CHAPTER 10: Ecology

Part 1: Principles of Ecology

***Ecology*:** scientific study of all the interrelationships between organisms and their environment.
Biotic factor: any living factor in an organism's environment.
Abiotic factor: any nonliving factor in an organism's environment, ex: temperature and wind currents.
Level of Organization:
- **Organism**: an individual living thing, such as one striped fish.
- **Population**: a group of organisms of the same species that interbred and live in the same place at the same time, such as the school of striped fish.
- **Biological community**: all the population of species fishes, coral, and marine plants- that live in the same place at the same time make up a biological community.
- **Ecosystem:** a biological community, such as the coral reef, and all the abiotic factors, such as the seawater, that affect it make up an ecosystem. Ex: a fish tank.
- **Biome:** a biome is a group of ecosystems, such as the coral reefs off the coast of the Florida Keys, which share the same climate and have similar types of communities.
• **Biosphere:** the highest level of organization is the biosphere, which is the layer of earth- from high in the atmosphere to the depths of the ocean- that supports life.

The simplest level of organization is the organism, with increasing the organization is shown in the population, biological community, ecosystem, and biome until reaching the most complex level of biosphere.

1 **Scientific study of all the interrelationships between organisms and their environment is …**
CH 10 **A** Ecology **B** Earth science **C** Chemistry **D** Physics
Ecology: scientific study of all the interrelationships between organisms and their environment. →A

2 **What is an abiotic factor in a forest tree?**
CH 10 **A** Butterfly eating its leaves **B** Wind blowing between its leaves **C** A bird building its nest on a branch **D** Fungus growing on the roots
Abiotic factor: any nonliving factor in an organism's environment, ex: temperature and wind currents. →B

3 **A group of goats in the same place and in the same circumstances is called …**
CH 10 **A** Population **B** Biological community **C** Ecosystem **D** Biome
Population: a group of organisms of the same species that interbred and live in the same place at the same time, such as the school of striped fish. →A

4 **What can you remove from shape to become a biological community**

CH 10 **A** Fodder **B** Water **C** Cows **D** Goats
Ecology: scientific study of all the interrelationships between organisms and their environment. →B

5 **Which of the following contains all the other levels of organization?**
CH 10 **A** Biological community **B** Ecosystem **C** An individual **D** population
Ecosystem: a biological community, such as the coral reef, and all the abiotic factors, such as the sea water, that affect it make up an ecosystem. Ex: fish tank. →B

6 **Examples of biotic factors include all the following EXCEPT**
CH 10 **A** Lions **B** Trees **C** Lake **D** Snake
Abiotic factor: any nonliving factor in environment →C

7 **Which of the following contains the least amount of living organisms?**
CH 10 **A** Population **B** Biological community **C** Ecosystem **D** Biome
Levels of organization: organism- population-community-ecosystem- biome- biosphere →A

8 **Which of the following is the most complex?**
CH 10 **A** Organism **B** Biological community **C** Ecosystem **D** Population
Ecosystem: a biological community, such as the coral reef, and all the abiotic factors, such as the seawater, that affect it make up an ecosystem. Ex: a fish tank. →C

9 **A group of ecosystems that share the same climate is…**
CH 10 **A** Organism **B** Biological community **C** Biome **D** Biosphere
A biome is a group of ecosystems, such as the coral reefs off the coast of the Florida Keys, which share the same climate and have similar types of communities. →C

10 **What is a group of interacting populations that occupy the same area at the same time?**
CH 10 **A** Organism **B** Community **C** Biome **D** Biosphere
All the population of species fishes, coral, and marine plants- that live in the same place at the same time make up a community. →B

11 **An area where an organism lives.**
CH 10 **A** Habitat **B** Niche **C** Competition **D** Predation
Habitat is an area where an organism lives. →A

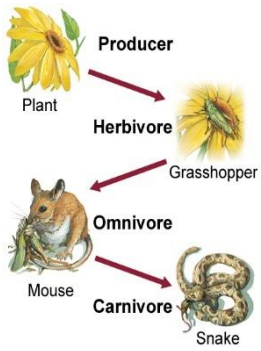
12 **The role or position that an organism has in its environment.**
CH 10 **A** Habitat **B** Niche **C** Competition **D** Predation
Niche is the role or position that an organism has in its environment. →B

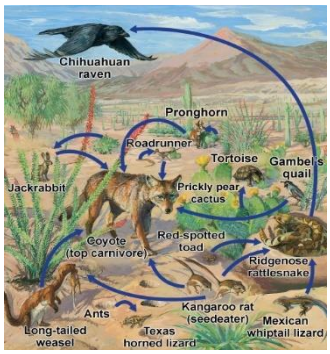
1 **Any part of the Earth where life can exist**
Do It? **A** Population **B** Community **C** Ecosystem **D** Biosphere

CHAPTER 10: Ecology

Part 2: Community interactions & Energy in an Ecosystem

Competition: occurs when more than one organism uses a resource at the same time.
Predation: the act of one organism consuming another organism for food. **Ex:** ladybugs and Venus flytraps.
Mutualism: two or more organisms that live closely together and benefit from each other.
Commensalism: a relationship in which one organism benefits and the other organism is neither helped nor harmed.
Ex: clownfish and sea anemones.
Parasitism: a relationship in which one organism benefits at the expense of another organism. **Ex:** tapeworms and humans.
Brood parasitism: like brown-headed cow- birds that rely on other bird species to build their nests and incubate their eggs.
Autotrophs: collect energy from sunlight or inorganic substances to produce food. **Ex**: plants and some bacteria.
Make energy available for all other organisms in an ecosystem.
Heterotrophs include…
Herbivores: eat plants only. Example: cows.
Carnivores: prey on other animals; predators. **Ex**: lions, lynxes.
Omnivores: eat both plants and animals. Examples: bears, humans.
Detritivores: eat fragments of dead matter in an ecosystem.
Decomposers: decompose dead organisms. **Ex**: fungi.
Models of energy flow in an ecosystem…
Food chain: a simple model that represents the energy flow in an ecosystem, beginning with autotrophs.
Food web: represent the interconnected food chains.





13 **Relationship that occurs when more than one organism uses a resource at the same time…**
CH 10 **A** Commensalism **B** Competition **C** Mutualism **D** Parasitism
Competition: occurs when more than one organism uses a resource at the same time. →B

14 **A symbiotic relationship between organisms that benefit from each other…**
CH 10 **A** Commensalism **B** Parasitism **C** Mutualism **D** Predation
Mutualism: two or more organisms that live closely together and benefit from each other →C

15 **The relationship between bees and flowers is considered…**
CH 10 **A** Commensalism **B** Parasitism **C** Mutualism **D** Competition
Mutualism: two or more organisms that live closely together and benefit from each other →C

16 **The relationship between clownfish and sea anemones an example of…**
CH 10 **A** Commensalism **B** Parasitism **C** Mutualism **D** Competition
Commensalism: a relationship in which one organism benefits and the other organism is neither helped nor harmed. Ex: clownfish and sea anemones. →A

17 **A relationship in which one organism benefits and the other organism is neither helped nor harmed…**
CH 10 **A** Commensalism **B** Parasitism **C** Mutualism **D** Competition
Commensalism: a relationship in which one organism benefits and the other organism is neither helped nor harmed. Ex: clownfish and sea anemones. →A

18 **When a bird lays its eggs in another bird's nest and abandons the eggs, the host bird incubates and feeds the young birds. This is an example of…**
CH 10 **A** Commensalism **B** Parasitism **C** Mutualism **D** Competition
Brood parasitism: like brown-headed cow- birds that rely on other bird species to build their nests and incubate their eggs. →B

19 **Organisms that make energy and nutrients available for all other organisms…**
CH 10 **A** Autotrophs **B** Decomposers **C** Omnivores **D** Detritivores
Autotrophs: Make energy available for all other organisms in an ecosystem. →A

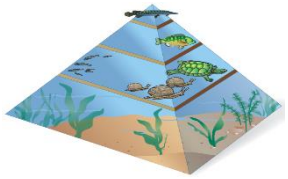
20 **Which of the following organisms in an ecosystem play big role in the life cycle as it provides nutrients to all other organisms?**
CH 10 **A** Autotrophs **B** Decomposers **C** Omnivores **D** Detritivores
Autotrophs: Make energy available for all other organisms in an ecosystem. →A

21 **An example of omnivores is…**
CH 10 **A** Giraffe **B** Lion **C** Bear **D** Cat
Omnivores: eat both plants and animals.
Examples: bears, humans. →C

22 **Organisms that feed on dead organisms and biological waste are called…**
CH 10 **A** Predators **B** Autotrophs **C** Omnivores **D** Decomposers
Decomposers: decompose dead organisms →D

23 **A simple model representing the energy flow in an ecosystem…**
CH 10 **A** Biomass **B** Ecological pyramids **C** Food web **D** Food chain
Food chain: a simple model that represents the energy flow in an ecosystem, beginning with autotrophs. →D

2 **Which type of organism exists at all trophic levels except the first trophic level?**

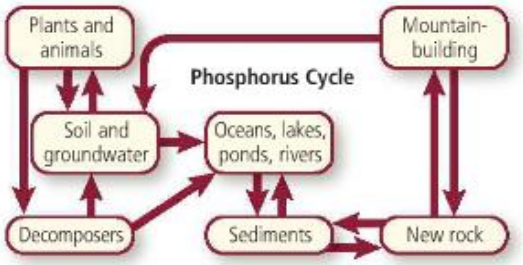


Do It? **A** Carnivores **B** Herbivores **C** Autotrophs **D** Heterotrophs

CHAPTER 10: Ecology

Part 3: Cycles in the Biosphere

Carbon and oxygen: involved in two main biological processes: photosynthesis and cellular respiration.
Nitrogen fixation: fixating nitrogen into a form that is useable by plants.
Denitrification: converting fixed nitrogen compounds back into nitrogen gas.
Nitrogen is an element found in proteins, largely concentrated in the atmosphere.
Water cycle is biogeochemical cycle involves evaporation, transpiration, precipitation and runoff.
Phosphorous moves from the soil to the products and from it to the consumables, and when they die, the decomposers return the phosphorous to the soil



24 **A series of events that are regularly repeated in the same order…**
CH 10
A Pyramid **B** Chain
C Cycle **D** Biological equation
Cycle: a series of events that are regularly repeated in the same order. →C

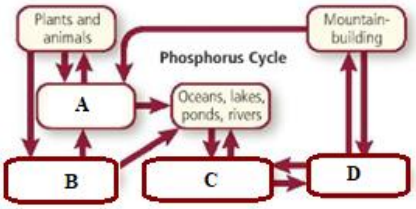
25 **Carbon and oxygen are involved in two main biological processes, those are…**
CH 10
A Coal formation and photosynthesis
B Fuel combustion and deforestation
C Photosynthesis and respiration
D Death and decomposition
Carbon and oxygen: involved in two main biological processes: photosynthesis and cellular respiration. →C

26 **Which biogeochemical cycle involves evaporation, transpiration, precipitation and runoff?**
CH 10
A Carbon cycle
B Nitrogen cycle
C Phosphorus cycle
D water cycle
Water cycle is biogeochemical cycle involves evaporation, transpiration, precipitation and runoff →D

27 **Highest concentration of nitrogen is in…**
CH 10
A Animals **B** Atmosphere
C Bacteria **D** Plants
Nitrogen is an element found in proteins, largely concentrated in the atmosphere. →B

28 **The element that returns to the soil when growing legumes is**
CH 10
A Hydrogen **B** Oxygen
C Nitrogen **D** Carbon
Nitrogen is an element found in proteins, largely concentrated in the atmosphere. →C

29 **The following figure represents the cycle of phosphorous in nature, which options refer to the decomposers**



CH 10
A A **B** B **C** C **D** D
Decomposers is B →B

Part 4: Ecological Succession

The change in an ecosystem that happens when one community replaces another as a result of changing abiotic and biotic factors is **ecological succession.**
Types: primary and secondary succession.
Primary succession: establishment of a community in an area of exposed rock that does not have any topsoil**.**
Climax community: results when there is little change in the composition of species.
Secondary succession: orderly change that occurs after a community is removed but the soil remains intact.
Pioneer species: species (mainly plants) that begin to grow in a disturbed area.

30 **A term that describes establishment of a community in an area of exposed rock…**
CH 10
A Primary succession
B Secondary succession
C Alternation of generations
D Succession's end-point
Primary succession: establishment of a community in an area of exposed rock that does not have any topsoil. →A

31 **An area in a forest with little change in the composition of species…**
CH 10
A Primary succession **B** Secondary succession
C Tundra **D** Climax community
Secondary succession: orderly change that occurs after a community is removed but the soil remains intact. →B

32 **After a forest fire, which of the following organisms do you expect to start secondary succession.**
CH 10
A Fungi **B** Rabbits
C Worms **D** Plants
Pioneer species: species (mainly plants) that begin to grow in a disturbed area →D

33 **Where are pioneer species probably present?**
CH 10
A Forest climax community
B Disturbed grass field
C Coral reefs
D Newly formed volcanoes
Pioneer species: species (mainly plants) that begin to grow in a disturbed area →B

CHAPTER 10: Ecology

Part 5: Weather and Climate

Weather: condition of the atmosphere at a specific place and time.
Latitude: distance of a point on the surface of the Earth north or south of the equator.
Climate: average weather conditions in a specific area

34 **The condition of the atmosphere at a specific place and time…**
CH 10 **A** Weather **B** Climate **C** Latitude **D** Latitude
Weather: condition of the atmosphere at a specific place and time. →A

35 **Distance of a point on the surface of the Earth north or south of the equator**
CH 10 **A** Weather **B** Climate **C** Latitude **D** Global warming
Latitude: distance of a point on the surface of the Earth north or south of the equator. →C

36 **The average weather conditions in a specific area**
CH 10 **A** Weather **B** Climate **C** Latitude **D** Global warming
Climate: average weather conditions in a specific area →B

37 **The element which is used to measure how cold or hot the weather is**
CH 10 **A** Wind **B** Precipitation **C** Humidity **D** Temperature
Temperature is the element which is used to measure how cold or hot the weather is →D

Part 6: Major land Biomes

Biomes are classified by their plants, temperature, and precipitation.
Tundra: treeless biome with permanently frozen soil under the surface.
Boreal forest: (AKA northern coniferous forest) a band of dense evergreen forest.
Woodlands: dominated by shrubs.
Desert: area in which the annual evaporation rate exceeds the rate of precipitation. Most common in Saudi Arabia.
Tropical rain forests: warm temperatures, large amount of rainfall throughout the year, humid all year; hot and wet. contains most biological diversity

387 **Which biome is treeless with permanently frozen soil under the surface?**
CH 10 **A** Tundra **B** Boreal forest **C** Desert **D** Tropical forest
Tundra: treeless biome with permanently frozen soil under the surface →A

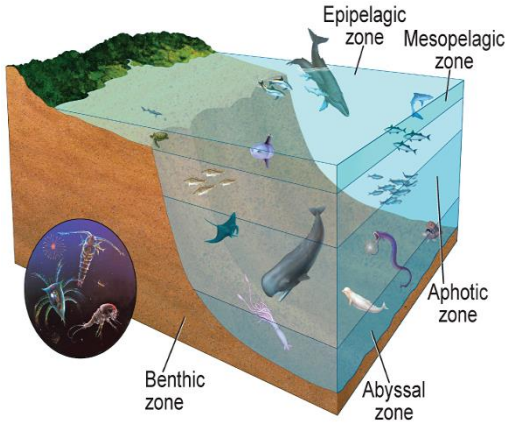
39 **What is the name of the biome that is most common in Saudi Arabia?**
CH 10 **A** Boreal forest **B** Temperate forest **C** Desert **D** Savanna
Desert: area in which the annual evaporation rate exceeds the rate of precipitation. Most common in Saudi Arabia. →C

40 **Which biome contains most biological diversity?**
CH 10 **A** Tundra **B** Temperate forest **C** Tropical forest **D** Grassland
Tropical rain forests: warm temperatures, large amount of rainfall throughout the year, humid all year; hot and wet. contains most biological diversity →C

41 **Which biome contains coniferous forest?**
CH 10 **A** Tundra **B** Boreal forest **C** Tropical forest **D** Grassland
Boreal forest: (AKA northern coniferous forest) a band of dense evergreen forest →B

Part 7: Aquatic Ecosystems

Freshwater Ecosystems
Tundra: it has the highest area of fresh water 68.9% **(Sediment:** is material that is deposited by water, wind, or glaciers**.)**
An inland body of standing water is called **a lake or a pond.** Lakes and ponds are divided into three zones based on the amount of sunlight that penetrates the water.
-The area closest to the shore is the **littoral zone (Abyssal zone).**
- **The limnetic zone (Light zone)** is the open water area that is well lit and is dominated by plankton.
- **The profundal zone** is the deepest areas of a large lake. It is much colder and lower in oxygen than the other two zones.
Transitional (Changeable)Aquatic Ecosystems **Ex:** wetlands and estuaries.
Wetlands: Areas of land such as marshes and swamps that are rich with water.
Estuaries: an important transitional ecosystem It is formed where freshwater from a river or stream merges.
Types of Tides
Area of spray: mostly dry
Area of high tides: flood with water when there are high tides.
Area of medium tides: gets flurry twice a day.
Low tide zone is the area above water level at low tide This area can include several types of habitats with various species of life
Open Oceans Ecosystems
Water zone: contain both dark and light areas.
Abyssal zone: The deepest region of the ocean which is dark and has a very cold water.
Bottom of the ocean: it makes up the largest area of the ocean.



42 **The iced mountains make up……of fresh water**
CH 10 **A** 50% **B** 69% **C** 30% **D** 0.3%
Tundra: it has the highest area of fresh water 68.9% →B

43 **Which of these areas has the largest population of planktons?**
CH 10 **A** Light zone **B** Dark zone **C** Beach **D** Abyssal zone
The limnetic zone (Light zone) is the open water area that is well lit and is dominated by plankton. →A

44 **Which of these zones are the coldest for lakes?**
CH 10 **A** Beach **B** Light **C** Abyssal **D** Surface
The area closest to the shore is the littoral zone (Abyssal zone). →C

45 **Which of the ocean zone contain both light and dark areas?**
CH 10 **A** Water zone **B** Deep zone **C** Abyssal zone **D** Bottom zone
Water zone: contain both dark and light areas. →A

46 **An example of changeable aquatic ecosystem?**
CH 10 **A** Streams **B** Ponds **C** Estuaries **D** Oceans
Transitional (Changeable)Aquatic Ecosystems
Ex: wetlands and estuaries. →C

47 **Estuaries are?**
CH 10 **A** Changeable **B** Tropical **C** Fresh **D** Salty
Transitional (Changeable)Aquatic Ecosystems
Ex: wetlands and estuaries. →A

48 **Which of the tides zone is mostly dry?**
CH 10 **A** Spray zone **B** High tide zone **C** Low tide zone **D** Medium tide zone
Area of spray: mostly dry →A

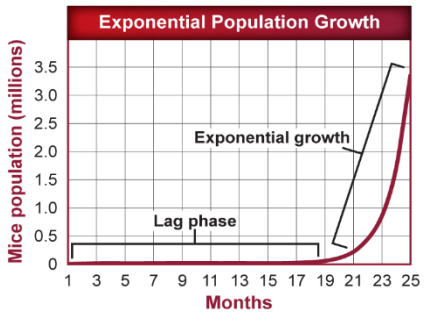
49 **The largest area of the ocean**
CH 10 **A** Light area **B** Dark area **C** Abyssal zone **D** Bottom zone
Bottom of the ocean: it makes up the largest area of the ocean. →D

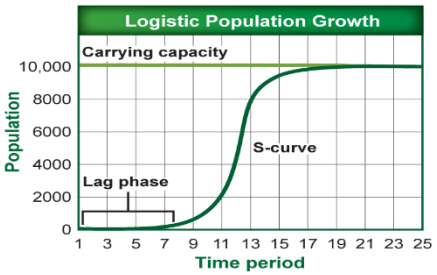
Part 8: Population Ecology

Population Density: the number of organisms per unit area.
Population Dispersion:
1. The pattern of spacing of a population within an area.
2. **Types:** uniform / agglomeration / randomly. Uniform, like spiny-tailed lizards

Population-Limiting Factors: There are two categories of limiting factors—***density-independent factors*** and ***density-dependent factors.***
Density-Independent Factors: Any factor in the environment that does not depend on the number of members in a population per unit area.
Ex: - Weather events - Fire - Human alterations of the landscape - Air, land, and water pollution - volcanoes
Density-Dependent Factors: Any factor in the environment that depends on the number of members in a population per unit area.
Ex: - Biotic factors - Disease - Competition - Parasites - Predation

Population Growth Rate (PGR)
Explains how fast a given population grows. (The growth rate in biome)
Birth rate: number of birth in certain time.
Death rate: number of death in certain time.
Emigration: the number of individuals moving away from a population.
Immigration: the number of individuals moving into a population.
Zero population growth (ZPG): occurs when births plus immigration equals deaths plus emigration.
Demographic transition: is the change in a population from high birth and death rates to low birth and death rates.
Exponential Growth: occurs when the growth rate is proportional to the size of the population.
Logistic Growth: occurs when the population's growth slows or stops following exponential growth, at the population's carrying capacity.
Carrying capacity: The maximum number of individuals in a species that an environment can support for the long term.





Reproductive Patterns & Human Population Growth
Rate strategy (r-strategists): small organisms, expend no energy in raising their young, produce many offspring. **Ex:** locust and mouse.
- **Carrying capacity strategy (k-strategists):** large organisms, produce few offspring, time invested in the care for the young. **Ex:** Elephants

-**Demography:** the study of human population size, density, distribution, movement, birth and death rates.
- **Age structure**: the number of males and females in each of the three age groups: (pre-reproductive stage, reproductive stage, post-reproductive stage)

50 **Which of the population characteristic shows the relation of living thing per area?**
CH 10 **A** Population density **B** Population dispersion **C** Area of population **D** Population level
Population density: the number of organisms per unit area. →A

51 **Factors that depend on the density and effect the biome?**
CH 10 **A** World war **B** Viruses **C** Dryness **D** Flooding
Density-Dependent Factors: Any factor in the environment that depends on the number of members in a population per unit area. Ex: - Biotic factors - Disease - Competition - Parasites - Predation →B

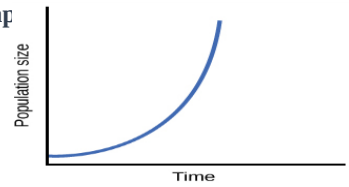
52 **The way of distributing biotic population in certain area?**
CH 10
A Population density **B** Population dispersion
C Area of population **D** Population level
Population Dispersion: The pattern of spacing of a population within an area. →B

53 **What distribution pattern does a flock of animals live in?**
CH 10
A Uniform **B** Agglomeration
C Random **D** Cannot predict
Agglomeration animals that live in groups—groups of fish or herds of elephants. →B

54 **Which of the following don't depend on the density?**
CH 10
A Intense dryness
B Parasite in the intestine
C Killing virus
D Extreme crowding
Density-Independent Factors: Any factor in the environment that does not depend on the number of members in a population per unit area →A

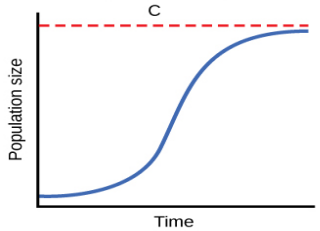
55 **The _____ occurs when the growth rate is proportional to the size of the population.**
CH 10
A Exponential growth **B** Geometrical growth
C Logistic growth **D** Linear growth
Exponential Growth: occurs when the growth rate is proportional to the size of the population. →A

56 **Which type of population growth does the grap**



CH 10
A Carrying capacity **B** Lag phase
C Exponential growth **D** Logistic growth
Exponential Growth: occurs when the growth rate is proportional to the size of the population. →C

57 **The letter C in the graph represents….**



CH 10
A Carrying capacity **B** Lag phase
C Exponential growth **D** Increasing growth.
Carrying capacity: The maximum number of individuals in a species that an environment can support for the long term. →A

58 **The distribution of the biological group in the following figure represents a distribution....**

CH 10
A Uniform
B Agglomeration
C Random
D Limited
Uniform, like spiny-tailed lizards →A

59 **Term that describe people leaving the group?**
CH 10
A Death rate **B** Birth rate
C Immigration **D** Emigration
Emigration: the number of individuals moving away from a population. →D

60 **Term that describe people entering the group?**
CH 10
A Death rate **B** Birth rate
C Immigration **D** Emigration
Immigration: the number of individuals moving into a population. →C

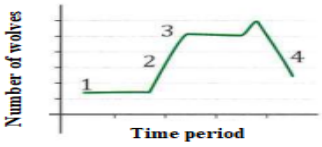
61 **Organisms that reproduce according to rate strategy…**
CH 10
A Elephant **B** Mouse **C** Lion **D** Goat
Rate strategy (r-strategists): Ex: locust and mouse. →B

62 **Organisms that reproduce by rate strategy (r-strategists) …**
CH 10
A Produce few offspring
B Take care of young
C Don't takes care of young
D Have long life
Rate strategy (r-strategists): small organisms, expend no energy in raising their young, produce many offspring →C

63 **Organism that reproduce by carrying capacity strategy (k-strategists) ….**
CH 10
A Mouse **B** Elephant
C Locust **D** Fruit fly
Carrying capacity strategy (k-strategists) Ex: Elephants→B

64 **The study of human population size, density, distribution?**
CH 10
A Demography **B** Geology
C Geography **D** Natural science
Demography: the study of human population size, density, distribution, movement, birth and death rates →A

65 **The following figure represents a graph of the reproduction of herds of wolves in the Saudi deserts for a specific period of time. The curve referred to by number 4 represents …**



CH 10
A Carrying capacity **B** Basic growth
C Deceleration phase **D** Increasing growth.
Carrying capacity: The maximum number of individuals in a species that an environment can support for the long term. →A

66 **The distribution of camels in the following figure represents a distribution...**

CH 10
A Uniform
B Agglomeration
C Random
D Limited
Agglomeration animals that live in groups—groups of fish or herds of elephants. →B

CHAPTER 10: Ecology

Part 9: Biodiversity and its Types

Biodiversity: all the variety of life that can be found on Earth, and includes
- **Genetic diversity:** as shown by the different colors in the ladybird.
- **Variety of species:** the number of different species and the percentage of each species in the vital community.
- **Ecosystem diversity:** Variation in environmental regulations in the atmosphere.

Importance of Diversity
- **Direct economic value:** human depends on plants and animals in food, clothing, energy, and treatment.
- **Indirect economic value: f**lood protection and drought, provide us with safe drinking water.

Extinction and Exploitation
Gradual extinction: extinction of species gradually.
Collective extinction: an event in which a high percentage of species are endangered in a short period.
Some researchers have estimated the speed of the current extinction rate of about 1000 times more than the normal speed of the gradual extinction rate.
Exploitation: Excessive use of species with an economic

Factors that Affect Biodiversity
- **Loss of environmental habitat:** species lose their habitat by: habitat destruction, habitat disturbance
- **Fragmentation of environmental habitat:** separation of the ecosystem into small parts of the earth.

Pollution: Contains acid rain that removes calcium and potassium from the soil, and food enrichment.
Internal species: Non-native species that move to a new habitat with intent or unintentionally
Natural Resources
Renewable resources: are replaced by natural processes faster than they consume, such as solar energy and air.
Non-renewable resources: are available in limited quantities.
Sustainable use: Use resources at a rate that can be replaced or recycled.
Methods of reclamation of damaged...
Biological treatment: the use of living creatures of liver and cores and fungi to remove toxins from the contaminated area.
Biofuel: The introduction of living organism's predators natural to the system of environmental imbalance

67 **The multiple forms of ladybugs in the next figure represent...** CH 10

A Population diversity
B Genetic diversity
C Variety of species
D Biodiversity

Genetic diversity: as shown by the different colors in the ladybird→B

68 **The number of different species and the percentage of each species in the vital community.** CH 10
A Ecosystem diversity **B** Genetic diversity
C Variety of species **D** Biodiversity
Variety of species: the number of different species and the percentage of each species in the vital community. →C

69 **What term describes the assemblies (forest, Freshwater lake, River mouth, grassland)?** CH 10
A Ecosystem diversity **B** Genetic diversity
C Variety of species **D** Extinction
Ecosystem diversity: Variation in environmental regulations in the atmosphere. →A

70 **What constitutes the indirect economic value of biodiversity?** CH 10
A Flood protection **B** Clothes
C Food **D** Medicine
Indirect economic value: flood protection and drought, provide us with safe drinking water. →A

71 **What constitutes the direct economic value of biodiversity?** CH 10
A Flood protection **B** Decomposition of waste
C Food **D** Detoxification
Direct economic value: human depends on plants and animals in food, clothing, energy, and treatment. →C

72 **How many more times does the current gradual extinction compare to a rate of natural extinction?** CH 10
A 1 **B** 10 **C** 1000 **D** 0.10000
Some researchers have estimated the speed of the current extinction rate of about 1000 times more than the normal speed of the gradual extinction rate. →C

73 **What constitutes the indirect economic value of biodiversity?** CH 10
A Drought **B** Medication
C Food **D** Clothes
Indirect economic value: flood protection and drought, provide us with safe drinking water. →A

74 **An event in which a high percentage of species are endangered in a short period…** CH 10
A Gradual extinction **B** Collective extinction
C Exploitation **D** Habitat loss
Collective extinction: an event in which a high Percentage of species are endangered in a short period. →B

75 **A term that describes the excessive use of species that have economic value** CH 10
A Exploitation **B** Variety of species
C Extinction **D** Pollution
Exploitation: Excessive use of species with an economic value →A

76 **The separation of the ecosystem into small parts of the earth is called…** CH 10
A Fragmentation of habitat
B Loss of habitat
C Destruction of the habitat
D Environmental home disturbance
Fragmentation of environmental habitat: separation of the ecosystem into small parts of the earth. →A

77 **Which of the following removes calcium, potassium and nutrients from the soil?** CH 10
A Water irrigation **B** Acid rain
C Transpiration **D** Fertilizers
Pollution: Contains acid rain that removes calcium and potassium from the soil, and food enrichment. →B

78 **Non-native species move to a new environmental habitat, intentionally or inadvertently…** CH 10
A Local species **B** Internal species
C Extinct species **D** Endemic species
Internal species: Non-native species that move to a new habitat with intent or unintentionally →B

79	**Which of the following resources are renewable in nature?**		
CH 10	**A** Fossil Fuels	**B** Metal	
	C Solar power	**D** Radioactive uranium	

Renewable resources: are replaced by natural processes faster than they consume, such as solar energy and air. →C

80	**Which of the following resources are renewable in nature?**		
CH 10	**A** Biodiversity	**B** Biologics	
	C Sustainable use	**D** Exploitation	

Sustainable use: Use resources at a rate that can be replaced or recycled. →C

Part 10: Animals behavior

Behavior: The way the animal responds to something.
Fetal behavior depends on heredity and is not linked to previous experiences. For example, walking is an instinctive behavior
A stable pattern of behavior: An instinctive behavior in which the animal has a set of sequential actions that respond to something, Ex: the response of the goose to exit the eggs from the nest and try to roll them back to the nest.
Acquired behavior: Behavior is a results from the interaction between instinctive behaviors and previous experiences.
Types: habituation, conditional learning, printed behavior, cognitive behavior.
- Habituation: Decreased animal response to something that has no positive or negative effect, ex: birds return to panic
- Conditional classical learning: occurs when two different types of stimuli are linked, ex.: dog hooking between the sound of the bell and the presence of food in Pavlov's experiments.
- Procedural learning: The animal connects in its response to something with a positive or negative outcome, for example: tying the bird between the eating of the butterfly and the angelic disease.
- Print behavior: Learning is defined in a specific period of life of the living creature (sensitive period) and then continue, the sensitive period when some living creatures occur immediately after birth, for example: bird Heron has a strong social link with the first body after seeing hatching.
- Cognitive Behavior: Includes thinking, reasoning, problem solving.

Behavior of Competition
Conflict behavior: A combat relationship between two individuals of the same type.
Hierarchy of dominion (behavior of dominion): control of one chicken on the other.
Behavior Determines the Area of Influence: Select a region, control it and defend it.
Migratory and Communication
Migratory Behaviors: seasonal movement of animals to new locations, like birds.
Communication Behaviors: by pheromones, Auditory communication like wolfs' howls and birds' chirps.
Pheromones: highly specific chemicals spread by animals to communicate where the predators can't detect them.
Courting behaviors: used to attract a mate.
Nurturing behaviors: Parents provide care to their offspring, increasing the chance of offspring survival.
Cooperative behaviors: Altruistic behavior and self-sacrificing behaviors.
Altruistic behavior: animal benefits another at a cost of themselves, workers in beehives perform altruistic behavior; collecting nectar and caring for the queen and offspring.
Beehives contain a reproductive female called a queen, several male bees to reproduce, and many female workers.

81	**A change occurs in the environment of the organism because of its interaction with it…**		
CH 10	**A** Spectacular	**B** Motive	
	C Behavior	**D** Instinct	

Behavior: The way the animal responds to something. →C

82	**A behavior that depends on genetics…**		
CH 10	**A** Perceptual	**B** Instinctive	
	C Acquired	**D** Printed	

Instinctive behavior depends on heredity. →B

83	**The Walking of the small ducks behind their mother is …behavior**		
CH 10	**A** Instinctive	**B** Ethical	
	C Classical conditioning	**D** Acquired	

Fetal behavior depends on heredity and is not linked to previous experiences. For example, walking is an instinctive behavior →A

84	**Learning that happens when you connect two different types of stimuli…**		
CH 10	**A** Familiarity	**B** Procedural learning	
	C Classical conditioning	**D** Cognition	

Conditional classical learning: occurs when two different types of stimuli are linked, Ex.: dog hooking between the sound of the bell and the presence of food in Pavlov's experiments. →C

85	**Linking the bird to the eater - eating the royal butterfly and the disease is an example…**		
CH 10	**A** Familiarity	**B** Procedural learning	
	C Printed behavior	**D** Cognition	

Procedural learning Ex: tying the bird between the eating of the butterfly and the angelic disease. →B

86	**Cats not escaping when children approach them is an example of ... Learning**		
CH 10	**A** Familiarity		
	B Fixed performance pattern		
	C Classical Conditional		
	D Procedural		

Familiarity is the state of knowing something very well →A

87	**A baby touching something hot then learning not to touch it again is an example of ... learning**		
CH 10	**A** Cognition	**B** Procedural	
	C Classical Conditional	**D** Familiarity	

Behavior: The way the animal responds to something. →B

88	**In what period does the printed behavior of the Animal consist?**		
CH 10	**A** Incubation period	**B** Sensitive Period	
	C Period of perception	**D** Learning period	

Sensitive periods are periods of psychological development In the animal →B

89	**The use of chimpanzees a stone to break and open fruits is an example of ...**		
CH 10	**A** Fixed performance pattern		
	B Printed behavior		
	C Cognitive Behavior		
	D Conditional learning		

Cognitive Behavior: Includes thinking, reasoning, problem solving. →C

90 **Crow break eggs for feeding, this behavior …**
CH 10
A Cognitive **B** Conditional
C Instinctive **D** Innate
Cognitive Behavior: Includes thinking, reasoning, problem solving →A

91 **Behavior leads to fighting relationships between two individuals of the same kind ...**
CH 10
A Conflict **B** Nursery
C Immigration **D** Maze
Conflict behavior: A combat relationship between two individuals of the same type. →A

92 **hat behavior does one chicken control over others?**
CH 10
A Conflict **B** Nursery
C Immigration **D** Hierarchy
Hierarchy of dominion (behavior of dominion): control of one chicken on the other. →D

93 **Which behavior shows seasonal movement of animals to new locations?**
CH 10
A Migratory Behaviors
B Cognitive behaviors
C Dominance hierarchies
D Imprinting
Fam Migratory Behaviors: seasonal movement of animals to new locations, like birds. →A

94 **Which type of learned behavior occurs only during an animal's sensitive period?**
CH 10
A Migratory Behaviors
B Cognitive behaviors
C Dominance hierarchies
D Imprinting
Imprinting Some animals form a social attachment to the first object they see after birth. →D

95 **What's not true about pheromones?**
CH 10
A Predators can detect them
B Used in reproduction
C Chemicals
D Used in communication
Pheromones: highly specific chemicals spread by animals to communicate where the predators can't detect them. →A

96 **During your visit to the zoo, you saw a peacock (the male peafowl) exposing its train (feather tail) in to impress females. This behavior is …**
CH 10
A Altruistic **B** Competitive
C Courting **D** Communication
Courting behaviors: used to attract a mate. →C

97 **Guaranteeing a higher chance of offspring survival is an example of what behavior?**
CH 10
A Agonistic **B** Migratory
C Courting **D** Nurturing
Nurturing behaviors: Parents provide care to their offspring, increasing the chance of offspring survival. →D

98 **What do agonistic behaviors and territorial behaviors have in common?**
CH 10
A They are altruistic behaviors.
B They are competitive behaviors.
C They are based on biological rhythms.
D They require auditory communication.
Agonistic behaviors occur in competitive situations, and include aggressive, submissive, and defensive behaviors. →B

99 **Behavior in which an animal benefits another at a cost of itself…**
CH 10
A Migratory **B** Altruistic
C Courting **D** Nurturing
Altruistic behavior: animal benefits another at a cost of themselves, workers in beehives perform altruistic behavior; collecting nectar and caring for the queen and offspring. →B

100 **Behavior in bees called…**
CH 10
A Migratory **B** Altruistic
C Competitive **D** Nurturing
Workers in beehives perform altruistic behavior →C

101 **Which resembles the greatest population or quantity in bee hives members?**
CH 10
A Female workers **B** Queens
C Males **D** Wasps
Beehives contain a reproductive female called a queen, several male bees to reproduce, and many female workers. →A

102 **Which best defines innate behavior?**
CH 10
A Established learning pattern
B Genetically based instinct
C Imprinted conditioning
D stimulus-based response
Behaviors are referred to as innate when the same behavior commonly is observed among a large number of individuals within a population, even if the environments are different. →A

103 **What maintains the daily rhythm of the sleep/wake cycle in many animals?**
CH 10
A Hibernation behaviors
B Temperature changes
C An internal biological clock
D Availability of food and water
Many animals have an internal clock that maintains the daily rhythm of the sleep/wake cycle. →C

104 **Altruistic behavior is an example of what behaviors?**
CH 10
A Migratory **B** Cooperative
C Courting **D** Nurturing
Cooperative behaviors: Altruistic behavior and self-sacrificing behaviors. .→B

105 **Which form of communication has the shortest range?**
CH 10
A Visual cues
B Auditory messages
C Pheromone signals.
D Infrasonic sound waves
Pheromones: highly specific chemicals spread by animals to communicate where the predators can't detect them. →B

106 **What is another way to describe animal behavior that is altruistic?**
CH 10
A Communal **B** Mutualistic
C Self-sacrificing **D** Symbiotic
Cooperative behaviors: Altruistic behavior and self-sacrificing behaviors. .→C

Chapter 10: Do It Answer key	
1	2
D	D