

PRINCIPLES OF ECOLOGY

TRIAL QUESTIONS

Multiple Choice Questions on Air pollution

1. Air pollution is severe in

- a) Cities
- b) Industrialised areas
- c) Densely populated areas
- d) all of these

2. Particulate pollutants are

- a) are small solid particles and liquid droplets
- b) liquid droplets in atmosphere
- c) are small solid particles released into the atmosphere
- d) all of these

3. All are particulate pollutants except

- a) dust
- b) ozone
- c) soot
- d) smoke

4. Fine organic or inorganic particles suspended in air is called

- a) particulate pollutant
- b) gaseous pollutant
- c) aerosol
- d) none of these

5. Which of the following is a secondary pollutant

- a) CO₂
- b) CO
- c) O₃
- d) SO₂

6. Air pollution can be of

- a) natural origin
- b) artificial or man made origin
- c) both a and b
- d) b only

7. Mobile combustion accounts

- a) 10-20% of air pollution
- b) 40-50% of air pollution
- c) 50-60 % of air pollution
- d) 5-10 % of air pollution

8. The true statement about 'green house effect' is that it is

- a) caused by combination of many gases
- b) caused by CO₂
- c) caused only by CO₂, CFC, CH₄ and NO₂ gases
- d) None of these

PRINCIPLES OF ECOLOGY

TRIAL QUESTIONS

9. The supersonic jets cause pollution by the thinning of

- a) CO₂ layer
- b) SO₂ layer
- c) O₃ layer
- d) O₂ layer

10. Carbon mono oxide is a pollutant because

- a) it reacts with O₂
- b) it inhibits glycolysis
- c) makes nervous system inactive
- d) reacts with haemoglobin

Learn more

- MCQ on Environmental Pollution

Answers

- 1. d) all of these
- 2. a) are small solid particles and liquid droplets
- 3. b) ozone
- 4. c) aerosol
- 5. c) O₃
- 6. c) both a and b
- 7. c) 50-60 % of air pollution
- 8. c) caused only by CO₂, CFC, CH₄ and NO₂ gases
- 9. c) O₃ layer
e) reacts with haemoglobin

11. MCQ on Ecology: Ecosystem

1. Ecology deals with the study of:

- a) Living beings
- b) Living and non living components
- c) Reciprocal relationship between living and non living components
- d) Environment

2. Autoecology deals with

- a) Ecology of species
- b) Ecology of many species
- c) Ecology of community
- d) All the above

3. Synecology deals with

- a) Ecology of many species
- b) Ecology of many populations
- c) Ecology of community
- d) None of the above

PRINCIPLES OF ECOLOGY

TRIAL QUESTIONS

4. Ecotype is a type of species in which environmentally induced variations are
 - a) Temporary
 - b) Genetically fixed
 - c) Genetically not related
 - d) None of the above
5. The term 'Biocoenosis' was proposed by
 - a) Transley
 - b) Carl Mobius
 - c) Warming
 - d) None of the above
6. The pyramid of energy in any ecosystem is
 - a) Always upright
 - b) May be upright or inverted
 - c) Always inverted
 - d) None of the above
7. Energy flow in ecosystem is
 - a) Unidirectional
 - b) Bidirectional
 - c) Multidirectional
 - d) None of the above
8. An ecosystem must have continuous external source of
 - a) minerals
 - b) energy
 - c) food
 - d) All of the above
9. The source of energy in an ecosystem is
 - a) ATP
 - b) Sunlight
 - c) D.N.A
 - d) R.N.A
10. Trophic levels are formed by
 - a) Only plants
 - b) only animals
 - c) Only carnivorous
 - d) Organisms linked in food chain
11. Biotic potential is counteracted by
 - a) Competition with other organisms
 - b) Producer is the largest
 - c) Limitation of food supply
 - d) None of the above
12. Definition of ecosystem is

PRINCIPLES OF ECOLOGY

TRIAL QUESTIONS

- a) The community of organisms together with the environment in which they live
 - b) The abiotic component of a habitat
 - c) The part of the earth and its atmosphere which inhibits living organisms
 - d) A community of organisms interacting with one another
- 13. In a food chain of grassland ecosystem the top consumers are**
- a) Herbivorous
 - b) Carnivorous
 - c) Bacteria
 - d) Either carnivorous or herbivorous
- 14. MAB stands for**
- a) Man and biosphere
 - b) Man, antibiotics and bacteria
 - c) Man and biotic community
 - d) Mayer, Anderson and Bisby
- 15. Species that occur in different geographical regions separated by special barrier are: a)**
- a) Allopatric
 - b) Sympatric
 - c) Sibling
 - d) None of the above

Answers:

1-c	2-a	3-c	4-b	5-b
6-a	7-a	8-b	9-b	10-d
11-d	12-a	13-b	14-a	15-a

Multiple Choice Questions on Ecological Pyramids

MCQ on Ecological Pyramids

- 12. 1. The pyramid of numbers is inverted in the case of**
- a) parasitic food chain
 - b) Grassland ecosystem
 - c) Forest ecosystem
 - d) lake ecosystem
- 13. 2. The concept of ecological pyramid was first proposed by**
- a) E.P. Odum
 - b) A.G. Tansley
 - c) Juday
 - d) Charles Elton
- 14. 3. The pyramid of energy in terrestrial ecosystem is**
- a) upright
 - b) inverted
 - c) spindle shaped

PRINCIPLES OF ECOLOGY TRIAL QUESTIONS

d) irregular

4. Which of the following ecological pyramid is always upright?

a) Pyramid of energy

b) Pyramid of number

c) Pyramid of biomass

d) none of these

15. 5. The pyramid of numbers in a single tree is

a) upright

b) inverted

c) spindle shaped

d) none of these

16. 6. A graphic representation of number of individuals of different species belonging to each trophic level in a an ecosystem is known as a) ecological pyramid

b) pyramid of biomass

c) pyramid of number

d) pyramid of energy

17. 7. The pyramid of biomass is inverted in

a) forest ecosystem

b) grassland ecosystem

c) fresh water ecosystem

d) tundra

18. 8. In pond ecosystem, the pyramid of biomass is

a) upright

b) inverted

c) spindle shaped

d) none of these

19. 9. In grassland ecosystem, the pyramid of biomass is

a) upright

b) inverted

c) spindle shaped

d) none of these

20. 10. Which of the following statement is incorrect regarding ecological pyramids

a) The pyramid of energy is inverted in ocean ecosystem

b) The pyramid of biomass is inverted in aquatic ecosystem

c) The pyramid of numbers is upright in grass land ecosystem

d) The pyramid of biomass is upright in grass land ecosystem **Learn More:**

- Multiple Choice Questions on Ecosystem
- [MCQ on Biodiversity and Conservation](#)
- [Multiple Choice Questions on Population Ecology](#)
- **Answers:**

1. a) parasitic food chain

2. d) Charles Elton

PRINCIPLES OF ECOLOGY TRIAL QUESTIONS

3. a) upright
4. a) Pyramid of energy
5. c) spindle shaped
6. c) pyramid of number
7. c) fresh water ecosystem
8. b) inverted
9. a) upright
- a) The pyramid of energy is inverted in ocean ecosystem

MCQ on Biodiversity and Conservation

1. MAB program stands for
 - a) Man and biotechnology
 - b) Material and biology
 - c) Man and Biology
 - d) Man and Biosphere
2. Red data book contains data of
 - a) all plant species
 - b) all animal species
 - c) economically important species
 - d) threatened species
3. IUCN (The International Union For Conservation Of Nature And Natural Resources) headquarters is at
 - a) Morges, Switzerland
 - b) Paris, France
 - c) Vienna, Austria
 - d) New York, USA
4. IUCN is also called as
 - a) Man and Biosphere program
 - b) World Conservation Union
 - c) World Conservation Consortium
 - d) World Wide Conservation Union
5. Which of the following region has maximum diversity
 - a) mangrooves
 - b) temperate rainforest
 - c) taiga
 - d) coral reefs
6. Approximately, 50% of total world species are present on
 - a) tropical rain forest

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PRINCIPLES OF ECOLOGY TRIAL QUESTIONS

- b) temperate rain forest
 - c) temperate deciduous forest
 - d) coral reefs
7. Biodiversity
- a) increases towards the equator
 - b) decreases towards the equator
 - c) remains same throughout the planet
 - d) has no effect on change in latitude
8. The most important reason for decrease in biodiversity is
- a) habitat pollution
 - b) introduction of exotic species
 - c) over-exploitation
 - d) habitat destruction
9. Dodo is
- a) endangered
 - b) critically endangered
 - c) rare
 - d) extinct
10. Blue whale is placed under
- a) endangered
 - b) critically endangered
 - c) rare
 - d) extinct
11. Conservation within the natural habitat is
- a) insitu conservation
 - b) exsitu conservation
 - c) invivo conservation
 - d) exvivo conservation
12. All are insitu conservation efforts except
- a) National parks
 - b) Sanctuaries
 - c) Zoo
 - d) biosphere reserves
13. Ex situ conservation includes
- a) Zoo
 - b) Botanic garden
 - c) Germplasm bank
 - d) all of the above
14. Hot spots are regions of high
- a) rarity

PRINCIPLES OF ECOLOGY TRIAL QUESTIONS

b) endemism

c) critically endangered population

d) diversity

15. Endemic species are

a) rare species

b) species localised in a specific region

c) cosmopolitan in distribution

d) critically endangered species

Answers:

1. d) Man and Biosphere
2. d) threatened species
3. a) Morges, Switzerland
4. b) World Conservation Union
5. d) coral reefs
6. a) tropical rain forest
7. a) increases towards the equator
8. d) habitat destruction
9. d) extinct
10. a) endangered
11. a) insitu conservation
12. c) Zoo
13. d) all of the above
14. b) endemism
15. b) species localised in a specific region

Multiple Choice Questions on Biotic Interactions

1. Which one is true?

a) symbiosis when neither population affects each other

b) symbiosis when the interaction is useful to both the populations

c) commensalism when none of the interacting populations affect each other

d) commensalism when the interaction is useful to both the populations

21. 2. A high density of elephant population in an area can result in

a) mutualism

b) Intraspecific competition

c) Interspecific competition

d) Predation on one another

22. 3. Barnacles growing on the back of whale is an example for

a) mutualism

b) parasitism

c) amensalism

d) commensalism

PRINCIPLES OF ECOLOGY

TRIAL QUESTIONS

- 23.** 4. *Pencillium* does not swallow the growth of bacterium *Staphylococcus*. This sort of relationship is called a) commensalism
b) predation
c) amensalism
d) mutualism
- 24.** 5. Symbiosis is shown by
a) *E.coli*
b) *Cuscuta*
c) *Rafflesia*
d) *Monotropa*
- 25.** 6. When both partners are affected negatively the nature of interaction is
a) commensalism
b) competition
c) predation
d) amensalism
- 26.** 7. An association between two individuals or populations where both are benefitted and where neither can survive without the other is a) competition
b) commensalism
c) mutualism
d) protocoperation
- 8.** Which of the following interactions will not promote co evolution?
a) commensalism
b) mutualism
c) parasitism
d) interspecific competition
- 27.** 9. The effect of interspecific competition on niches is to make them a) larger
b) smaller
c) more triangular
d) change location
- 28.** 10. *Mycorrhiza* represents
a) symbiotic association between a fungus and liverworts
b) parasitic association between a fungus and an alga
c) parasitic association between a fungus and roots of plants
d) symbiotic association between a fungus and roots of higher plants Learn more:
- [Multiple Choice Questions on Population Ecology](#)
 - [Multiple Choice Questions on Ecosystem](#)
 - [Multiple Choice Questions on Ecological Adaptions](#)
 - [Quiz on Biotic Interactions](#)
 - **29. Answers**
1. b) symbiosis when the interaction is useful to both the populations
 2. b) Intraspecific competition

PRINCIPLES OF ECOLOGY TRIAL QUESTIONS

3. d) commensalism
4. c) amensalism
5. a) *E.coli*
6. b) competition
7. c) mutualism
8. a) commensalism
9. b) smaller
10. d) symbiotic association between a fungus and roots of higher plants

Biology Multiple Choice Questions on Organisms and Populations

1. Organisms having the potential for interbreeding and producing fertile offspring is called a)
Class
b) Order
c) Genus
d) Species
2. A group of individuals of a plant or animal species, inhabiting a given area is called a)
Biome
b) Population
c) Ecosystem
d) Community
3. Climate includes
a) Seasonal variation
b) General patterns of atmosphere conditions
c) Average weather of an area
d) All of these
4. The maintenance of relatively constant internal environment is called a)
Homeostasis
b) Exotherms
c) Homeobox
d) Endotherms
5. Ultraviolet radiation which is not lethal but harm to the organism is a)
0.1 to 0.28 μm
b) 0.28-0.32 μm

PRINCIPLES OF ECOLOGY TRIAL QUESTIONS

- c) 0.32-0.4 μm
- d) 0.4-0.5 μm

6. Ecological niche of an organism represents

- a) The resource it utilizes
- b) Functional role in the ecological system
- c) The range of conditions that it can tolerate
- d) all of these

7. Respiratory roots are known as

- a) velamen
- b) pneumatophores
- c) hydathodes
- d) prop roots

8. The gradual physiological adjustment to slowly changing new environmental conditions is known as a) Selection

- b) Introduction
- c) Acclimatization
- d) Quarantine

9. Upper layer of water in a single body of water is known as

- a) Hypolimnion
- b) Epilimnion
- c) thermocline
- d) Hydroline

10. The lower limit of water availability in soil is known as

- a) field capacity
- b) Hypolimnion
- c) thermocline
- d) wilting point

Learn More:

- [Biology Practice Test on Biodiversity](#)
- [MCQ on Organisms and Populations](#)
- [Biology Quiz on Organisms and Populations](#)
- [Biology Practice Test on Ecology](#)
- [Quiz on Ecology](#)
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PRINCIPLES OF ECOLOGY TRIAL QUESTIONS

Answers:

1. d) Species
2. b) Population
3. d) All of these
4. a) Homeostasis
5. b) 0.28-0.32 μm
6. d) all of these
7. b) pneumatophores
8. c) Acclimatization
9. b) Epilimnion
10. d) wilting point

Multiple Choice Questions on Population Ecology - Human Population

30. 1. A population is a group of

- a) individuals in a species
- b) species in a community
- c) communities in an ecosystem
- d) individuals in a family

31. 2. What is the most important factor for the success of animal population? a) natality

- b) adaptability
- c) unlimited food
- d) inter species activity

32. 3. The formula for exponential population growth is

- a) $dN/dt = rN$
- b) $dt/dN = rN$
- c) $dN/rN = dt$
- d) $rN/dN = dt$

4. Human population growth curve is a:

- a) S shaped curve
- b) parabola curve
- c) J shaped curve
- d) zig zag curve

PRINCIPLES OF ECOLOGY

TRIAL QUESTIONS

33. 5. Exponential growth occurs when there is

- a) a great environmental resistance
- b) no environmental resistance**
- c) no biotic potential
- d) a fixed carrying capacity

34. 6. A human population is small, there is a greater chance of : a) gene flow

- b) genetic drift**
- c) natural selection
- d) mutation

35. 7. In a population, unrestricted reproductive capacity is called as

- a) carrying capacity
- b) biotic potential**
- c) birth rate
- d) fertility rate

36. 8. The concept that 'population tends to increase geometrically while food supply increases arithmetically' was put forward by a) Adam Smith

- b) Charles Darwin
- c) Thomas Malthus**
- d) Stuart Mill

37. 9. Two opposite forces operate in the growth and development of every population. One of them is related to the ability to reproduce at a given rate. The force opposite to it is called a) fecundity

- b) mortality**
- c) environmental resistances
- d) biotic control

38. 10. The carrying capacity of a population is determined by its

- a) population growth rate
- b) natality
- c) mortality
- d) limiting resources** Learn more:

PRINCIPLES OF ECOLOGY TRIAL QUESTIONS

- [Multiple Choice Questions on Ecology](#)
- [Ecology Practice Test on Ecosystem](#)

39. Answers

1. a) individuals in a species
2. b) adaptability
3. a) $dN/dt = rN$
4. c) J shaped curve
5. b) no environmental resistance
6. b) genetic drift
7. c) environmental resistances
8. c) Thomas Malthus
9. b) biotic potential
10. d) limiting resources

40. MCQ on Environmental Pollution

1. The unfavourable alteration of environment due to human activities is termed as a)
ecological disturbance
b) catastrophe
c) ecological degradation
d) pollution
2. Which of the following is the best indicator of SO₂ pollution
a) bryophyte
b) pteridophyte
c) Lichen
d) algae
3. Heavy dust can cause
a) leaf blights
b) opening of stomata
c) closure of stomata
d) browning of leaves
4. Which of the following is the major cause of pollution

PRINCIPLES OF ECOLOGY TRIAL QUESTIONS

- a) plants
- b) man
- c) fungi
- d) hydrocarbon gases

5. Minamata disease was caused by pollution of water by

- a) mercury
- b) lead
- c) tin
- d) methyl iso cyanate

6. BOD stands for

- a) biotic oxidation demand
- b) biological oxidation demand
- c) biological oxygen demand
- d) biochemical oxygen demand

7. A river with high BOD value is

- a) highly polluted
- b) highly clean
- c) highly productive
- d) none of these

8. 5th June is observed as

- a) world forest day
- b) world environment day
- c) world wildlife day
- d) world population day

9. Cement factory labourers are prone to

- a) leukemia
- b) bone marrow disease
- c) asbestosis
- d) cytosilicosis

10. Noise is measured using sound meter and the unit is a) hertz

- b) decibel
- c) joule
- d) sound

PRINCIPLES OF ECOLOGY TRIAL QUESTIONS

Answers

1. d) pollution
2. c) Lichen
3. c) closure of stomata
4. d) hydrocarbon gases
5. a) mercury
6. c) biological oxygen demand
7. a) highly polluted
8. b) world environment day
9. d) cytotoxicosis
10. b) decibel