1. Define the following terms. (6 marks)
   1. Generation

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* 1. Homologous

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* 1. Artificial selection

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**Section 1 – Multiple choice**  Circle the correct letter for each question (10 marks)

1. In the ladder analogy of the DNA molecule, the "rungs" of the ladder are:
   1. Sugars
   2. Phosphates
   3. Paired nitrogenous bases
   4. Joined sugar and phosphates
2. If a DNA molecule is found to be composed of 40% thymine, what percentage of adenine would be expected.
   1. 60%
   2. 25%
   3. 10%
   4. 40%
3. A stretch of chromosome that codes for a trait can be called a(n):
   1. Gene
   2. Chromatid
   3. Replication fork
   4. Base pair
4. When one characteristic is more strongly inherited than another it is said to be:
   1. A monohybrid
   2. Recessive
   3. Dominant
   4. A mutation
5. A nucleotide consists of:
   1. A phosphate and a base.
   2. A phosphate and a sugar.
   3. A base and an amino acid.
   4. A phosphate, a base and a sugar.
6. Meiosis is a type of cell division that produces:
   1. Zygotes
   2. Chromosomes
   3. DNA
   4. Gametes
7. A cell with a diploid number of 24 undergoes meiosis, how many chromosomes are in each daughter cell?
   1. 6
   2. 12
   3. 24
   4. 48
8. Phenotype refers to an organism's:
   1. Genetic code
   2. Physical appearance
   3. Ratio
   4. Parents
9. Phenotype refers to an organism's:
   1. Genetic code
   2. Physical appearance
   3. Ratio
   4. Parents

**Section 2 Short Answer**

1. What is the cell division process responsible for growth and repair? (1 mark)

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1. State the type of cell division that produces gametes (sex cells). (1 mark)

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