

### **CRITICAL THINKING**

**1. There are anticancer drugs that are used to prevent the formation of spindle fibers.**

**Why do you think this is effective in treating cancer?**

- Cancer is a complex disease that requires a long treatment, such as complicated and painful surgery, chemotherapy, immunotherapy, hormone therapy, and radiation therapy. So, to prevent aching of a particular part, anticancer drugs can reduce the unpleasant feeling. With the help of anticancer drugs, it can stop mitotic spindle formation, slow down the growth of cancer cells, and avoid invasion of cancer cells.

**2. What that might happen if certain phases of the cell cycle do not function well?**

- The cell cycle must follow the flow of the phases. If the cell cycle goes out of control, abnormal cell growth may happen. These mutations can cause harmful results included cell death, organic disease, or cancer. The reason why cells are significantly needed to go to distinct phases for growth, reproduction, and normal operation; so that the cells can perform specific tasks to ensure the body works. To stay alive and distribute the energy to the different parts of the body.

### **ESSENTIAL QUESTIONS**

**3. Why must cell divide?**

- For about two trillion cells in the adult body and twenty-five million new cells produced per second, I can say that each cell can divide itself to keep living organisms alive. In cell theory, it states that all living things are composed of cells and come from preexisting cells. Through this theory's statement, no cell exists today if not from a previous parent cell. Therefore, cell division acts significant representation in the lives of organisms.

**4. Where do cells get the information they need to function?**

- We get genetic information or DNA (Deoxyribonucleic Acid) from our parents, wherein we receive a complete set to get both of their traits and make our body function properly. The cell's genetic material is organized in chromosomes that contain deoxyribonucleic acid.

**5. How do healthy cells decide when to divide?**

- Each cell follows the flow of the cell cycle. The cell cycle leads to regular and different phases, DNA duplication, and cell division wherein cells provide for growth and repair worn-out or damaged tissues (cell replacement).

**6. How is information passed to new cells during cell division?**

- The process of both mitosis and cytokinesis produce genetically identical daughter cells. In interphase, the cell duplicates and replicates its DNA, so that the genetic material passed to new cells during cell division.

**7. Why must the cell cycle be carefully controlled?**

- Cells should maintain correctly to prevent unsatisfactory factors. For instance, the cell must have more nutrients to uptake to provide the cell division. Resultantly, the cells cycle regulates healthy cell growth. A brief summation is cell growth and cell division occur in a response to different causes and depends on nutrient uptake.

**8. What happens to the body when there is uncontrolled cell growth?**

- Cancer is a type of disease that can cause cancerous cell growth or cell cycle arrest/ death. It is a distraction for the cell cycle because it can spread (malignant) or not (benign), or form a tumor. Furthermore, cancer cells divide hastened, rather than healthy cells do. As cancer cells passes and grows by, it can cause a genetic abnormality and a lack of chromosomes that can cause health conditions.