DELAWARE BIOLOGY · FINAL EXAM · 50 QUESTIONS

Final Exam — Practice Test

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1 **Which term is defined as follows: the boundary that controls what enters and leaves a cell?**

- A cell membrane
- B mitochondrion
- C nucleus
- D ribosome

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2 **Which term is defined as follows: a section of DNA that codes for a protein?**

A gene

B allele

C dominant allele

D recessive allele

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3 **Which of the following is an example of natural selection?**

A thick fur in a cold climate

B nature favoring better adapted individuals

C different beak sizes in finches

D a shell imprint in rock

Understand It with Pulse | Flag a mistake

4 **Which of the following is an example of ecosystem?**

- A a green plant making sugar
- B a pond with its fish, plants, water, and soil
- C a rabbit eating grass
- D a fungus rotting a log

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5 **Which term is defined as follows: the structure that builds proteins?**

- A cell membrane
- B mitochondrion
- C nucleus
- D ribosome

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6 **Which of the following is an example of allele?**

A a recipe for one protein

B an allele that masks a recessive allele

C the brown eye version of an eye color gene

D an allele hidden by a dominant allele

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7 **Which statement best describes adaptation?**

A natural selection acts on variation already present in a population

B variation provides the raw material for selection

C fossils provide evidence about past life and environments

D adaptations arise over generations, not within one lifetime

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8 **Which statement best describes producer?**

A an ecosystem includes both biotic and abiotic factors

B consumers obtain energy by eating producers or other consumers

C decomposers return nutrients to the soil

D producers form the base of most food chains

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9 **Which of the following is an example of nucleus?**

A a gate that lets some molecules pass

B a power plant inside the cell

C a workshop that assembles proteins

D a library holding the cell instructions

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10 **Which of the following is an example of dominant allele?**

A a recipe for one protein

B the brown eye version of an eye color gene

C an allele hidden by a dominant allele

D an allele that masks a recessive allele

Understand It with Pulse | Flag a mistake

11 **Which statement best describes variation?**

A variation provides the raw material for selection

B natural selection acts on variation already present in a population

C adaptations arise over generations, not within one lifetime

D fossils provide evidence about past life and environments

Understand It with Pulse | Flag a mistake

12 **Which statement best describes consumer?**

A consumers obtain energy by eating producers or other consumers

B an ecosystem includes both biotic and abiotic factors

C producers form the base of most food chains

D decomposers return nutrients to the soil

Understand It with Pulse | Flag a mistake

13 **Which of the following is an example of ribosome?**

A a workshop that assembles proteins

B a gate that lets some molecules pass

C a power plant inside the cell

D a library holding the cell instructions

Understand It with Pulse | Flag a mistake

14 **Which of the following is an example of recessive allele?**

- A an allele hidden by a dominant allele
- B a recipe for one protein
- C the brown eye version of an eye color gene
- D an allele that masks a recessive allele

Understand It with Pulse | Flag a mistake

15 **Which statement best describes fossil?**

- A natural selection acts on variation already present in a population
- B fossils provide evidence about past life and environments
- C adaptations arise over generations, not within one lifetime
- D variation provides the raw material for selection

Understand It with Pulse | Flag a mistake

16 **Which statement best describes decomposer?**

A an ecosystem includes both biotic and abiotic factors

B decomposers return nutrients to the soil

C producers form the base of most food chains

D consumers obtain energy by eating producers or other consumers

Understand It with Pulse | Flag a mistake

17 **Which statement best describes nucleus?**

A the nucleus directs cell activity through its genetic instructions

B the membrane is selectively permeable, not fully open or closed

C mitochondria carry out cellular respiration to release usable energy

D ribosomes read instructions and join amino acids into proteins

Understand It with Pulse | Flag a mistake

18 **Which of the following is an example of genotype?**

A a recipe for one protein

B the letters Bb for a gene

C the brown eye version of an eye color gene

D an allele that masks a recessive allele

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19 **Which term is defined as follows: a structure with similar function but different ancestry?**

A natural selection

B analogous structure

C adaptation

D variation

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20 **Which term is defined as follows: a network of connected food chains?**

A ecosystem

B food web

C producer

D consumer

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21 **Which of the following is an example of vacuole?**

A a gate that lets some molecules pass

B a power plant inside the cell

C a warehouse holding water and materials

D a library holding the cell instructions

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22 **Which of the following is an example of phenotype?**

A a recipe for one protein

B the brown eye version of an eye color gene

C brown eyes in a person

D an allele that masks a recessive allele

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23 **Which term is defined as follows: the formation of a new species?**

A natural selection

B adaptation

C speciation

D variation

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24 **Which term is defined as follows: all individuals of one species in an area?**

A ecosystem

B producer

C population

D consumer

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25 **Which statement best describes osmosis?**

A osmosis moves water from lower to higher solute concentration

B the membrane is selectively permeable, not fully open or closed

C mitochondria carry out cellular respiration to release usable energy

D the nucleus directs cell activity through its genetic instructions

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26 **Which statement best describes homozygous?**

- **A** a homozygous organism passes the same allele to all offspring for that gene
- **B** genes are units of heredity carried on chromosomes
- **C** an organism inherits one allele from each parent for each gene
- **D** a dominant allele shows its trait in a heterozygote

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27 **Which term is defined as follows: random change in allele frequencies?**

- **A** natural selection
- **B** adaptation
- **C** variation
- **D** genetic drift

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28 **Which term is defined as follows: all populations living together in an area?**

A ecosystem

B producer

C consumer

D community

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29 **Which term is defined as follows: the organelle where photosynthesis takes place?**

A chloroplast

B cell membrane

C mitochondrion

D nucleus

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30 **Which statement best describes heterozygous?**

- A genes are units of heredity carried on chromosomes
- B a heterozygous organism can pass either allele to offspring
- C an organism inherits one allele from each parent for each gene
- D a dominant allele shows its trait in a heterozygote

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31 **Which of the following is an example of gene flow?**

- A nature favoring better adapted individuals
- B migration bringing new alleles
- C thick fur in a cold climate
- D different beak sizes in finches

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32 **Which of the following is an example of carrying capacity?**

- A a pond with its fish, plants, water, and soil
- B the maximum deer a forest can feed
- C a green plant making sugar
- D a rabbit eating grass

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33 **Which statement best describes active transport?**

- A the membrane is selectively permeable, not fully open or closed
- B mitochondria carry out cellular respiration to release usable energy
- C active transport uses ATP to move substances against their gradient
- D the nucleus directs cell activity through its genetic instructions

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34 **Which statement best describes meiosis?**

- A genes are units of heredity carried on chromosomes
- B an organism inherits one allele from each parent for each gene
- C meiosis produces genetically varied haploid cells
- D a dominant allele shows its trait in a heterozygote

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35 **Which of the following is an example of biodiversity?**

- A nature favoring better adapted individuals
- B thick fur in a cold climate
- C many species in a rainforest
- D different beak sizes in finches

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36 **Which of the following is an example of limiting factor?**

- A a pond with its fish, plants, water, and soil
- B a green plant making sugar
- C a shortage of nesting sites
- D a rabbit eating grass

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37 **Which statement best describes enzyme?**

- A the membrane is selectively permeable, not fully open or closed
- B mitochondria carry out cellular respiration to release usable energy
- C the nucleus directs cell activity through its genetic instructions
- D enzymes are not used up by the reactions they speed up

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38 **Which statement best describes mitosis?**

A genes are units of heredity carried on chromosomes

B an organism inherits one allele from each parent for each gene

C a dominant allele shows its trait in a heterozygote

D mitosis keeps the chromosome number the same

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39 **Which of the following is an example of extinction?**

A nature favoring better adapted individuals

B thick fur in a cold climate

C different beak sizes in finches

D the end of the dinosaurs as a group

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40 **Which of the following is an example of symbiosis?**

A a pond with its fish, plants, water, and soil

B a green plant making sugar

C a rabbit eating grass

D a bee and a flower

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41 **Which statement best describes ATP?**

A ATP releases energy when a phosphate group is removed

B the membrane is selectively permeable, not fully open or closed

C mitochondria carry out cellular respiration to release usable energy

D the nucleus directs cell activity through its genetic instructions

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42 **Which statement best describes mutation?**

A mutations can be harmful, helpful, or neutral

B genes are units of heredity carried on chromosomes

C an organism inherits one allele from each parent for each gene

D a dominant allele shows its trait in a heterozygote

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43 **Which statement best describes common ancestor?**

A natural selection acts on variation already present in a population

B a common ancestor explains shared traits between groups

C adaptations arise over generations, not within one lifetime

D variation provides the raw material for selection

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44 **Which statement best describes mutualism?**

A an ecosystem includes both biotic and abiotic factors

B mutualism helps both partners

C producers form the base of most food chains

D consumers obtain energy by eating producers or other consumers

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45 **Which statement best describes mitochondrion?**

A the membrane is selectively permeable, not fully open or closed

B the nucleus directs cell activity through its genetic instructions

C ribosomes read instructions and join amino acids into proteins

D mitochondria carry out cellular respiration to release usable energy

Understand It with Pulse | Flag a mistake

46 **Which statement best describes Punnett square?**

A genes are units of heredity carried on chromosomes

B a Punnett square shows probabilities, not certainties

C an organism inherits one allele from each parent for each gene

D a dominant allele shows its trait in a heterozygote

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47 **Which statement best describes vestigial structure?**

A natural selection acts on variation already present in a population

B adaptations arise over generations, not within one lifetime

C vestigial structures hint at past functions

D variation provides the raw material for selection

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48 **Which statement best describes predation?**

A an ecosystem includes both biotic and abiotic factors

B producers form the base of most food chains

C predation transfers energy to the predator

D consumers obtain energy by eating producers or other consumers

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49 **Which statement best describes cellular respiration?**

A the membrane is selectively permeable, not fully open or closed

B mitochondria carry out cellular respiration to release usable energy

C cellular respiration produces carbon dioxide, water, and ATP

D the nucleus directs cell activity through its genetic instructions

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50 **Which statement best describes sex chromosome?**

A genes are units of heredity carried on chromosomes

B an organism inherits one allele from each parent for each gene

C humans with XX are typically female and XY typically male

D a dominant allele shows its trait in a heterozygote

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ANSWER KEY

1.	A	**18.**	B	**35.**	C
2.	A	**19.**	B	**36.**	C
3.	B	**20.**	B	**37.**	D
4.	B	**21.**	C	**38.**	D
5.	D	**22.**	C	**39.**	D
6.	C	**23.**	C	**40.**	D
7.	D	**24.**	C	**41.**	A
8.	D	**25.**	A	**42.**	A
9.	D	**26.**	A	**43.**	B
10.	D	**27.**	D	**44.**	B
11.	A	**28.**	D	**45.**	D
12.	A	**29.**	A	**46.**	B
13.	A	**30.**	B	**47.**	C
14.	A	**31.**	B	**48.**	C
15.	B	**32.**	B	**49.**	C
16.	B	**33.**	C	**50.**	C
17.	A	**34.**	C		

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