

Biodiversity and Conservation

Question1

The regions with high level of species richness, high degree of endemism and a loss of 70% of the species and habitat are identified as:

[NEET 2024 Re]

Options:

A.

Natural Reserves

B.

Sacred Groves

C.

Biodiversity Hotspots

D.

Biogeographical Regions

Answer: C

Solution:

The regions with high level of species richness, high degree of endemism and a loss of most of the species and habitat are identified as Biodiversity hotspots.

Question2

Which one of the following is not included under in-situ conservation?

[NEET 2024 Re]

Options:

A.

Wild-life sanctuary

B.

Botanical garden

C.



Biosphere reserve

D.

National park

Answer: B

Solution:

Botanical garden is an ex-situ conservation strategy of biodiversity.

Wild-life Sanctuary, Biosphere Reserve and National Parks are in-situ conservation strategy of biodiversity.

Question3

Given below are two statements:

Statement I : The Indian Government has set up GEAC, which will make decisions regarding the validity of GM research.

Statement II : Biopiracy is the term used to refer to the use of bio-resources by native people.

In the light of the above statements, choose the correct answer from the options given below :

[NEET 2024 Re]

Options:

A.

Statement I is true but Statement II is false

B.

Statement I is false but Statement II is true

C.

Both Statement I and Statement II are true

D.

Both Statement I and Statement II are false

Answer: A

Solution:

Option (1) is the correct answer because Indian Government has set up organisations such as GEAC (Genetic Engineering Approval Committee), which will make decisions regarding the validity of GM research and the safety of introducing GM-organisms for public services and Biopiracy is used to refer to the use of bioresources by multinational companies and other organisations without proper authorisation from the countries and people concerned without

Question4

Match List-I with List-II:

	List-I		List-II
A.	Biodiversity hotspot	I	Khasi and Jantia hills in Meghalaya
B.	Sacred groves	II	World Summit on Sustainable Development 2002
C.	Johannesburg, South Africa	III	Parthenium
D.	Alien species invasion	IV	Western Ghats

Choose the correct answer from the options given below:

[NEET 2024 Re]

Options:

A.

A-IV, B-I, C-II, D-III

B.

A-II, B-III, C-IV, D-I

C.

A-I, B-IV, C-III, D-II

D.

A-III, B-I, C-II, D-IV

Answer: A

Solution:

(1) Biodiversity hotspots are regions with very high levels of species richness and high degree of endemism.

Eg. Western Ghats, Sri Lanka, Indo-Burma and Himalaya

(2) In many cultures, tracts of forest were set aside, and all the trees and wildlife within were venerated and given total protection. Such sacred groves are found in Khasi and Jaintia, Hills in Meghalaya

(3) The world summit on sustainable development held in 2002 in Johannesburg, South Africa.

(4) Parthenium is an alien species

Question5

Match List-I with List-II:

	List-I		List-II
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C.	Parasitism	III	Female wasp and fig
D.	Sexual deceit	IV	Plasmodium

Chose the correct answer from the options given below:

[NEET 2024 Re]

Options:

A.

A-III, B-II, C-I, D-IV

B.

A-IV, B-I, C-II, D-III

C.

A-III, B-III, C-I, D-IV

D.

A-II, B-III, C-IV, D-I

Answer: D

Solution:

(1) In predation one species is benefitted ' + ' while the other is detrimental ' - '. Pisaster is an important predator in the rocky intertidal communities of the American pacific coast.

(2) In many species of fig trees, there is tight one-to-one relationship with the pollinator species of wasp. It means that a given fig species can be pollinated only by its 'partner' wasp species and no other species is an example of mutualism.

(3) Plasmodium is an endoparasite in humans that causes malaria.

(4) The Mediterranean orchid Ophrys employs 'sexual deceit' to get pollination done by a species of bee.

Question6

These are regarded as major causes of biodiversity loss:

A. Over exploitation

B. Co-extinction

C. Mutation

D. Habitat loss and fragmentation

E. Migration

Choose the correct option:

[NEET 2024]

Options:

A.

B.

A, B, C and D only

C.

A, B and E only

D.

A, B and D only

Answer: D

Solution:

Major causes of biodiversity losses are

(1) Habitat loss and fragmentation

(2) Over-exploitation

(3) Alien species invasions

(4) Co-extinctions

Hence correct option is A, B and D only.

Question7

List of endangered species was released by

[NEET 2024]

Options:

A.

GEAC

B.

WWF

C.

FOAM

D.

IUCN

Answer: D

Solution:

List of endangered species was released by - IUCN



- Tropical regions show greatest level of species richness because**
- A. Tropical latitudes have remained relatively undisturbed for millions of years, hence more time was available for species diversification.**
 - B. Tropical environments are more seasonal.**
 - C. More solar energy is available in tropics.**
 - D. Constant environments promote niche specialization.**
 - E. Tropical environments are constant and predictable.**

Choose the correct answer from the options given below.

[NEET 2024]

Options:

A.

A, C, D and E only

B.

A and B only

C.

A, B and E only

D.

A, B and D only

Answer: A

Solution:

Only statement B is incorrect because tropical environments unlike temperate ones, are less seasonal, relatively more constant and predictable.

Thus statements A, C, D and E are correct.

Question9

Match List I with List II

	List-I		List-II
A.	Robert May	I.	Species-Area relationship
B.	Alexander von Humboldt	II.	Long term ecosystem experiment using out door plots
C.	Paul Ehrlich	III.	Global species diversity at about 7 million
D.	David Tilman	IV.	Rivet popper hypothesis

Choose the correct answer from the options given below:

[NEET 2024]



A.

A-II, B-III, C-I, D-IV

B.

A-III, B-I, C-IV, D-II

C.

A-I, B-III, C-II, D-IV

D.

A-III, B-IV, C-II, D-I

Answer: B

Solution:

Robert May places the global species diversity at about 7 million.

Alexander von Humboldt gave species-area relationship.

Paul Ehrlich used an analogy "Rivet popper hypothesis" to explain the role of species in the ecosystem.

David Tilman performed long term ecosystem experiments using out door plots.

Question10

In 'rivet popper hypothesis', Paul Ehrlich compared the rivets in an airplane to :

[NEET 2023 mpr]

Options:

A.

species within a genus

B.

genetic diversity

C.

ecosystem

D.

genera within a family

Answer: A

Solution:



A proper perspective through an analogy, the 'rivet popper hypothesis' is used by Paul Ehrlich considered Airplane as an ecosystem and rivets used to join all parts together is considered as species. Therefore, he compared rivets in an airplane to species within a genus.

Question11

For chemical defence against herbivores, Calotropis has:

[NEET 2023 mpr]

Options:

A.

cardiac glycosides

B.

strychnine

C.

toxic ricin

D.

distasteful quinine

Answer: A

Solution:

Solution:

Calotropis, a type of milkweed, contains cardiac glycosides which are toxic compounds that interfere with the sodium-potassium pump in the heart and other cells. This makes the plant toxic to most herbivores.

Question12

Which of the following is/are cause(s) of biodiversity losses?

[NEET 2023 mpr]

Options:

A.

Over-exploitation, habitat loss and fragmentation.

B.

Climate change only

C.

Over-Exploitation only

Habitat loss and fragmentation only

Answer: A

Solution:

Option A : Over-exploitation, habitat loss and fragmentation.

Each of the factors listed in this option can contribute to biodiversity loss:

Over-exploitation : When species are over-hunted, over-fished, or harvested at rates faster than their natural ability to recover, it can lead to population declines and even extinction.

Habitat loss : This occurs when natural environments are destroyed or significantly altered. It's often due to human activities such as deforestation, urban development, agriculture, and mining. Habitat loss can result in local or even global extinction of species.

Fragmentation : This happens when a large, continuous area of habitat is divided into smaller, isolated patches, often as a result of human activities like road construction or clear-cutting for agriculture. Fragmentation can isolate populations of species, preventing gene flow and causing a decline in biodiversity.

While climate change (Option B) can also contribute to biodiversity loss, it is not the only cause, and likewise for over-exploitation (Option C) and habitat loss and fragmentation (Option D) alone. So, while these can all contribute to the problem, the option that includes all three (Option A) provides the most comprehensive answer to the question.

Question13

The historic Convention on Biological Diversity, 'The Earth Summit' was held in Rio de Janeiro in the year [NEET 2023]

Options:

A. 1992

B. 1986

C. 2002

D. 1985

Answer: A

Solution:

Solution:

The historic convention on Biological Diversity, "The Earth Summit" was held in Rio de Janeiro in the year 1992. It called upon all nations to take appropriate measures for conservation of biodiversity and sustainable utilisation of its benefits.

Question14

Among 'The Evil Quartet', which one is considered the most important cause driving extinction of species? [NEET 2023]



- A. Over exploitation for economic gain
- B. Alien species invasions
- C. Co-extinctions
- D. Habitat loss and fragmentation

Answer: D

Solution:

Solution:

Habitat loss and fragmentation is the most important cause driving animals and plants to extinction.

Question15

Give the correct descending order of organisms with reference to their estimated number found in Amazon forest.

- (a) Plants**
- (b) Invertebrates**
- (c) Fishes**
- (d) Mammals**
- (e) Birds**

**Choose the correct answer from the options given below
[NEET Re-2022]**

Options:

- A. (b) > (a) > (c) > (e) > (d)
- B. (a) > (b) > (e) > (d) > (c)
- C. (a) > (c) > (d) > (b) > (e)
- D. (b) > (a) > (e) > (d) > (c)

Answer: A

Solution:

Insects count-2.5 million species

Plants species-50,000

Fishes- 3000

Birds –1300

Mammals –430

Question16



The World Summit on sustainable development held in 2002 in Johannesburg, South Africa pledged for: [NEET Re-2022]

Options:

- A. Collection and preservation of seeds of different genetic strains of commercially important plants.
- B. A significant reduction in the current rate of biodiversity loss.
- C. Declaration of more biodiversity hotspots.
- D. Increase in agricultural production.

Answer: B

Solution:

Solution:

The World Summit on Sustainable Development held in 2002 in Johannesburg, South Africa, 190 countries pledged their commitment to achieve by 2010, a significant reduction in the current rate of biodiversity loss at global, regional and local levels.

Question17

List-I	List-II
(a) Sacred groves	(i) Alien species
(b) Zoological park	(ii) Release of large quantity of oxygen
(c) Nile perch	(iii) Ex-situ conservation
(d) Amazon forest	(iv) Khasi Hills in Meghalaya

**Choose the correct answer from the options given below:
[NEET Re-2022]**

Options:

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

Answer: B

Solution:

Sacred groves are tracts of forests conserved by people due to religions, cultural beliefs that emphasize protection of nature. Khasi hills, Meghalaya is one such area.

Threatened animals, taken out from natural habitats are given special care at a special setting- Ex-situ conservation.

Zoological park is one such way of conservation.

Nile perch(fish) introduced in lake Victoria, Africa-led to extinction of more than 200 species of native, cichlid fish. So, Nile perch is example of Alien species invasion. Amazon forest covering more than 14% of earth's land surface, release large amount of O₂.

Question18

Frugivorous birds are found in large numbers in tropical forests mainly because of :
[NEET Re-2022]

Options:

- A. temperature conducive for their breeding
- B. lack of niche specialisation
- C. higher annual rainfall
- D. availability of fruits throughout the year

Answer: D

Solution:

Solution:

Tropical environments are less seasonal, more constant or predictable. This promotes Niche specialization, greater species diversity. Moreover, high solar energy contributes to high productivity.

Question19

Western Ghats have a large number of plants and animal species that are not found anywhere else. Which of the following term is used to notify such species?
[NEET Re-2022]

Options:

- A. Vulnerable species
- B. Threatened species
- C. Keystone species
- D. Endemic species

Answer: D

Solution:

Endemism is distribution of a taxon limited to a small geographic area and found nowhere else.

Question20

**Which of the following is not a method of ex situ conservation?
[NEET-2022]**

Options:

- A. In vitro fertilization
- B. National Parks
- C. Micropropagation
- D. Cryopreservation

Answer: B

Solution:

Solution:

In-situ conservation means on site conservation i.e. when we conserve and protect the whole ecosystem, its biodiversity at all levels is protected.

National parks are type of in-situ conservation.

Whereas, micropropagation, cryopreservation and in-vitro fertilisation are methods of ex-situ conservation.

Question21

**Habitat loss and fragmentation, over exploitation, alien species invasion and co-extinction are causes for:
[NEET-2022]**

Options:

- A. Population explosion
- B. Competition
- C. Biodiversity loss
- D. Natality

Answer: C

Solution:

Solution:

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



Question22

**In-situ conservation refers to:
[NEET-2022]**

Options:

- A. Protect and conserve the whole ecosystem
- B. Conserve only high-risk species
- C. Conserve only endangered species
- D. Conserve only extinct species

Answer: A

Solution:

When we conserve and protect the whole ecosystem, its biodiversity at all levels is protected. This is in-situ or on site conservation strategy.

Question23

**According to Robert May, the global species diversity is about
[NEET-2020]**

Options:

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

Answer: C

Solution:

Solution:

Robert May estimated global species diversity at about 7 million.
Although some extreme estimates range from 20 to 50 million.

Question24

**Which of the following regions of the globe exhibits highest species diversity?
[NEET-2020]**



Options:

- A. Madagascar
- B. Himalayas
- C. Amazon forests
- D. Western Ghats of India

Answer: C

Solution:

Solution:

The largely tropical Amazonian rain forest in South America has the greatest biodiversity on earth.

Question25

Decline in the population of indian native fishes due to introduction of *Clarias gariepinus* in river Yamuna can be categorised as [NEET OD 2019]

Options:

- A. Co-extinction
- B. Habitat fragmentation
- C. Over exploitation
- D. Alien species invasion

Answer: D

Question26

Western Ghats have a large number of plant and animal species that are not found anywhere else. Which of the following terms will you use to notify such species? [NEET OD 2019]

Options:

- A. Endemic
- B. Vulnerable
- C. Threatened



Answer: A

Question27

In mung bean, resistance to yellow mosaic, virus and powdery mildew were brought about by :
[NEET OD 2019]

Options:

- A. Mutation breeding
- B. Biofortification
- C. Tissue culture
- D. Hybridization and selection

Answer: A

Question28

Which of the following is the most important cause for animals and plants being driven to extinction?
[NEET 2019]

Options:

- A. Drought and floods
- B. Economic exploitation
- C. Alien species invasion
- D. Habitat loss and fragmentation

Answer: D

Solution:

Solution:

Habitat loss and fragmentation is the most important cause driving animals and plants to extinction.

eg: Loss of tropical rainforest reducing the forest cover from 14 % to 6 %.

Question29

The Earth Summit held in Rio de Janeiro in 1992 was called
[NEET 2019]



Options:

- A. for conservation of biodiversity and sustainable utilization of its benefits
- B. to assess threat posed to native species by invasive weed species
- C. for immediate steps to discontinue use of CFCs that were damaging the ozone layer
- D. to reduce CO₂ emissions and global warming

Answer: A

Question30

Which one of the following is not a method of in situ conservation of biodiversity?
[NEET 2019]

Options:

- A. Wildlife Sanctuary
- B. Botanical Garden
- C. Sacred Grove
- D. Biosphere Reserve

Answer: B**Solution:****Solution:****Option D:**

- Biodiversity is the variety of plant and animal species found throughout the planet or in a specific habitat.
- Ex-situ conservation also includes botanical gardens because the plants are preserved away from their natural habitat.
- A botanical garden, sometimes known as a botanic garden, is a space set aside for the cultivation, preservation, and display of a diverse array of plants.
- These plants are often identified by their botanical names and are the focus of a botanical garden.
- Biosphere reserves, national parks, wildlife sanctuaries, and other places are included in in-situ biodiversity conservation.

Explanations for the incorrect options:

Option A:

- The practice of protecting all living things in their natural environments, particularly untamed and endangered species, is known as "in-situ conservation."
- Tree groves that have unique religious significance within a specific culture are known as sacred groves or sacred woodlands.
- A great example of in-situ conservation is sacred groves.
- They have considerable ecological and genetic significance and contribute significantly to wildlife conservation.

Option B:

- Biosphere reserves like national parks and animal sanctuaries preserve biodiversity in their natural habitat.
- Regions with a high level of biodiversity are legally protected from exploitation.
- They have a large number of endemic species and significant species diversity.



- An place where animal habitats and their surroundings are shielded from any kind of interference is known as a wildlife sanctuary.
 - Animal trapping, killing, and poaching are outright forbidden in some areas.
 - Indeed, in-situ conservation includes places like animal sanctuaries.
-

Question31

All of the following are included in 'Ex-situ conservation' except [NEET 2018]

Options:

- A. Wildlife safari parks
- B. Sacred groves
- C. Seed banks
- D. Botanical gardens

Answer: B

Solution:

Solution:

Sacred groves - in-situ conservation.

Represent pristine forest patch as protected by Tribal groups.

Question32

Which one of the following is related to Ex-situ conservation of threatened animals and plants ? [NEET 2017]

Options:

- A. Biodiversity hot spots
- B. Amazon rainforest
- C. Himalayan region
- D. Wildlife safari parks

Answer: D

Question33

Alexander Von Humbolt described for the first time:

[NEET 2017]



Options:

- A. Laws of limiting factor
- B. Species area relationships
- C. Population Growth equation
- D. Ecological Biodiversity

Answer: B

Question34

The region of Biosphere Reserve which is legally protected and where no human activity is allowed is known as [NEET 2017]

Options:

- A. Buffer zone
- B. Transition zone
- C. Restoration zone
- D. Core zone

Answer: D

Question35

How many hot spots of biodiversity in the world have been identified till date by Norman Myers? [NEET 2016 P2]

Options:

- A. 43
- B. 17
- C. 25
- D. 34

Answer: D



Question36

**Which of the following is correctly matched?
[NEET 2016 P2]**

Options:

- A. Stratification-Population
- B. Aerenchyma-Opuntia
- C. Age pyramid-Biome
- D. Parthenium hysterophorus-Threat to biodiversity

Answer: D

Solution:

- (1) Stratification :- Structural component of ecosystem
 - (2) Aerenchyma :- Feature of hydrophytes
 - (3) Age pyramid :- Food chain
 - (4) Parthenium hysterophorus :- Exotic species don't that allow the growth of other plants near it.
-

Question37

**Red List contains data or information on
[NEET 2016 P2]**

Options:

- A. marine vertebrates only
- B. all economically important plants
- C. plants whose products are in international trade
- D. threatened species

Answer: D

Solution:

Solution:

Red list of red data bood IUCN (New name WCU) involve threatened species of plants & animals

Question38

Which of the following National Parks is home to the famous musk deer

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[NEET 2016 P2]

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Options:

- A. Dachigam National Park, jammu & Kashmir
- B. Keibul Lamjao National Park, Manipur
- C. Bandhavgrah National Park, Madhya Pradesh
- D. Eaglenest Wildlife Sanctuary, Arunachal Prades

Answer: A

Question39

Which is the National Aquatic Animal of India?
[NEET 2016 P1]

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Options:

- A. Sea- horse
- B. Gangetic shark
- C. River dolphin
- D. Blue whale

Answer: C

Question40

Which of the following is the most important cause of animals and plants being driven to extinction?
[NEET 2016 P1]

©

Options:

- A. Co - extinctions
- B. Over - exploitation
- C. Alien species invasion
- D. Habitat loss and fragmentation

Answer: D



Question41

**The species confined to a particular region and not found elsewhere is termed as -
[NEET 2015]**

Options:

- A. Alien
- B. Rate
- C. Endemic
- D. Keystone

Answer: C

Solution:

Solution:

Endemic species is confined to a particular area due to special type of adaptation according to that region.

Question42

**In which of the following both pairs have correct combination :-
[NEET 2015 C]**

Options:

- A. In situ conservation : CryopreservationEx situ conservation : Wildlife Sanctuary
- B. In situ conservation : Seed BankEx situ conservation : National Park
- C. In situ conservation : Tissue cultureEx situ conservation : Sacred groves
- D. In situ conservation : National ParkEx situ conservation : Botanical Garden

Answer: D

Question43

Cryopreservation of gametes of threatened species in viable and fertile condition can be referred to as:-

[NEET 2015 C]



Options:

- A. Advanced ex-situ conservation of biodiversity
- B. In situ conservation by sacred groves
- C. In situ cryo-conservation of biodiversity
- D. In situ conservation of biodiversity

Answer: A

Question44

**An example of ex situ conservation is :
[NEET 2014]**

Options:

- A. National Park
- B. Seed Bank
- C. Wildlife sanctuary
- D. Sacred Grove

Answer: B

Solution:

Solution:

In situ conservation strategies – National park, biosphere reserve, sanctuaries, sacred groves.

Question45

**A species facing extremely high risk of extinction in the immediate future is called:
[NEET 2014]**

Options:

- A. Vulnerable
- B. Endemic
- C. Critically Endangered
- D. Extinct

Answer: C

Solution:

Solution:

A taxon facing extremely high risk of extinction in the immediate future is called critically endangered.

Question46

**The organization which published the Red List of species is :
[NEET 2014]**

Options:

- A. ICFRE
- B. IUCN
- C. UNEP
- D. WWF

Answer: B

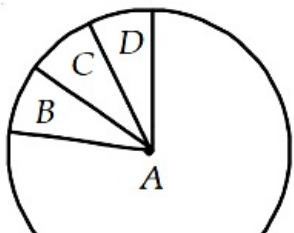
Solution:

Solution:

The IUCN Red List of threatened species (also known as the IUCN Red List or Red Data List), founded in 1964, is the world's most comprehensive inventory of the global conservation status of biological species.

Question47

Given below is the representation of the extent of global diversity of invertebrates. What groups the four portions (A-D) represent respectively?



	A	B	C	D
(1)	Insects	Crustaceans	Other animal groups	Molluscs
(2)	Crustaceans	Insects	Molluscs	Other Animals
(3)	Molluscs	Other animal groups	Crustaceans	Insects
(4)	Insects	Molluscs	Crustaceans	Other animal groups

[NEET 2014]

Options:

A. (1)

B. (2)

C. (3)

D. (4)

Answer: D

Solution:

A - Insects

B - Molluscs

C - Crustaceans

D - Other animal groups

Question48

**Which one of the following is not used for ex situ plant conservation?
(NEET 2013)**

Options:

A. Shifting cultivation

B. Botanical gardens

C. Field gene banks

D. Seed banks

Answer: A

Solution:



(a): Ex situ conservation is conservation of selected rare plants/animals in places outside their natural homes. It includes botanical gardens or zoological parks, seed banks, cryopreservation, field gene banks and sacred plants. Many wild and domesticated species are well managed and collected in botanical gardens, zoological parks, wildlife safari parks, arboreta etc. Most of these have capture breeding programmes to restore the decreasing number of animals and helping the survival of existing individuals of the species. Gene banks are institutes that maintain stocks of viable seeds (seed banks), live plants (orchards), tissue culture and frozen germplasm with the whole range of genetic viability.

Question49

**Which of the following represent maximum number of species among global biodiversity?
(NEET 2013, 2012)**

Options:

- A. Fungi
- B. Mosses and Ferns
- C. Algae
- D. Lichens

Answer: A

Solution:

Solution:

(a) : Fungi is a large kingdom of over 72,000 species. They are achlorophyllous, heterotrophic, spore forming, non-vascular, eukaryotic organisms which contain chitin or fungal cellulose in their walls and possess glycogen as food reserve. They are major decomposers of many ecosystems and are associate of many organisms.

Question50

**The largest tiger reserve in India is
(KN NEET 2013)**

Options:

- A. Valmiki
- B. Nagarjunasagar-Srisailam
- C. Periyar
- D. Nagarhole

Answer: B

Solution:



(b) : Nagarjunasagar - Srisaillam Tiger Reserve is the largest tiger reserve in India. It is present in Andhra Pradesh with a total area of 3568km². The core area of this reserve is 1200km².

Question51

**Which of the following has maximum genetic diversity in India?
(NEET 2013, 2011)**

Options:

- A. Mango
- B. Wheat
- C. Groundnut
- D. Rice

Answer: D

Solution:

Solution:

(d) : Genetic diversity is the diversity in the numbers and types of genes as well as chromosomes present in different species and the variations in the genes and their alleles in the same species. *Oryza sativa* (rice) has 32, 000 – 50, 000 genes:

Question52

**Which organization publishes the 'Red Data Book'?
(KN NEET 2013)**

Options:

- A. IUCN
- B. UNEP
- C. WWF
- D. GEF

Answer: A

Solution:

Solution:

(a) : IUCN is International Union of Conservation of Nature and Natural Resources which is now called World Conservation



Question53

Which one of the following areas in India, is a hotspot of biodiversity? (2012)

Options:

- A. Eastern Ghats
- B. Gangetic Plain
- C. Sunderbans
- D. Western Ghats

Answer: D

Solution:

Solution:

(d) : Hotspots are areas with high density of biodiversity or mega diversity which are also the most threatened ones. Ecologically hotspots are determined by four factors - number of species/ species diversity, degree of endemism, degree of threat to habitat due to its degradation and fragmentation, and degree of exploitation. India has three hotspots : Indo-Burma, Himalayas and Western Ghats - Sri Lanka. India is even otherwise a country of mega diversity with 2.4% of land area and having 8.1% of global diversity. Major centres of biodiversity are Agasthyamalai hills, Silent valley and Amambalam reserve. There is high degree of endemism as well as richness of species of flowering plants, amphibians, reptiles, some mammals and butterflies.

Question54

Select the correct statement about biodiversity. (Mains 2012)

Options:

- A. The desert areas of Rajasthan and Gujarat have a very high level of desert animal species as well as numerous rare animals.
- B. Large scale planting of Bt cotton has no adverse effect on biodiversity.
- C. Western ghats have a very high degree of species richness and endemism.
- D. Conservation of biodiversity is just a fad pursued by the developed countries

Answer: C

Solution:



(c) : Hotspots are areas with high density of biodiversity or mega diversity which are also the most threatened ones. Ecologically hotspots are determined by four factors - number of species/ species diversity, degree of endemism, degree of threat to habitat due to its degradation and fragmentation, and degree of exploitation. India has three hotspots : Indo-Burma, Himalayas and Western Ghats - Sri Lanka. India is even otherwise a country of mega diversity with 2.4% of land area and having 8.1% of global diversity. Major centres of biodiversity are Agasthyamalai hills, Silent valley and Amambalam reserve. There is high degree of endemism as well as richness of species of flowering plants, amphibians, reptiles, some mammals and butterflies.

Question55

Sacred groves are specially useful in (Mains 2012)

Options:

- A. generating environmental awareness
- B. preventing soil erosion
- C. year-round flow of water in rivers
- D. conserving rare and threatened species.

Answer: D

Solution:

Solution:

(d) : Sacred grove is an example of in situ conservation of forests and wildlife especially rare and threatened species. These forest patches are found around places of worship which are held in high esteem by tribal communities. They are the most undisturbed forest patches which are often surrounded by highly degraded landscapes. Not a single branch is allowed to be cut from these forests. As a result many endemic species which are rare or have become extinct elsewhere can be seen to flourish here. Such sacred groves are found in Khasi and Jaintia hills of Meghalaya, Aravalli hills of Rajasthan, Western ghat regions of Karnataka, Maharashtra, Sarguja, Chanda and Bastar areas of Madhya Pradesh.

Question56

Which one of the following have the highest number of species in nature? (2011)

Options:

- A. Fungi
- B. Insects
- C. Birds
- D. Angiosperms



Solution:

(b) : Insects have highest number of species found in nature. The insecta is the largest class of animals. It has over 7,00,000 species. The insects are the most successful land invertebrates and the only major competitors with humans for dominance in the world.

Question57

Consider the following statements (A – D) each with one or two blanks.

(A) Bears go into (1) during winter to (2) cold weather.

(B) A conical age pyramid with a broad base represents (3) human population.

(C) A wasp pollinating a fig flower is an example of (4)

(D) An area with high levels of species richness is known as (5)

Which one of the following options, gives the correct fill ups for the respective blank numbers from (1) to (5) in the statements?

(Mains 2011)

Options:

A. (3) - stable (4) - commensalism,(5) marsh

B. (1) - aestivation, (2) - escape, (3) - stable,(4) - mutualism

C. (3) - expanding, (4) - commensalism,(5) - biodiversity park

D. (1) - hibernation, (2) - escape, (3) - expanding (5) - hotspot

Answer: D

Question58

Biodiversity of a geographical region represents
(Mains 2011)

Options:

A. endangered species found in the region

B. the diversity in the organisms living in the region



C. genetic diversity in the dominant species of the region

D. species endemic to the region.

Answer: B

Solution:

(b) : Biodiversity (biological diversity) is the existence of a wide variety of species (species diversity) or other taxa of plants, animals and microorganisms in a natural community or habitat, or of communities within a particular environment (ecological diversity), or of genetic variation within a species (genetic diversity). The maintenance of a high level of biodiversity is important for the stability of ecosystems.

Question 59

Study the four statements (i-iv) given below and select the two correct ones out of them.

(i) A lion eating a deer and a sparrow feeding on grains are ecologically similar in being consumers.

(ii) Predator star fish *Pisaster* helps in maintaining species diversity of some invertebrates.

(iii) Predators ultimately lead to the extinction of prey species.

(iv) Production of chemicals such as nicotine, strychnine by the plants are metabolic disorders.

The two correct statements are (2010)

Options:

A. (ii) and (iii)

B. (iii) and (iv)

C. (i) and (iv)

D. (i) and (ii)

Answer: D

Solution:

Solution:

(d) : Predator and prey evolve together. The prey is part of the predator's environment, and the predator dies if it does not get food, so it evolves whatever is necessary in order to eat the prey. Likewise, the predator is part of the prey's environment, and the prey dies if it is eaten by the predator, so it evolves whatever is necessary to avoid being eaten. So, predators cannot lead to the extinction of prey species.

Nicotine is an alkaloid found in the night shade family of plants (Solanaceae) that constitutes approximately 0.6 – 3.0% of dry weight of tobacco, with biosynthesis taking place in the roots and accumulation occurring in the leaves. Strychnine is an alkaloid plant toxin extracted chiefly from *Nux vomica*; formerly used as a stimulant. These are not metabolic disorder products but are metabolic wastes.



Question60

**Which one of the following is an example of ex situ conservation?
(2010)**

Options:

- A. Wildlife sanctuary
- B. Seed bank
- C. Sacred groves
- D. National park

Answer: B

Solution:

Solution:

(b): Ex situ conservation is conservation of selected rare plants/animals in places outside their natural homes. It includes botanical gardens or zoological parks, seed banks, cryopreservation, field gene banks and sacred plants. Many wild and domesticated species are well managed and collected in botanical gardens, zoological parks, wildlife safari parks, arboreta etc. Most of these have capture breeding programmes to restore the decreasing number of animals and helping the survival of existing individuals of the species. Gene banks are institutes that maintain stocks of viable seeds (seed banks), live plants (orchards), tissue culture and frozen germplasm with the whole range of genetic viability.

Question61

**The Indian rhinoceros is a natural inhabitant of which one of the Indian states?
(M 2010)**

Options:

- A. Uttarakhand
- B. Uttar pradesh
- C. Himachal Pradesh
- D. Assam

Answer: D

Solution:

Solution:

(d) : The Indian rhinoceros is a endemic of north-east region of India. Kaziranga National Park (Assam) is famous for rhinoceros.



Question62

Which one of the following has maximum genetic diversity in India? (2009)

Options:

- A. Mango
- B. Wheat
- C. Tea
- D. Teak

Answer: A

Solution:

Solution:

India is one of the twelve mega diversity regions of the world with 7.7 percent of genetic resources of the world. Western Ghats have wild relatives of a number of cultivated plants like banana, citrus, mango, pepper etc. Common mango (*Mangifera indica*) originated as allopolyploid and its native home was suggested as Eastern India, Assam to Burma or possibly further in the Malay region (Popenoe, 1920). Vavilov (1926) also suggested Indo-Burma region as the centre of origin of mango. Hence, mango shows maximum genetic diversity in India.

Question63

Tiger is not a resident in which one of the following national parks? (2009)

Options:

- A. Sunderbans
- B. Gir
- C. Jim Corbett
- D. Ranthambhor

Answer: B

Solution:

Solution:

(b) : Gir National Park is situated in district Junagarh of Gujarat. This national park is famous for Asiatic lion. Beside lion, panther, striped hyaena, sambhar, nilgai, cheetal are also conserved.



Question64

The table below gives the populations (in thousands) of ten species (A-J) in four areas (p-s) consisting of the number of habitats given within brackets against each. Study the table and answer the question which follows.

Which area out of p- s shows maximum species diversity?

Area and No. of habitats	Species, and their populations (in thousands) in the areas									
	A	B	C	D	E	F	G	H	I	J
p(11)	2.3	1.2	0.52	6.0	-	3.1	1.1	9.0	-	10.3
q(11)	10.2	-	0.62	-	1.5	3.0	-	8.2	1.1	11.2
r(13)	11.3	0.9	0.48	2.4	1.4	4.2	0.8	8.4	2.2	4.1
s(12)	3.2	10.2	11.1	4.8	0.4	3.3	0.8	7.3	11.3	2.1

(2008)

Options:

- A. s
- B. p
- C. q
- D. r

Answer: A

Solution:

Solution:

(a) : Species diversity is related to the variety in the number and richness of the species within a region and is measured at the level of 'species'. Thus, it is the product of species richness and species evenness. Species richness refers to the number of species per unit area. As the area of the site increases, the number of species also increases due to more availability of natural resources. Species evenness is the relative abundance with which each species is represented in an area. Thus, variation in the number of species, kinds of species as well as the number of individuals per species lead to greater diversity. In the given table, the area which shows maximum species diversity is 's'.

Question65

Which one of the following is not observed in biodiversity hotspots?
(2008)

Options:

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- B. Species richness
- C. Endemism
- D. Accelerated species loss

Answer: A

Solution:

(a) Lesser inter-specific competition is not observed in biodiversity hotspots, levels of species richness and high degree of endemism. Initially 25 biodiversity hotspots were identified but subsequently nine more have been identified as biodiversity hotspots in the world to 34. These hotspots are also regions of accelerated habitat loss.

Question66

World Summit on Sustainable Development was held in (2008)

Options:

- A. Argentina
- B. South Africa
- C. Brazil
- D. Sweden

Answer: B

Solution:

Solution:

The World Summit on Sustainable Development (Johannesburg, South Africa, August 26 - September 4, 2002) was an unprecedented opportunity to strengthen the role of health in sustainable development.

Question67

Which one of the following pairs of organisms are exotic species introduced in India? (2007)

Options:

- A. Lantana camara, water hyacinth



C. Nile perch, Ficus religiosa

D. Ficus religiosa, Lantana camara

Answer: A

Solution:

Solution:

(a) : In India, large variety of exotic animal and plant species have been introduced from other parts of the world through the ages. Some exotic plants have turned into weeds, multiplying fast and causing harm to the ecosystem, e.g., water hyacinth and Lantana camara.

Question68

Identify the odd combination of the habitat and the particular animal concerned.
(2007)

Options:

A. Sunderbans Bengal Tiger

B. Periyar - Elephant

C. Rann of Kutch -Wild Ass

D. Dachigam National Park - Snow Leopard

Answer: D

Solution:

Solution:

(d) : Dachigam National Park is located only 22 kilometers from Srinagar, the capital city of the northern state of Jammu and Kashmir. Dachigam is considered home to some of the unique Himalayan range of flora and fauna. Primary amongst them is the hangul or Kashmiri stag, the most endangered species of red deer in the world. It was finally upgraded and declared a National Park in the year 1981

Question69

One of the endangered species of Indian medicinal plants is that of
(2007)

Options:

A. Ocimum

B. Psidium



- C. Nepenthes
- D. Podophyllum

Answer: D

Solution:

(d) : An endangered species is a population of an organism which are at risk of becoming extinct because it is either a few in number or threatened by changing environmental or predation parameters. Podophyllum is such an endangered species of Indian medicinal plants. They contain, podophyllotoxin and podophyllin that is used as a purgative and as a cytostatic. They are also grown as ornamental plants for their attractive foliage and flowers. Extracts of plants are used for genital warts and some skin cancers.

Question70

Which of the following is considered a hotspot of biodiversity in India? (2006)

Options:

- A. Aravalli hills
- B. Western ghats
- C. Indo-gangetic plain
- D. Eastern ghats

Answer: B

Solution:

Solution:

(b) : Hotspots are areas with high density of biodiversity or megadiversity which are also the most threatened ones. Ecologically hotspots are determined by four factors - number of species/ species diversity, degree of endemism, degree of threat to habitat due to its degradation and fragmentation, and degree of exploitation. India has three hotspots : Indo-Burma, Himalayas and Western Ghats - Sri Lanka. India is even otherwise a country of mega diversity with 2.4% of land area and having 8.1% of global diversity. Major centres of biodiversity are Agasthyamalai hills, Silent valley and Amambalam reserve. There is high degree of endemism as well as richness of species of flowering plants, amphibians, reptiles, some mammals and butterflies.

Question71

Which of the following pairs of an animal and a plant represents endangered organisms in India? (2006)



- A. Banyan and black duck
- B. Bentinckia nicobarica and red panda
- C. Tamarind and rhesus monkey
- D. Cinchona and leopard

Answer: B

Solution:

Solution:

(b) : An endangered species is a living organism in danger of disappearing from the face of the earth if it is not protected and its situation is not improved. Red panda (*Ailurus fulgens*) and *Bentinckia nicobarica* are endangered organisms of India. The red panda (*Ailurus fulgens*) faces problems with human encroachment into its habitat. *Bentinckia nicobarica* is a fast-growing, slender and elegant, pinnate palm from the Nicobar Islands in the Andaman Sea, North of Sumatra.

Question72

Which one of the following is not included under insitu conservation? (2006)

Options:

- A. National park
- B. Sanctuary
- C. Botanical garden
- D. Biosphere reserve

Answer: C

Solution:

Solution:

(c) : In situ conservation means "on-site conservation". In situ conservation is the protection and management of important components of biological diversity through a network of protected areas e.g., National Park, sanctuary, biosphere reserve, etc. Botanical gardens come under ex situ conservation.

Question73

Which one of the following is the correctly matched pair of an endangered animal and a national park? (2006)

Options:



- A. Great Indian bustard: Keoladeo National Park
- B. Lion : Corbett National Park
- C. Rhinoceros : Kaziranga National Park
- D. Wild ass : Dudhwa National Park

Answer: C

Solution:

(c) : Kaziranga National Park of Assam is known for the conservation of rhinoceros.

Question74

Biodiversity Act of India was passed by the Parliament in the year (2005)

Options:

- A. 1992
- B. 1996
- C. 2000
- D. 2002

Answer: D

Solution:

Solution:

(d) : Biodiversity Act of India provides for conservation of biological diversity, sustainable use of its components and fair and equitable sharing of the benefits arising out of the use of biological resources, knowledge and for matters connected there with or incidental there to. The biodiversity act of India was passed in 2002. This act of parliament received the assent of President of India on the 5th February 2003 .

Question75

According to IUCN Red List, what is the status of Red Panda (*Ailurus fulgens*)? (2005)

Options:



- B. Vulnerable species
- C. Extinct species
- D. Endangered species

Answer: D

Solution:

Solution:

(d) : According to IUCN Red list, the status of Red panda (*Ailurus fulgens*) is endangered species. Endangered species are those species that are facing a very high risk of extinction in the wild in the near future. This category is used when the species suffered a population reduction of 80% or more.

Vulnerable species have sufficient population at present but are depleting fast. e.g., Golden langur, leopard cat. Extinct species no longer exist, e.g., Dodo. Critically endangered species are threatened to a greater extent.

Question76

**In your opinion, which is the most effective way to conserve the plant diversity of an area?
(2004)**

Options:

- A. By tissue culture method
- B. By creating biosphere reserve
- C. By creating botanical garden
- D. By developing seed bank

Answer: B

Solution:

Solution:

(b) : Biosphere reserves are multipurpose protected areas of different representative ecosystems which are meant for conservation of biodiversity or wildlife, traditional life style of tribals and their domesticated animals and also plant resources. Each biosphere reserve has a core zone (where no human activity is allowed), a buffer zone (with limited human activity) and manipulation zone (where human activity is allowed without degradation of ecology). Thus, the biosphere reserves protect not just wild varieties but also domesticated varieties of plants of an area.

Question77

**Which group of vertebrates comprises the highest number of endangered species?
(2003)**



Options:

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

Answer: A

Solution:**Solution:**

(a) : IUCN Red List (2004) documents the extinction of 784 species (including 338 vertebrate species, 359 invertebrate species and 87 plant species) in the last 500 years. On worldwide basis, more than 15,500 species are facing the threat of extinction. At present, 12% of the bird species, 23% of mammal species, 32% of amphibian species and 31% of gymnosperm species are facing the threat of extinction in the world. Several endangered mammalian species are Panthera pardus (Leopard), Panthera leo persica (Lion), Presbytis pilaetus (capped langur) etc.

Question78

**Which endangered animal is the source of the world's finest, lightest, warmest and most expensive wool – the shahtoosh ?
(2003)**

Options:

- A. Nilgai
- B. Cheetal
- C. Kashmifi goat
- D. Chiru

Answer: D

Solution:**Solution:**

(d) : Chiru or the Tibetan antelope (Pantholops hodgsoni) is medium-sized bovid which is about 1.2m in height. Its coat is grey to reddish brown, with a white underside. The Chiru's wool, known as the shahtoosh, is worm, soft and fine. The wool can only be obtained by killing the animal. It is listed as endangered by the world conservation union and the United States Fish and Wildlife Service due to commercial poaching for its wool.

Question79

**Wildlife is continuously decreasing. What is the main reason of this?
(2002)**



Options:

- A. Predation
- B. Cutting down of forest
- C. Destruction of habitat
- D. Hunting

Answer: C**Solution:****Solution:**

(c) : Wildlife refers to all living organisms (terrestrial, aquatic and aerial) living in all possible natural habitats of their own, other than the cultivated plants and domesticated animals. Thus "wildlife" does not exist only in jungles and are hunted down but wild life includes even the migrating birds, turtles, coral reefs, microorganisms, insects, fishes, etc. Several hundred organisms are endangered or on the verge of extinction. The reasons are deforestation, pollution, killing, over exploitation etc. The most important among them is deforestation or destruction of their natural habitat because it will affect the species (flora and fauna) of complete area and not only the few organisms. The natural habitat may be destroyed by man for his settlements, grazing grounds, agriculture, mining, industries, dam building etc. As a consequence of this, the species must adapt to the changes, move elsewhere or may succumb to predation, starvation or disease, and eventually dies.

Question80

Indri-indri lemur is found in (2000)

Options:

- A. Madagascar
- B. Mauritius
- C. India
- D. Sri Lanka

Answer: A**Solution:**

(a) : Indri-indri lemur is found in Madagascar. It is the largest of all surviving lemurs and is best known for its beautiful song which can carry for more than 2 km. Today, the Indri's number is small and dwindling due to habitat loss.

Question81

Viable material of endangered species can be preserved by (2000)



Options:

- A. gene bank
- B. gene library
- C. herbarium
- D. gene pool

Answer: A

Solution:

Solution:

(a) : Viable material of endangered species can be preserved by gene bank. Gene bank is an institute that maintains stocks of viable seeds (seed banks), live growing plants (orchards), tissue culture and frozen germplasm with the whole range of genetic variability.

Question82

**Which of the following is mainly responsible for the extinction of wildlife?
(1999)**

Options:

- A. Pollution of air and water
- B. Hunting of flesh
- C. Destruction of habitats
- D. All of these

Answer: D

Solution:

Wildlife is an asset for our environment. It needs to be protected to maintain an optimum biodiversity. Some of the reasons for extinction of wild life are:

Destruction of their natural habitats by environmental pollution, deforestation, soil erosion, overgrazing, increased urbanization, forest fires, and developmental works.

Over exploitation of the natural resource, that is pollution of air and water.

Indiscriminate hunting that is hunting for flesh and international trade in rare animals.

Question83

**What is the major cause of diminishing wildlife number?
(1998)**



Options:

- A. Felling of trees
- B. Paucity of drinking water
- C. Cannibalism
- D. Habitat destruction

Answer: D

Solution:

Solution:

(d) : Wildlife refers to all living organisms (terrestrial, aquatic and aerial) living in all possible natural habitats of their own, other than the cultivated plants and domesticated animals. Thus "wildlife" does not exist only in jungles and are hunted down but wild life includes even the migrating birds, turtles, coral reefs, microorganisms, insects, fishes, etc. Several hundred organisms are endangered or on the verge of extinction. The reasons are deforestation, pollution, killing, over exploitation etc. The most important among them is deforestation or destruction of their natural habitat because it will affect the species (flora and fauna) of complete area and not only the few organisms. The natural habitat may be destroyed by man for his settlements, grazing grounds, agriculture, mining, industries, dam building etc. As a consequence of this, the species must adapt to the changes, move elsewhere or may succumb to predation, starvation or disease, and eventually dies.

Question84

The breeding place of Flamingo (Hansawar) in India is most likely (1996)

Options:

- A. Runn of Kutch
- B. Ghana Vihar
- C. Sambhar lake
- D. Chilka lake

Answer: D

Solution:

Solution:

(d) : Flamingoes are protected in Chilka lake, Odisha. Other important birds protected are water fowls, ducks, cranes, golden plovers, sandpipers etc.



Question85

The abundance of a species population, within its habitat, is called (1995)

Options:

- A. relative density
- B. regional density
- C. absolute density
- D. niche density

Answer: D

Solution:

Solution:

(d) : Niche or ecological niche is specific part of habitat occupied by individuals of a species, which is limited by its range of tolerance, range of movement, type of food and its availability, shelter, type of predator, and timing of activity. A habitat has several ecological niches and supports a number of species. An ecological niche is used by a single species. Two or more species cannot use the same niche despite having a mutualistic association

Question86

Identify the correct match between tiger reserve and its state. (1995)

Options:

- A. Manas - Assam
- B. Corbett - Madhya Pradesh
- C. Bandipur - Tamil Nadu
- D. Palamu - Odisha

Answer: A

Solution:

Solution:

(a) : Manas biosphere reserve is located in Assam. Corbett National Park is located in district Nainital of Uttaranchal. Bandipur National Park is located in district Mysore of Karnataka. Palamu is located in Chhotanagpur, Jharkhand.

Question 87



**Which of the following is the matching pair of a sanctuary and its main protected wild animal?
(1995)**

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Options:

- A. Kaziranga-Musk deer
- B. Gir-Lion
- C. Sunderban-Rhino
- D. All of these

Answer: B

Solution:

Solution:

(b) Gir forest is important for protecting lion. The ecosystem of Gir, with its diverse flora and fauna, is a result of the efforts of the Government, forest department, wildlife activists and NGOs. The forest area of Gir and its lions were declared as "protected" in the early 1900's by the then Nawab of the princely state of Junagadh. This initiative assisted in the conservation of the lions whose population had plummeted to only 15 through slaughter for trophy hunting.

Question88

**The most important human activity, leading to the extinction of wildlife, is
(1994)**

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Options:

- A. pollution of air and water
- B. hunting for valuable wildlife products
- C. introduction of alien species
- D. alteration and destruction of the natural habitats.

Answer: D

Solution:

(d) : Wildlife refers to all living organisms (terrestrial, aquatic and aerial) living in all possible natural habitats of their own, other than the cultivated plants and domesticated animals. Thus "wildlife" does not exist only in jungles and are hunted down but wild life includes even the migrating birds, turtles, coral reefs, microorganisms, insects, fishes, etc. Several hundred organisms are endangered or on the verge of extinction. The reasons are deforestation, pollution, killing, over exploitation etc. The most important among them is deforestation or destruction of their natural habitat because it will affect the species (flora and fauna) of complete area and not only the few organisms. The natural habitat may be destroyed by man for his settlements, grazing grounds, agriculture, mining, industries, dam building etc. As a consequence of this, the species must adapt to the changes, move elsewhere or may succumb to predation, starvation or disease, and eventually dies.

