NORTHWEST TERRITORIES ANATOMY AND PHYSIOLOGY 12 (MATPH12) · UNIT A · 25 QUESTIONS

Cell Biology and Gene Expression — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **The organelle that releases most of the usable energy in an animal cell is the**

A mitochondrion

B nucleus

C ribosome

D vacuole

Understand It with Pulse | Flag a mistake

2 **The organelle where proteins are assembled from amino acids is the**

A lysosome

B ribosome

C Golgi body

D cell membrane

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3 **The structure that controls which substances enter and leave a cell is the**

A Vacuole

B Nucleus

C Cell membrane

D Cytoskeleton

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4 **In an animal cell, most of the DNA is stored in the**

A mitochondrion

B ribosome

C Golgi body

D nucleus

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5 **The organelle that packages proteins for transport out of a cell is the**

A Golgi body

B lysosome

C nucleus

D vacuole

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6 **The organelle that breaks down worn out cell parts with enzymes is the**

A Ribosome

B Lysosome

C Mitochondrion

D Cell membrane

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7 **In a DNA molecule, the base adenine always pairs with**

A guanine

B cytosine

C thymine

D uracil

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8 **The shape of a DNA molecule is best described as a**

A Single strand

B Triple helix

C Flat sheet

D Double helix

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9 **The monomer that makes up a protein is an**

A Amino acid

B Fatty acid

C Nucleotide

D Glucose unit

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10 **The monomer that makes up a nucleic acid is a**

- A Amino acid
- B Nucleotide
- C Fatty acid
- D Glycerol unit

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11 **An enzyme speeds up a chemical reaction in a cell by**

- A Raising the temperature of the whole cell
- B Being used up in the reaction
- C Lowering the activation energy needed
- D Adding energy to the products

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12 **The process in which a DNA sequence is copied into messenger RNA is called**

A Translation

B Replication

C Mutation

D Transcription

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13 **Transcription in a human cell takes place in the**

A nucleus

B ribosome

C lysosome

D Golgi body

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14 **During translation, the molecule that carries an amino acid to a ribosome is**

- A DNA
- B transfer RNA
- C glucose
- D ATP

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15 **A group of three bases on messenger RNA that codes for one amino acid is a**

- A Gene
- B Chromosome
- C Codon
- D Anticodon

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16 **The number of bases in one codon is**

ANSWER

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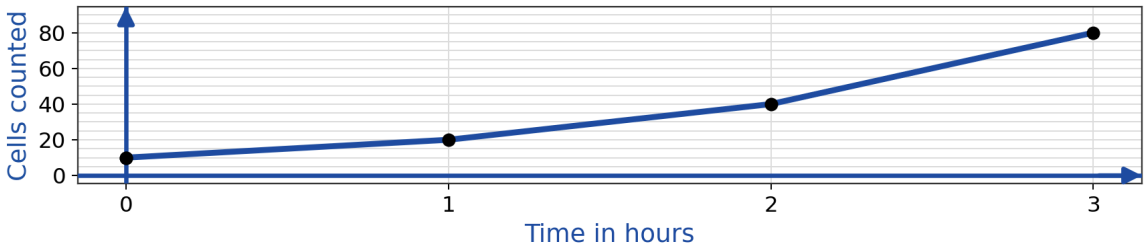
17 **The graph shows the number of cells in a culture as the cells divide by mitosis. Between hour 1 and hour 3, the cell count**



A stayed at 20

B increased from 20 to 80

C decreased from 80 to 20

D increased from 20 to 40

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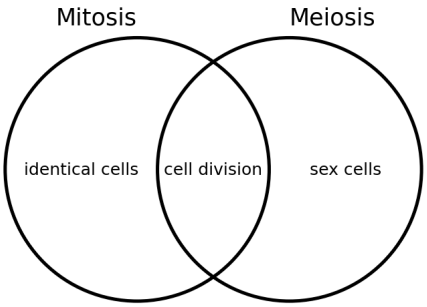
18 **The diagram compares mitosis and meiosis. The feature shared by both kinds of cell division is that they**



A produce sex cells only

B halve the chromosome number

C divide a cell into daughter cells

D produce identical daughter cells

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19 **After mitosis, each daughter cell normally has the same number of chromosomes as the**

A parent cell

B sex cell

C gamete

D egg cell

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20 **In a human body cell with 46 chromosomes, a gamete formed by meiosis normally has**

ANSWER _____

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21 **The phase of mitosis in which sister chromatids are pulled apart is**

- **A** Prophase
- **B** Anaphase
- **C** Telophase
- **D** Interphase

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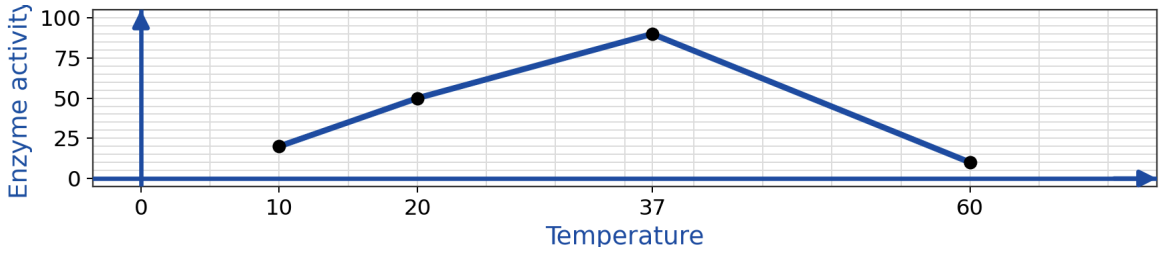
22 **The graph shows enzyme activity at different temperatures. Enzyme activity is highest at**



- **A** 10 degrees
- **B** 20 degrees
- **C** 37 degrees
- **D** 60 degrees

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23 **Identical twins have the same genes but can differ in traits such as skin tone. This difference is best explained by**

- **A** different numbers of chromosomes
- **B** the environment affecting gene expression
- **C** different DNA base pairs
- **D** mutations in every gene

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24 **A phenotype is best described as the**

- **A** set of alleles a person inherits
- **B** DNA sequence of one gene
- **C** observable traits that result from genes and environment
- **D** number of chromosomes in a cell

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25 **A change in a DNA sequence that can be passed to offspring must occur in a**

A skin cell

B muscle cell

C nerve cell

D gamete cell

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ANSWER KEY

1. A
2. B
3. C
4. D
5. A
6. B
7. C
8. D
9. A
10. B
11. C
12. D
13. A
14. B
15. C
16. 3
17. B
18. C
19. A
20. 23
21. B
22. C
23. B
24. C
25. D

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