigment chlorophyll. **ANS: chloroplast**
2. Plant cell walls are composed of a tough fiber called **cellulose**.
3. Name the structures (A to E) labeled below:

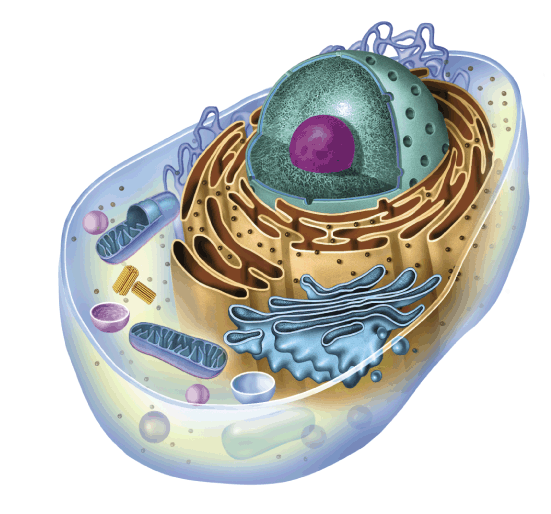
A: **nucleolus**

B: **mitochondrion**

C: **centrioles**

D: **golgi apparatus**

E: **cell or plasma membrane**



**C**

**D**

**E**

**B**

**A**

1. What are organelles? **ANS: Organelle is a term used to describe the parts or “machines of the cell factory”. They are small structures in the cytoplasm that have specialized jobs.**