Cite all sources using the CSE method (or ISO 690 Numerical in Word). The first example has been done for you. Highlight all objective 1 command terms in yellow and complete these **before the next class**. Highlight all objective 2 and 3 command terms in green – these will be part of the discussions in class.

Answer all objectives and complete the **self-assessment rubric** before submitting.

1. Define the following:

|  |  |
| --- | --- |
| Cell cycle | *All stages in the life cycle of a cell.* (1) |
| Interphase |  |
| Mitosis |  |
| Cytokinesis |  |
| Apoptosis |  |
| Necrosis |  |
| Diploid |  |
| Haploid |  |

1. Distinguish between *cell division* and *mitosis*.
2. Other than maintaining optimum cell size, list four processes involving division by mitosis.
3.
4.
5.
6.
7. Explain why eukaryotes need to use mitosis in cell division when prokaryotes do not.
8. Identify the outcome of one division by mitosis.
9. Draw and label a pie chart to show the relative amount of time spent in each phase of the cell cycle, including the stages of interphase and mitosis, as well as cytokinesis.
10. Outline the stages of interphase.

|  |  |
| --- | --- |
| **Stage** | **Events** |
|  |  |
|  |  |
|  |  |

1. List three metabolic reactions that occur during interphase.
2.
3.
4. Label the diagram.

|  |  |
| --- | --- |
| a | Plasma membrane |
| b |  |
| c |  |
| d |  |
| e |  |
| f | telomeres |

1. Distinguish between *chromosomes* and *chromatids*.
2. Outline the stages of mitosis of an animal cell with a chromosome number of four.

|  |  |  |
| --- | --- | --- |
|  | **Diagram** | **Outline** |
| **Prophase** |  |  |
| **Metaphase** |  |  |
| **Anaphase** |  |  |
| **Telophase** |  |  |

1. Using the table below, explain how mitosis leads to two genetically identical nuclei.

|  |  |
| --- | --- |
| Chromosome number |  |
| S-phase |  |
| DNA Replication | Semi-conservative, complementary base-pairing results in fewer mistakes and copies of all genes in all new chromosomes.  |
| Metaphase |  |
| Anaphase |  |

1. Distinguish between *mitosis* and *cytokinesis*.
2. Cancer is an increasing global health concern, related to problems with cell division.
3. Define tumour.
4. State the locations or tissues where tumours:
5. Can possibly occur.
6. Are most likely to occur
7. Outline the role of the P53 gene and how it can be affected by carcinogens.

# Works Cited

1.

**2.**

**Self Assessment:**

|  |  |  |
| --- | --- | --- |
|  | **Essential Biology** | **Assessment** |
| **Criterion** | **Complete (2)** | **Partially complete (1)** | **Self** | **Dr. B** |
| Presentation &Organisation | NA | Complete and neat. * All command terms highlighted
* Tables and diagrams well presented.
* Assignment is self-assessed
 |  |  |
| Academic Honesty | NA | At least two sources cited correctly using the CSE (ISO 690 numerical) method, with Works Cited section complete and correct.  |  |  |
| **Objective 1** understanding | **All** answers for the following command terms correct: | Most answers for the following command terms correct: |  |  |
| **Define Draw Label List Measure State** |
| **Objective 2** understanding | **All** answers for the following command terms correct: | Most answers for the following command terms correct: |  |  |
| **Annotate Apply Calculate Describe Distinguish Estimate Identify Outline** |
| **Objective3**understanding | **All** answers for the following command terms correct: | Most answers for the following command terms correct: |  |  |
| **Analyse Comment Compare Construct Deduce Derive Design Determine Discuss****Evaluate Explain Predict Show Solve Sketch Suggest** |
| Further Research | NA | Evidence is apparent of research and reading beyond the textbook and presentations to find correct answers to challenging questions. If any questions are unanswered, this criterion scores zero. |  |  |
| Timeliness | NA | Assignment is completed on the date it is due* Full credit when on time
* No points awarded if one day late
* -1 point if two days late
* -2 if three days late, etc…

  |  |  |
|  | **Total (max 10):** |  |  |