**BIO Assignment 12 Gene Expression:**

Please enter the correct answers in [www.mybigcampus.com](http://www.mybigcampus.com) under schoolwork. Thanks

1 . Multiple Choice - (Maximum Points: 1 ) Options

**The phenotype of heterozygous individuals is intermediate between those of the two homozygotes (Red flowered crossed with white flowered plant and produces a pink flowered plant)**

polygenic inheritance

codominance

multiple allele

incomplete dominance

2 . Multiple Choice - (Maximum Points: 1 ) Options

**Red flowered plant crossed with white flowered plant and produces a half red/half white flowered plant. This type of inheritance pattern is?**

polygenic inheritance

codominance

multiple allele

incomplete dominance

3 . Multiple Choice - (Maximum Points: 1 ) Options

 **Traits that are controlled by more an two alleles are known as**

polygenic inheritance

codominance

multiple alleles

incomplete dominance

4 . Multiple Choice - (Maximum Points: 1 ) Options

**This inheritance pattern causes the phenotypes of both homozygotes to be produced in heterozygous individuals.**

polygenic inheritance

codominance

multiple allele

incomplete dominance

5 . Multiple Choice - (Maximum Points: 1 ) Options

 **Red flowered crossed with white flowered plant and produces a pink flowered plant. This inheritance pattern would be?**

polygenic inheritance

codominance

multiple allele

incomplete dominance

6 . Multiple Choice - (Maximum Points: 1 ) Options

 **Traits controlled by genes located on sex chromosomes are called:**

polygenic inheritance

sex-linked traits

multiple allele

incomplete dominance

7 . Multiple Choice - (Maximum Points: 1 ) Options

**Colorblindness is an example of a trait found on the X chromosome. This is an example of this inheritance pattern?**

polygenic inheritance

multiple allele

sex-linked traits

incomplete dominance

8 . Multiple Choice - (Maximum Points: 1 ) Options

**Which of the following would be an example of the external environment controlling gene expression?**

Horn size shape and size are different between males and females in some species

Blood types can be different among individuals in a species

Artic Foxes coats of fur change when temperatures fall in the winter time.

Feather color patterns are different in males and females among peacocks.

9 . Multiple Choice - (Maximum Points: 1 ) Options

 **Which of the following would NOT be an example of the internal environment controlling gene expression?**

Horn size shape and size are different between males and females in some species

Blood types can be different among individuals in a species

Artic Foxes coats of fur change when temperatures fall in the winter time.

Feather color patterns are different in males and females among peacocks.

10 . Multiple Choice - (Maximum Points: 1 ) Options

**Armadillos always have four offspring that have identical genetic makeups. Suppose that, within a litter, each young armadillo is found to have a different phenotype for a particular trait. Which of the following explains this.**

During translation, the DNA of the organism's genes was read incorrectly to create a different phenotype

The environment in the mothers uterus before birth may have been different for each of the offspring. The external temperature can affect gene expression

Different phenotypes occurred because during translation, each codon can have more than one amino acid represented.

Different phenotypes occurred because during DNA replication, a mutation occurred in the replicated strand.

11 . Multiple Choice - (Maximum Points: 1 ) Options

**The primary function of DNA is to**

make proteins.

store and transmit genetic information.

control chemical processes within cells.

prevent mutations.

12 . Multiple Choice - (Maximum Points: 1 ) Options

**The part of DNA which codes for genes**

introns

exons

amino acids

nucleotides

13 . Multiple Choice - (Maximum Points: 1 ) Options

**What explains why muscle cells differ from skin cells?**

Each cell only has specific segments of DNA which will build that specialized cell

Each cell reads the DNA code differently. Each mRNA codon can produce different amino acids in a protein. Thus cells differ in form and function.

Specialized cells such as muscle cells express only a fraction of the genes they have. Thus they can create different cell types.

Muscle cells are structurally and functionally the same as skin cells.

14 . Multiple Choice - (Maximum Points: 1 ) Options

 **A segment of DNA which codes for a protein.**

intron

chromosome

chromatin

gene

15 . Multiple Choice - (Maximum Points: 1 ) Options

**The part of DNA which does not code for genes**

introns

exons

amino acids

nucleotides

16 . Multiple Choice - (Maximum Points: 1 ) Options

 **Scientists have identified many of the tens of thousands of genes in the human genome. One application of this knowledge is the production of human proteins by genetically engineered bacteria. Insulin and some other vital human proteins cannot be artificially synthesized outside of living cells. However, genes for human proteins can be produced for medical use. Bacteria are able to "read" human genes and synthesize human proteins because the same genetic code is found in all organisms. Which explains the significance of a genetic code that is consistent between organisms to biotechnology.**

It is significant because these genes can be easily taken from one species and inserted into another for medical use

It is significant because organisms can read the same sequence of amino acids and create a protein which is not initially (at the beginning) in their genome. Thus we can create proteins for human medical use.

It is significant because each species has exactly the same genetic code. Genes can differ for each species because of how that gene is "read."

It is significant because we can use the genetic code of one species to change the number of chromosomes in another species.

17 . Multiple Choice - (Maximum Points: 1 ) Options

**How does DNA replication ensure continuity of form and function from one cell generation to the next?**

DNA replication allow each cell to pass on its traits to new cells but only to the 2 chromosomes in each cell.

DNA replication allows each cell to be genetically different from each other. This allows genetic diversity among offspring.

Through DNA replication, the genetic makeup of a cell is copied and passed on to new cells during mitosis or to new generations through meiosis followed by sexual reproduction

Through DNA replication, the genetic makeup of a cell is copied and passed on to new cells during meiosis or to new generations through mitosis followed by sexual reproduction

18 . Multiple Choice - (Maximum Points: 1 ) Options

 **Why is the genetic code called a "Universal" code?**

It is universal since each organism has the exact same genetic code

Virtually all known organisms use the same genetic code for amino acids

It is universal since each species makes exactly the same proteins

The genetic code is universal because the code is copied in the same method for all species.