International Academic Competitions

Environmental Science Examination
Asian Championships 2023

Name _____

School _____

Age _____

Instructions – Mark your answers on the scantron provided. Correct answers are worth 2 points. Incorrect answers are worth –1 point. Questions left blank are worth 0 points. Write the answer to your tiebreaker question on the back of your scantron.

1.What does an individual organism NOT need to survive?
- A. Air
- B. Water
- C. Food
- D. Reproduction

2. The remains of plants and animals are often called which of these?
- A. Sand
- B. Organic matter
- C. Consumers
- D. Producers

3. Different ecosystems have different types of plants and which of the following?
- A. Lakes
- B. Rivers
- C. Animals
- D. Sand

4. Organisms that make their own food are known by what name?
- A. Producers
- B. Consumers
- C. Secondary consumers
- D. Decomposers

5. When members of a group are made from ONE type of organism they are called which of these?
- A. Tribe
- B. Community
- C. Pod
- D. Population

6. Which of the following is made up of an environment's biotic (living) and abiotic (nonliving) factors?
- A. Niche
- B. Community
- C. Ecosystem
- D. Swarm

7. Vultures are examples of what type of organism?
- A. Producers
- B. Scavengers
- C. Communities
- D. Weeds

8. Abiotic factors include light, water and which of these other things?
- A. Soil
- B. Worms
- C. Mushrooms
- D. Cacti

9. When there are several species all living together it is called which of the following?
- A. Tribe
- B. Population
- C. Community
- D. Herd

10. Organisms that only eat producers or plants are known by what name?
- A. Herbivores
- B. Tigers
- C. Eagles
- D. Detritivores

11. Which of these is an organism that eats both plants and animals?
- A. Herbivore
- B. Tiger
- C. Mushroom
- D. Omnivore

12. The place where an organism lives is known by what term?
- A. Cave
- B. Habitat
- C. Nursery
- D. House

13. The role of an organism in its community is called which of the following?
- A. Niche
- B. Home
- C. Accommodation
- D. Factor

14. The path that food travels from one organism to another in a community is called a(n)
    A. Prey
    B. Producer
    C. Predator
    D. Food chain

15. You can tell different ecosystems from each other by their
    A. Buildings, soil, water and humans
    B. Animals, carbon dioxide, oxygen and pollution
    C. Sunlight, temperature, rainfall and species
    D. Carbon dioxide, water, soil,

16. Almost all ecosystems get their energy from
    A. The sun
    B. Soil
    C. Air
    D. Each other

17. Giraffe's ecosystem is throughout Africa. They eat leaves off trees and never eat other animals. Giraffes are
    A. Scavengers
    B. Herbivores
    C. Predators
    D. Decomposers

18. Which is often a cause of habitat destruction?
    A. Too many helpers
    B. Healthy animals
    C. Pollution
    D. Great weather

19. Which of the following is a decomposer?
    A. Rabbit
    B. Mushroom
    C. Bear
    D. Bird

20. What might happen to a big population of rabbits if a large population of coyote's move into the area.
    A. The rabbit population might decrease
    B. The rabbit population might increase
    C. The coyote population might not change
    D. The coyote population might decrease

21. An example of a carnivore is
    A. Butterfly
    B. Bee
    C. Lion
    D. Cow

22. What do you call an organism that can't make its own food and must eat other things is called a(n)
    A. Predator
    B. Consumer
    C. Producer
    D. Population

23. To follow the energy given from one organism to another (usually by eating each other) we create a(n)
    A. Grocery store
    B. Links like a fence
    C. An energy transfer chart
    D. A Food chain

24. What environment covers nearly ⅔ of the planet Earth?
    A. Mountain
    B. Desert
    C. Ocean
    D. Rainforest

25. All the things that surround an animal, including living and nonliving things, is called its
    A. Environment
    B. Oxygen
    C. House
    D. Yard

26. In order to break down waste and/or remains, environments need _____.
    A. Producers
    B. Garbage People
    C. Decomposers
    D. Creators

27. Predators, like coyotes, eat prey, like rabbits. If the rabbit population gets larger, what happens to the predator population?
    A. It gets larger
    B. It dies off
    C. It creates new species
    D. It gets smaller

28. The size of ecosystems
    A. Are always quite small
    B. Are always the same size
    C. Are always north of the equator
    D. Can be very small or very large

29. At the bottom of a food pyramid, there is always a _____.
    A. Producer
    B. A bunny
    C. A parasite
    D. A decomposer

30. What is another name for a prairie biome?
    A. Taiga
    B. Forest
    C. Tundra
    D. Grassland

31. Humans can eat different types of meat, also different kinds of fruit, and different vegetables. Humans are an example of
   A. Carnivores
   B. Meat-eaters
   C. Herbivores
   D. Omnivores

32. An energy pyramid traces the energy that moves from one organism to another, by eating other organisms. In this pyramid as you move higher, what happens to the amount of energy?
   A. The amount of energy increases as you move up on the pyramid
   B. The amount of energy stays the same in all parts of the pyramid.
   C. The amount of energy decreases as you move up the pyramid
   D. The amount of energy is different for different animals

33. A living thing will only live and survive
   A. In deserts
   B. Where its needs are met
   C. In the shade
   D. In a polar ecosystem

34. The top consumer in a food pyramid is always a
   A. Producer
   B. Consumer
   C. Plants
   D. Carnivore

35. A food chain or food web traces_____ that travels through it.
   A. Energy
   B. Carbon
   C. Water
   D. Nitrogen

36. What is one of the things that causes species to become endangered?
   A. Recycling
   B. Tree planting
   C. Throwing trash out of the car
   D. Habitat destruction

37. What food do carnivores eat?
   A. Strawberries
   B. Vegetables
   C. Meat
   D. Plants

38. Blue jays, earthworms, and small plants live together in a yard. They make up a
   A. Species
   B. Community
   C. Population
   D. Habitat

39. Our environment contains which of the following?
   A. Only artificial things
   B. Only living things
   C. Living and non-living things
   D. Only non-living things

40. A food chain really starts with the source of all earth's energy which is
   A. Carnivores
   B. Plants that make their own food
   C. Decomposers
   D. The Sun

41. Which is a primary consumer (first one to eat plants)?
   A. A Pea plant
   B. A Deer
   C. A Wolf
   D. A farmer

42. A group of organisms that have grass, a mouse that eats the grass, a snake that eats the mouse and a hawk that eats the snake is an example of
   A. An aquatic (water based) food web
   B. An aquatic food chain
   C. A polar food chain
   D. A terrestrial (ground based) food chain

43. If you are in an ecosystem that has mostly pine and spruce trees you would be in a(n)
   A. Evergreen forest
   B. The North pole
   C. Mt. Everest (Himalayan Mountains)
   D. Oceanic

44. An animal, animal 1, is eaten by another animal, animal 2. Animal 1 is called
   A. A predator
   B. Prey
   C. A carnivore
   D. An omnivore

45. Which term (word) includes herbivores, carnivores, and omnivores?
   A. Consumers
   B. Producers
   C. Shoppers
   D. Prey

46. What does diversity mean in an ecosystem?
   A. One thing living in an ecosystem
   B. A group of birds
   C. One type of plant in a lake
   D. Different kinds of things living in an ecosystem

47. What type of organism is also called an autotroph?
   A. Plants
   B. Mice
   C. Snakes
   D. Hawks

48. Organisms like fungi and mushrooms are examples of
    A. Insects
    B. Decomposers
    C. People
    D. Herbivores

49. Sometimes natural events like volcanic eruptions and storms and fires
    A. Always destructive to ecosystems
    B. Always good for ecosystems
    C. Can hurt ecosystems and also can be good for them
    D. Is always hard to say

50. A group of food chains that overlap is called a(n)
    A. Energy diagram
    B. Dormant system
    C. Eroded system
    D. Food web

51. Which word describes a group of cows living joyfully in a pasture munching on grass and hay?
    A. Happy Cows
    B. Cows from California
    C. An individual
    D. A population

52. Organisms like decomposers break down wastes into _____ which become part of the soil.
    A. Nutrients
    B. Algae
    C. Habitats
    D. Protons

53. What is the top most layer of the rainforest called?
    A. Understory
    B. Canopy
    C. Emergent plants
    D. Shrub

54. If a link in a food chain went missing (died off or moved out), what would happen to the organisms that eat the missing link?
    A. They would stay the same
    B. They would increase in numbers
    C. They would decrease in numbers
    D. The numbers would vary without pattern

55. When a species has more individuals dying than are born in a given year, the species is considered
    A. Extinct
    B. Thriving
    C. Growing
    D. Threatened

56. When an ecosystem has been damaged, like a volcanic eruption, what are the first plants that might be able to grow there?
    A. Trees
    B. Mosses
    C. Flowers
    D. Shrubs

57. When a fire destroys a forest, new plants will eventually grow. This process is called
    A. Conservation
    B. Erosion
    C. Succession
    D. Plantation

58. If a fire destroys a habitat, what will happen to the available resources?
    A. They will increase
    B. They will decrease
    C. They will disappear forever
    D. They will not be affected

59. Tundra is an ecosystem where
    A. An area where land and water meet that is always wet
    B. A dry area that is usually hot during the day
    C. A place with lots of trees and food for animals
    D. A cold place with very little vegetation

60. If there are more laws against _____, or illegal hunting, it could help prevent extinction of species.
    A. Driving
    B. Pollution
    C. Poaching
    D. Planting

61. What is an extinct species?
    A. Alive
    B. No longer living on earth
    C. Almost dead
    D. Endangered

62. A species group called parasites, are species that
    A. Feed off other species
    B. Has different pairs of sites
    C. Must eat food
    D. Makes its own food

63. What happens when the bodies of dead animals decompose?
    A. Oxygen is added to the air
    B. Oxygen is taken from the air
    C. Nutrients are added to the soil
    D. Nutrients are absorbed by the bodies

64. Which is NOT considered a natural resource?
   A. Plants
   B. Animals
   C. Air
   D. Shoes

65. How can people ruin habitats?
   A. Build fences to keep animals off roadways
   B. Plant new trees
   C. Kill plants or animals
   D. Preserve land areas for animals to live

66. The amount of animals/people the environment can support without damaging the environment is called
   A. The maximum load
   B. The ecological limit
   C. The carrying capacity
   D. The Maximum Environmental Capacity (MEC)

67. Some energy is renewable meaning you could access the resource forever with proper care. Which of the following is a renewable resource?
   A. Oil Shale
   B. Biomass
   C. Synthetic Natural Gas
   D. Synthetic oil

68. Of the following statements, which best describes a potential advantage of using geothermal energy instead of solar farms to generate power?
   A. Geothermal energy does not release hydrogen sulfide gas, whereas solar farms do
   B. Geothermal does not release greenhouse gasses whereas solar farms do
   C. Geothermal is easily accessible and can be used in most parts of the world
   D. Geothermal doesn't destroy large amounts of land like solar farms

69. This biome has the highest net primary productivity in part due to constant warm temperature and lots of sunlight
   A. Tropical Rainforest
   B. Taiga
   C. Tundra
   D. Temperate Grassland

70. The subsoil (underneath the topsoil) is permafrost, which can prevent both water draining through and deep-rooted plants growing.
   A. Tropical Rainforest
   B. Tundra
   C. Taiga
   D. Temperate Grassland

71. Dead trees and fallen trees in a forest ecosystem are most important because of their role in _____.
   A. Removing carbon dioxide from the air
   B. Increasing water runoff
   C. Contributing to soil erosion
   D. Providing habitats for wildlife

72. Which of the following is NOT typical of a keystone species (keystone species keep ecosystems from collapsing)?
   A. It can shape and maintain habitats for other species
   B. It can limit a dominant competitive species
   C. It is at the top of the food chain
   D. It can have a relatively low abundance

73. In these interactions, which one harms one species while the other benefits
   A. Competition
   B. Parasitism
   C. Mutualism
   D. Predation

74. When a resource is divided by two species based on differences in their behavior or form-like different beaks, is it called
   A. Resource partitioning
   B. Competitive exclusion
   C. Mutualism
   D. Commensalism

75. The total amount of solar energy captured by producers by photosynthesis over some time interval is
   A. Resource partitioning
   B. Net primary productivity
   C. Gross primary productivity
   D. Primary consumption

Tiebreaker

This question will only be scored if there is a tie for placement on the exam. There is no penalty for a wrong answer to this question. Write your answer legibly on the back of your scantron.

According to the journal Nature, how many trees are there per person on Earth as of 2022?