



BIOLOGY

BOOKS - AAKASH SERIES

BIODIVERSITY AND CONSERVATION

Exercise I Biodiversity Meaning And Levels Of Biodiversity

1. The term biodiversity was popularised by

A. R.H, Whittaker

B. Edward Wilson

C. R.D. Barnes

D. Earnst Myer

Answer: B



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2. Biological diversity day is

A. 15th June

B. 21th March

C. 3rd October

D. 22nd May

Answer: D



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3. Biodiversity is the variations of life at the level

- A. within species
- B. among species
- C. diversity of ecosystems
- D. all the three

Answer: D

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4. Which of the following terms includes all of the others?

- A. Biodiversity

- B. Genetic diversity
- C. Species diversity
- D. Ecosystem diversity

Answer: A

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5. Which of the following is not an objective of Convention of Biodiversity?

- A. Conservation of Biodiversity
- B. Sustainable use of Biodiversity
- C. Fair and equitable sharing of benefits arising out of genetic resources

D. Selective hunting of dangerous and threatening species

Answer: D



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6. Relative abundance of species is called

- A. Species endemism
- B. Species richness
- C. Species evenness
- D. Species dominance

Answer: C

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7. A species spread over a large tract with varied environmental conditions will have

- A. high genetic diversity
- B. uniform gene pool
- C. little genetic diversity
- D. Same types of genes

Answer: A

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8. How is genetic diversity advantageous to populations?

- A. Genes for adaptive traits to local conditions make microevolution possible.
- B. The population that is most fit would survive by competitive exclusion.
- C. Genetic diversity allows for species stability by preventing speciation.
- D. Increased genetic diversity would lead to increased environmental variability.

Answer: A



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9. In India, there are several types of rice that differ in grain size, texture, colour and aroma. This is due to

- A. Species diversity
- B. Ecosystem diversity
- C. Genetic diversity
- D. Delta diversity

Answer: C

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10. In India, amphibian diversity is more in

- A. Western ghats

B. Eastern ghats

C. Himalayas

D. Khasi and Jaintia hills

Answer: A



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11. Among the ecosystem mentioned below, where can one find maximum biodiversity

A. Mangroves

B. Desert

C. Coral reefs

D. Alpine meadows

Answer: C



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12. The active chemical drug reserpine is obtained from

- A. Datura
- B. Rauwolfia
- C. Atropa
- D. Papaver

Answer: B



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13. Species is a

- A. Closely related interbreeding population
- B. Closely related non-breeding population
- C. Taxonomic genera of same species
- D. none

Answer: C

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14. Which of the following group exhibit more species diversity ?

- A. Algae

B. Fungi

C. Gymnosperms

D. Mosses

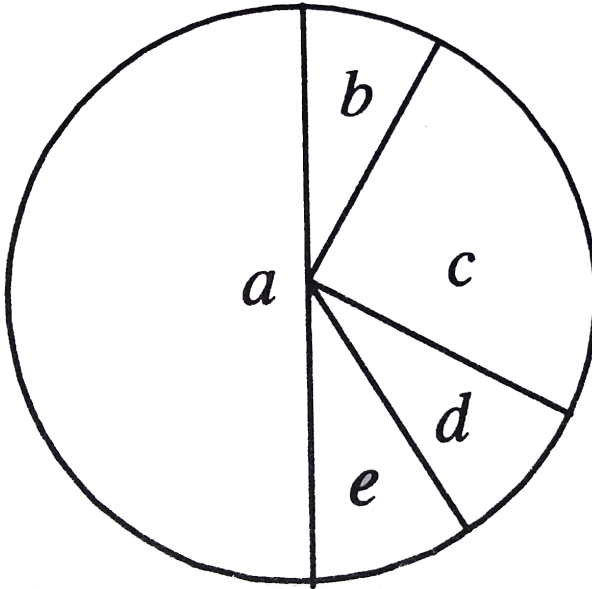
Answer: B



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15. Given here is representation of the extent of global diversity of vertebrates. What groups do the portions

represent



- A. *A* *B* *C*
Mammals Fishes Birds
- B. *A* *B* *C*
Fishes Mammals Reptiles
- C. *A* *B* *C*
Amphibians Birds Mammals
- D. *A* *B* *C*
Fishes Mammals Birds

Answer: D



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16. Robert May estimated the global species diversity as

- A. 7-million
- B. 1.5 million
- C. 20 million
- D. 50 million

Answer: A



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17. India constitutes _____ percent of the world's land area and contributes _____ percent of the global species are

A. 1.0, 5.5

B. 5.5, 1.0

C. 8.1, 2.4

D. 2.4, 8.1

Answer: D



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18. Which of the following countries has the highest biodiversity

A. Brazil

B. South Africa

C. Russia

D. India

Answer: A

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19. Which of the following group exhibit more species diversity ?

A. Gymnosperms

B. Algae

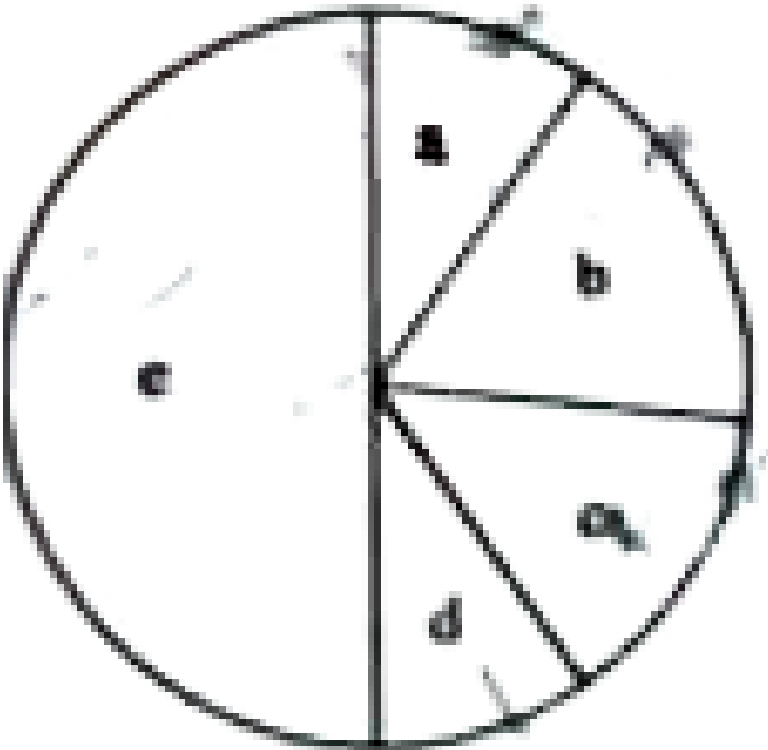
C. Bryophytes

D. Fungi

Answer: D



20. Recognise the figure and find out the correct matching



A. a - fishes, b - amphibians, C -reptiles, d -birds, e -
mammals

B. e - fishes, d - amphibians, b - reptiles, C - birds, a - mammals

C. e - fishes, d - amphibians, c - reptiles, b - birds, a - mammals

D. b-fishes, a - amphibians, d - reptiles, e - birds, c - mammals

Answer: C



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21. Deserts, rain forests , mangroves coral reefs, wetlands estuaries and alpine meadows are an example of :

A. Genetic diversity

B. Species diversity

C. Ecological diversity

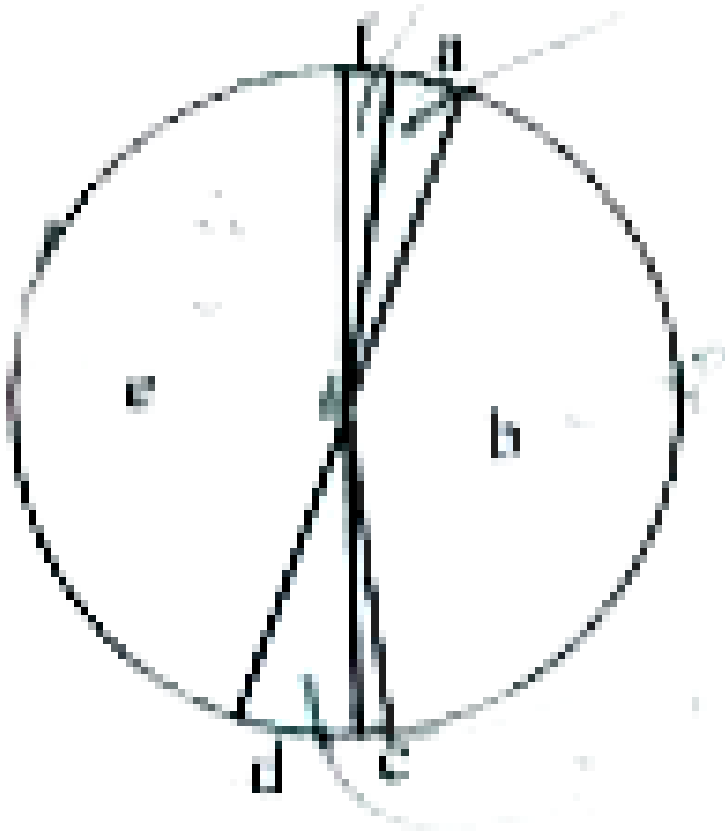
D. All of the above

Answer: C



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22. Recognise the figure and find out the correct matching.



A. a-algae, b-fungi, c-lichens, d-mosses, e - angiosperms, f
- ferns ,allies

B. d - algae, e - fungi, c - lichens, f - mosses, b -
angiosperms, a - ferns , allies

C. f - algae, b - fungi, d - lichens, a - mosses, e -
angiosperms, c - ferns and allies

D. d - algae, e - fungi, c - lichens, f - mosses, b -
angiosperms, a - ferns , allies

Answer: D

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23. Provide two reasons that make the counting of prokaryotic species difficult.

A. Conventional taxonomic methods are not suitable for
identifying microbial species

B. Many prokaryotic species are simply not culturable under laboratory conditions

C. Microbes are too small so not easily visible under the microscopes

D. Both 1 and 2

Answer: D

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24. Read the following statement.

"Nature" biological library is burning even before we catalogued the titles of all the books stocked. " what does this statement refer to ?

- A. The diversity of plants and animals is not uniform
- B. Rich biodiversity is essential for ecosystem health
- C. A large fraction of species faces the threat of becoming extinct even before we discover them
- D. All of the above

Answer: C

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25. Find out the correct statement in the following

- A. Species richness is more below tropic of Capricorn
- B. Species richness is more near tropic of Cancer

C. Species richness increases from equator to south

D. Species richness is more in southern half than the northern half of the globe

Answer: B

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26. Which of the following is a correct representation of the species diversity of birds in the regions mentioned?

A. Columbia > Greenland > New York

B. Columbia > New York > Greenland

C. Greenland > New York > Columbia

D. New York > Columbia > Greenland

Answer: B



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27. Beta (β) diversity refers to diversity

- A. Between communities
- B. Between two eco zones
- C. Within a community
- D. Within a population

Answer: C



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28. Which of the below mentioned regions exhibit less seasonal variations

A. Tropics

B. Temperates

C. Alpines

D. Both (1) & (2)

Answer: A

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29. The simplest measure of species diversity is

A. Species richness

B. Species evenness

C. endemism

D. Exotic plant

Answer: A



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30. Which represent maximum number of species among global biodiversity?

A. Algae

B. Lichen

C. Fungi

D. None

Answer: C



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31. On a logarithmic scale, the relation between species richness and area is described by the following equation:

$$\log S = \log C + Z \log A$$

In the above equation 'Z' represents

- A. Y-intercept
- B. Species richness
- C. Regression coefficient
- D. Area explored

Answer: C

32. The relation between species richness and area for a wide variety of taxa (angiosperm plants, birds, bats, freshwater fishes) is a

- A. Rectangular parabola
- B. Rectangular hyperbola
- C. Straight line/Linear
- D. Sigmoid

Answer: B

Exercise 1 The Importance Of Species Diversity To The Ecosystem

1. The number of taxa present within a particular area or an ecosystem is

- A. α - Diversity
- B. β - Diversity
- C. γ - Diversity
- D. None

Answer: D



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2. “The Rivet Popper hypothesis explaining the effect of species loss on man's life was proposed by

A. Paul Nurse

B. Norman Myers

C. Shannon

D. Paul Ehrlich

Answer: D



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3. Rate of photosynthesis is maximum at

A. Tropic of Capricorn

B. Tropic of Cancer

C. Poles

D. Equator

Answer: D



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4. According to David Tilman, greater the diversity, greater is the primary productivity. Can you think of a very low diversity man-made ecosystem that has high productivity ?

A. Desert ecosystem

B. Tropical rainforest

C. Composite fish culture pond

D. Cropland ecosystem

Answer: D

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5. The essence of Rivet Popper Hypothesis' is

- A. The current species extinction rates are estimated to be 100 to 1,000 times faster than in the pre-human times.
- B. Species diversity decreases as we move away from the equator towards the poles.

C. Areas rich in endemic species might be sites of active speciation.

D. Loss of keystone species affects the functioning of ecosystem severely.

Answer: D

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6. Match the items in Column-I with those in Column-II and choose the correct option from the codes given below:

Column-I

(a) Ecosystem Experiments

(b) Species-Area relationships

(c) Biodiversity hotspots

(d) Rivet Popper Hypothesis

Column-II

(i) Norman Myers

(ii) Alexander von Humboldt

(iii) Paul Ehrlich

(iv) David Tilman

- A. (a) (b) (c) (d)
(ii) (iv) (i) (iii)
- B. (a) (b) (c) (d)
(iii) (i) (iv) (ii)
- C. (a) (b) (c) (d)
(iv) (ii) (iii) (i)
- D. (a) (b) (c) (d)
(iv) (ii) (i) (iii)

Answer: D

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7. The greatest biodiversity on Earth is found in:

- A. Tropical Amazonian rain forest in South Africa
- B. Temperature Amazonian rain forest in North america
- C. Tropical Amazonian rain forest in South America

D. Temperate Amazonian rain forest in South America.

Answer: D



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8. What is the meaning of stability in context to a biological community?

A. A stable community should not show too much variation in productivity from year to year

B. A stable community must be either resistant or resilience to occasional disturbances (natural or man-made)

C. A stable community must be resistant to invasion by alien species.

D. All of the above.

Answer: D

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9. The greatest biodiversity on Earth is found in:

A. Essential for ecosystem health

B. Imperative for the very survival of the human race on this planet.

C. Not essential for ecosystem health

D. Both 1 and 2

Answer: D



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Exercise I Loss Of Biodiversity

1. Which of the following is an extant subspecies of tiger?

A. Javan tiger

B. Bengal tiger

C. Caspian tiger

D. Bali tiger

Answer: B



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2. Which of the following groups appears to be more vulnerable to extinction?

A. Fishes

B. Amphibians

C. Birds

D. Mammals

Answer: B



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3. The sixth mass extinction currently in progress differs from earlier mass extinctions because

- A. The rates of extinction are lesser
- B. Megafauna would be unaffected
- C. It is driven by human activities
- D. Only terrestrial species will be lost

Answer: C



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4. Match the following columns.

Column I	Column II
(i) Dodo	(a) Africa
(ii) Quagga	(b) Russia
(iii) Thylacine	(c) Mauritius
(iv) Stellar's sea cow	(d) Australia

A. i - A, ii - C, iii - B, iv - D

B. i-D, ii - C, iii - A, iv - B

C. i - C, ii - A, iii - B, iv - D

D. i-C, ii - A, iii - D, iv - B

Answer: D



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5. Which of the following statements describe natural extinction ?

(i) Extinctions abetted by human activities

(ii) Slow replacement of existing species

(iii) Also known as background extinction

(iv) A small population is most likely to be extinct

(a) (i) and (ii)

(b) (i), (ii) and (iii)

(c) (ii), (iii) and (iv)

(d) (i), (ii), (iii) and (iv)

A. (i), (ii)

B. (i), (ii), (iii)

C. (ii), (iii), (iv)

D. (i), (ii), (iii), (iv)

Answer: C



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6. Bali, Javan Caspian are

- (a) species of tiger
- (b) species of Cheetah
- (c) subspecies of cheetah
- (d) subspecies of tiger

- A. Species of tiger
- B. Species of Cheetah
- C. Species of lion
- D. Subspecies of tiger

Answer: D



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7. The loss of biodiversity in a region may lead to

A. Decline in plant production

B. Lowered resistance to environmental perturbations
such as drought

C. Increased variability in certain ecosystem processes
such as plant productivity, water use and pest and
disease cycles.

D. All the above

Answer: D



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8. Match the Columns I and II, and choose the correct combination from the options given.

Column-I

Column-II

Taxonomis group

Threat of extinction

(a) Birds

(1) 12 per cent

(b) Amphibians

(2) 23 percent

(c) Mammals

(3) 31 per cent

(d) Gymnosperms

(4) 32 pert cent

A. a-1,6-2,0-3,d-4

B. a-2,6-1,0-4,d-3

C. a-1,6-4,c-2,d-3

D. a-1,6-3,0-2,d-4

Answer: C



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9. Which of the following species extinct in the last 500 years due to over-exploitation?

- a) Quagga b) Steller's sea cow
c) Passenger's pigeon d) Thylacine

A. a and b

B. b and c

C. a, b and c

D. a, b, c and d

Answer: B

10. Match the countries Column-I with their respective symbols based on animals in Column-II and select the correct option from the codes given below.

Column-I

Column-II

(A) New Zealand

(i) Tiger

(B) India

(ii) Kangaroo

(C) Australia

(iii) Kiwi

(D) U.S.A

(iv) Giant Panda

(E) China

(v) Bald eagle

A. A - (ii), B - (i), C - (iii), D - (v), E - (iv)

B. A - (iii), B - (i), C - (ii), D - (v), E - (iv)

C. A - (iii), B - (i), C - (ii), D - (iv), E - (v)

D. A - (iv), B - (i), C - (ii), D - (iii), E - (v)

Answer: B



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11. Introduction of Nile Perch in Lake Victoria of South Africa resulted in

- A. excess growth of water weed
- B. elimination of water weed
- C. elimination of many species of cichlid species
- D. excess growth of cichlid fish

Answer: C



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12. A weed, which has invaded many forests lands of India is

(a) *Parthenium hysterophorus*

(b) *Chenopodium alba*

(c) *Lantana camara*

(d) *Eichhornia crassipes*

A. *Parthenium hysterophorus*

B. *Chenopodium alba*

C. *Lantana camara*

D. *Eichhornia crassipes*

Answer: A



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13. The most important human activity, leading to the extinction of wildlife, is

- A. Pollution of water and soil
- B. Introduction of alien species
- C. Exploiting the forests for trade use
- D. alteration and destruction of natural habitats

Answer: D

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14. Habitat destruction includes

- A. conversion of natural wet lands into crop lands

B. erosion of barriers

C. wide spread introduction of exotic species

D. all the three

Answer: D

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15. The extinction of passenger pigoen was due to

A. Overexploitation

B. Co-extinction

C. Environmental pollution

D. Alien species invasion

Answer: A



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16. Choose the correct match

- A. Parthenium - Water hyacinth
- B. Eichhornia - Carrot grass
- C. Lantana - Nile perch
- D. Clarias gariepinus - African catfish

Answer: D



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17. Habitat loss and fragmentation, over-exploitation, alien species invasion and co-extinction are causes for

- A. Biodiversity loss
- B. Migration Pollution
- C. Alien species extinction
- D. Ecological succession

Answer: D

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18. The extinction of many species of Cichlid fish in Lake victoria is mainly attributed to

A. Habitat fragmentation

B. Overexploitation

C. Coextinction

D. Alien species invasion

Answer: D



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19. The major cause of loss of number of migratory birds is

A. Pesticides

B. Genetic variability

C. Habitat fragmentation

D. Bad weather

Answer: C

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20. Eichhornia is a

A. Desert plant

B. Parasite

C. Aquatic plant

D. Terrestrial plant

Answer: D

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21. Which one of the following fish is being illegally introduced for aquaculture purposes and is posing a threat to the indigenous catfishes of Indian rivers?

(a) *Clarias gariepinus*

(b) Nile perch

(c) climbing perch

(d) *Protopterus*

A. *Clarias gariepinus*

B. Nile perch

C. Climbing perch

D. *Protopterus*

Answer: C



22. Introduction of alien species into new area poses a threat to extinction of indigenous species due to

- (a) their high nutrient requirement
- (b) their symbiotic relationship
- (c) absence of their natural predators
- (d) more intraspecific competition.

- A. their high nutrient requirement
- B. their symbiont relationship
- C. absence of their natural predators
- D. more intraspecific competition

Answer: C

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23. Which of the following is not a cause for loss of biodiversity

- A. Destruction of habitat
- B. Invasion by alien species
- C. Keeping animals in zoological parks
- D. Over-exploitation of natural resources

Answer: C

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24. Which of the following is not an invasive alien species in the Indian context ?

A. Lantana

B. Cynodon

C. Parthenium

D. Eichhornia

Answer: B



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25. What is common to the following plants? Nepenthes, Psilotum, Rauwolfia and Aconitum

- A. All are ornamental plants
- B. All are phylogenetic link species
- C. All are prone to over exploitation
- D. All are exclusively present in the Eastern Himalayas

Answer: C

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26. What is common to Lantana, Eichhornia and African catfish ?

- A. All are endangered species of India
- B. All are key stone species
- C. All are mammals found in India

D. All the species are neither threatened nor indigenous species of India

Answer: D

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27. The extinction of passenger pigoen was due to

- A. Increased number of predatory birds
- B. over exploitation by humans
- C. non-availability of the food
- D. bird flu virus infection

Answer: B

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28. Which of the following statements is correct?

- A. Parthenium is an endemic species of our country
- B. African catfish is not a threat to indigenous catfishes
- C. Steller's sea cow is an extinct animal
- D. Lantana is popularly known as carrot grass

Answer: C

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Exercise II Meaning And Levels Of Biodiversity

1. The totality of genes, species and ecosystems of a region is said to be

- A. Biome
- B. Biodiversity
- C. Biotope
- D. Ecospecies

Answer: B



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Exercise II Patterns Of Biodiversity

1. Relative abundance of species is called

A. species richness

B. endemism

C. species evenness

D. diversity index

Answer: A

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2. According to the concept of species-area relationship.

A. The number of species in an area increases with the
size of the area

- B. Larger species require larger habitat areas than do smaller species
- C. Most species within any given area are endemic
- D. The larger the area, the greater the extinction rate

Answer: A

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Exercise II Loss Of Biodiversity

1. Extinction of a species is compensated in relations

- A. Food chain
- B. DFC

C. Food web

D. Ecological niche

Answer: A



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2. Antelope cervicapra/Black Buck is

A. vulnerable

B. rare

C. endangered

D. extinct

Answer: D

3. According to the Endangered Species Act, what is the definition of a threatened species ?

A. An endemic species that is found nowhere else in the world

B. A species that is in a sink habitat

C. A species that is in danger of extinction in all or a large part of its range

D. 1A species that is likely to become endangered

Answer: C

4. The taxa believed likely to join the endangered category in near future is called :

- A. Extinct
- B. Rare
- C. Vulnerable
- D. Out of danger

Answer: D



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5. India is one of the 12 megadiversity centres of the world and is being divided into _____ biogeographical regions

A. 8

B. 10

C. 16

D. 18

Answer: B



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6. Susceptibility to extinction is due to

A. large body size

B. small population

C. high trophic level

D. All the three

Answer: D



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7. Bald eagle has been at high risk of extinction due to

A. Large size

B. Low reproductive potential

C. high trophic level

D. change in migrating route

Answer: A



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8. Who have recently tried to put price tagson nature's life support services ?

- A. Robert May and his colleagues
- B. Herbert Boyer and his colleagues
- C. Robert Costanza and his colleagues
- D. Ramdeo Misra andhis colleagues

Answer: D



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9. What is common to the techniques (i)in vitro fertilization, (ii) cryopreservation, and (iii) tissue culture?

- A. All are in-situ conservation methods
- B. All require ultra modern equipment and large space.
- C. All are methods of conservation of exitnct organisms.
- D. All are ex-situ conservation methods.

Answer: B

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10. Super-species means

- A. Confined to a particular habitat
- B. Adapt to any type of habitat
- C. Endemic species

D. Cannot cross barriers by any means

Answer: D

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11. Which one of the following is not a characteristic of super-species?

- A. Generalist species
- B. High fecundity
- C. Ultra competitive
- D. Environment specific

Answer: D





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12. Which of the following animals has become almost extinct in India ?

A. Cheetah

B. Rhinoceros

C. Wolf

D. Hippopotamus

Answer: A



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13. Exotic species

- A. Are often endangered
- B. Usually increase biodiversity
- C. Often enhance the habitat for native species
- D. Usually reduce biodiversity

Answer: D

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Exercise II India A Major Source Of Biodiversity And Its Preservation

1. In India, tropical rain forests occur in

- A. Gangetic plain

B. Alpine region of Himalayas

C. Jammu and Kashmir

D. Andaman and Nicobar Islands

Answer: D



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2. National Wildlife (Protection) Act was formulated during

A. 1976

B. 1981

C. 1986

D. 1972

Answer: D



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