



## Biodiversity And Conservation Important Questions With Answers

### NEET Biology 2023

1. American water plant that has become a troublesome waterweed in India is \_\_\_\_\_.
- a) *Cyperus rotundus*    **b) *Eichhornia crassipes***    c) *Trapa natifolia*    d) *Trapa bispinosa*

**Solution : -**

*Eichhornia crassipes* is a native of America and is exotic species to India. It has become a trouble some weed in many aquatic habitats causing eutrophication and many other ecological problems.

2. India has \_\_\_\_\_ biosphere reserves, \_\_\_\_\_ national parks and \_\_\_\_\_ wildlife sanctuaries till 2018.
- a) 20; 90; 500    b) 14; 85; 348    **c) 18; 103; 544**    d) 11; 91; 500

3. The one-horned rhinoceros is specific to which of the following sanctuaries?
- a) Bharatpur    b) Vedanthgol    **c) Kaziranga**    d) Corbett Park

**Solution : -**

The one-horned rhinoceros is specific to Kaziranga sanctuary.

4. Biosphere reserves differ from national parks and wildlife sanctuaries because in the former
- a) human beings are not allowed to enter    **b) people are an integral part of the system**
- c) plants are paid greater attention than the animals
- d) living organisms are brought from allover the world and preserved for posterity

**Solution : -**

Biosphere reserves have a core zone (no human activity), a buffer zone (limited human activity) and a transition zone (participation of local people for activities like settlements, cropping, recreation, forestry, etc).

5. First 'Earth Summit' for 'Convention on Biological Diversity' (CBD) was held at
- a) Johannesburg (2002), South Africa    **b) Rio de Janeiro (1992), Brazil**    c) Dehradun (1992), India
- d) New York (2000), U.S.A

**Solution : -**

Earth Summit at Rio de Janeiro (1992), Brazil, promoted Convention on Biological Diversity (CBD) which was signed by 152 nations. Its recommendations came into effect on 29th Dec. 1993. India became a party to this Convention on Biological Diversity in May, 1994.

6. Species diversity \_\_\_\_\_ as we move away from the \_\_\_\_\_ towards \_\_\_\_\_
- a) decreases, equator, poles**    b) increases, equator, poles    c) decreases, poles, equator
- d) none of these

**Solution : -**

The biodiversity shows a latitudinal and altitudinal gradients. The species diversity decreases as we move away from the equator towards the poles with very few exceptions, tropics harbour more species than temperate or polar areas.

7. Match the items given in Column I with those in Column II and select the correct option given below.

Column - I	Column - II
1. Herbarium	i. It is a place having a collection of preserved plants and animals.
2. Key	ii. A list that enumerates methodically all the species found in an area with brief description aiding identification.
3. Museum	iii. It is a place where dried and pressed plant specimens mounted on sheets are kept.
4. Catalogue	iv. A booklet containing a list of characters and their alternate of various texts.

- a) ii iv iii i    b) iii ii i iv    c) i iv iii ii    **d) iii iv i ii**

**Solution : -**

Herbarium is a place where dried and pressed plant specimens mounted on sheets are kept. Key is a booklet containing list of characters and their alternates which are helpful in identification of various taxa. Meuseum is a place having a collection of preserved plants and animals. Catalogue is a list that enumerates methodically all the species found in an area with brief descriptions aiding identification.

8. Species diversity increases as one proceeds from \_\_\_\_\_.

- a) high altitude to low altitude and high latitude to low latitude**  
 b) low altitude to high altitude and high latitude to low latitude  
 c) low altitude to high altitude and low latitude to high latitude  
 d) high altitude to low altitude and low latitude to high latitude

**Solution : -**

Species diversity increases from high altitude or latitude to low altitude or latitude due to the increase in temperature and seasonal variability in the concerned areas.

9. In the following question, a statement of assertion is followed by a statement of reason. Mark the correct choice as

**Assertion:** Genetic variation shown by the plant *Rauwolfia vomitoria* growing in different Himalayan ranges is very important economically.

**Reason:** The amount and variety of alkaloids present in this plant, change both between the *Rauwolfia* species and between the different strains of *R. vomitoria*.

- a) If both assertion and reason are true and reason is the correct explanation of assertion.  
 b) If both assertion and reason are true but reason is not the correct explanation of assertion  
 c) If assertion is true but reason is false    **d) If both assertion and reason are false.**

**Solution : -**

*Rauwolfia vomitoria* is a medicinal plant used in modern medicines because of the presence of certain alkaloids in its plant parts. This plant reveals genetic variation in different Himalayan ranges in terms of the potency and concentration of an active chemical. The amount and variety of these chemicals change both between the *Rauwolfia* species and between the different strains of *R. vomitoria*. Because of the increasing demand and decreasing natural resources, there is an attempt to develop new strains suitable for agricultural production.

10. Which one of these is not included in the biodiversity hotspots of India?

- a) Western Ghats    b) Himalayas    c) Indo-Burma    **d) North Indian Plains**

11. Red list contains data or information on :

- a) Threatened species**    b) Marine vertebrates only    c) All economically Important plants  
 d) Plants whose products are in international Trade

**Solution : -**

Fact

12. One of the ex situ conservation methods for endangered species is  
a) wildlife sanctuaries   b) biosphere reserves   **c) cryopreservation**   d) national parks.

**Solution : -**

Ex situ (off site) conservation is conservation of selected rare plants/animals in places outside their natural homes. It is a desirable approach to save threatened or endangered plant or animal species from extinction. Ex situ conservation includes offsite collections, gene banks, in vitro fertilisation, cryopreservation techniques and tissue culture.

13. A species facing an extremely high risk of extinction in the immediate future is called: \_\_\_\_\_.  
a) vulnerable   b) Endemic   **c) Critically endangered**   d) Extinct

**Solution : -**

A species facing extremely high risk of extinction in the immediate future is called critically endangered species. These are the species which are facing a very high risk of extinction. These are assigned by the IUCN RedList.

14. According to Robert May, the global species diversity is about \_\_\_\_\_.  
a) 50 million   **b) 7 million**   c) 1.5 million   d) 20 million

**Solution : -**

Robert May was a theoretical ecologist the established, who field of theoretical ecology and population biology. According to him the global species diversity is about 7 million.

15. Which of the following fish led to the extinction of an ecologically unique assemblage of more than 200 species of cichlid fish in the lake Victoria of E.Africa?  
a) Catla Catla   b) Dog fish   **c) Nile perch**   d) African catfish

**Solution : -**

Nile Perch (a predator fish) was introduced in lake Victoria of East Africa. It killed and eliminated ecologically unique assemblage of over 200 native species of small cichlid fish.

16. Which animal has become extinct from India?  
a) Snow leopard   b) Hippopotamus   c) Wolf   **d) Cheetah**

**Solution : -**

Cheetah has become extinct from India in 1930. Asiatic cheetah are now found in Iran and scientists are working to breed them and bring them back to Indian sub-continent.

17. One of the most important functions of botanical gardens is that \_\_\_\_\_.  
a) they provide a beautiful area for recreation   b) one can observe tropical plants there  
**c) they allow ex-situ conservation of germplasm**   d) they provide the natural habitat for wildlife

**Solution : -**

Botanical garden is one of the methods of ex-situ conservation. Ex-situ conservation means off-site conservation. It is the process to protect an endangered species of plant or animal by removing it from an unsafe or threatened habitat and placing it or part of it under the care of man.

18. Biodiversity Act of India was passed by the parliament in the year  
a) 1992   b) 1996   c) 2000   **d) 2002**

**Solution : -**

The Biodiversity Act provides support for conservation of biological diversity, sustainable use of its components and equitable sharing of the benefits arising out of the use of biological resources. The Biological Act of India was passed in 2002. This act of parliament received the assent of President of India on the 5th February 2003.

19. 'Broadly utilitarian' argument for the conservation of biodiversity does not include  
**a) bioprospecting**   b) pollination   c) aesthetic value   d) climatic regulation

**Solution : -**

Bioprospecting is the exploration of molecular, genetic and species level-diversity for gaining the products of economic importance. It comes under narrowly utilitarian category.

20. In the following question, a statement of assertion is followed by a statement of reason. Mark the correct choice as :

**Assertion:** Species with low genetic variability are generally at greater risk of extinction than the species with more genetic variability.

**Reason:** Species with low genetic variability are more vulnerable to diseases, predators or other environmental challenges.

**a) If both assertion and reason are true and reason is the correct explanation of assertion.**

b) If both assertion and reason are true but reason is not the correct explanation of assertion

c) If assertion is true but reason is false.    d) If both assertion and reason are false

**Solution : -**

Species with low genetic variability are generally at significantly greater risk of extinction than the species with more genetic variability, simply because they have a more limited arsenal with which to respond to the varieties of environmental change. Species with extremely low genetic variability are particularly vulnerable towards a new disease, predator or other environmental challenges, e.g., lack of genetic variability in the African cheetah (*Acinonyx jubatus*) has been considered to be a significant factor contributing towards decline of cheetah population.

21. The narrowly utilitarian arguments for biodiversity conservation include which of the following from the given list?

(i) Industrial products like dyes, lubricants

(ii) Ecosystem services like photosynthesis

(iii) Pollinators layer of bees, birds and bats

(iv) Firewood, fibre and construction material

(v) The aesthetic pleasure of walking through thick woods

(vi) Products of medicinal importance

(vii) Watching spring flowers in full bloom

a) (i), (ii), (v) and (vii)    b) (ii), (iii), (v) and (vii)    **c) (i), (iv) and (vi)**    d) (iii), (v), (vi) and (vii)

**Solution : -**

Ecosystem services like photosynthesis; pollinators layer of bees, birds and bats; aesthetic pleasure of walking through thick woods and watching spring flowers in full bloom are some arguments that come under broadly utilitarian category.

22. National Park associated with rhinoceros is \_\_\_\_\_.

**a) Kaziranga**    b) Ranthambore    c) Corbett    d) Valley of flowers

**Solution : -**

Kaziranga National park is associated with rhinoceros. It is situated in Golaghat and Nagaon districts of Assam. This National park is famous for one- homed rhinoceros of India.

23. Wildlife is destroyed most when \_\_\_\_\_.

a) there is lack of proper care    b) mass scale hunting for foreign trade    **c) its natural habitat is destroyed**  
d) natural calamity

**Solution : -**

Destruction of habitat (including falling of trees) exposes wildlife to a number of adverse factors leading to diminishing of their numbers

24. Study the given populations and choose the correct answer in relation to species diversity.

Population	Species	Group	Individuals
Population A	I	Mammals	3
	II	Birds	2
	III	Amphibians	2
Population B	I	Mammals	2
	II	Mammals	2
	III	Amphibians	1
Population C	I	Mammals	3
	II	Mammals	2
	III	Mammals	1

a)

Maximum diversity	Minimum diversity
Population B	Population C

c)

Maximum diversity	Minimum diversity
Population A	Population B

b)

Maximum diversity	Minimum diversity
Population A	Population C

d)

Maximum diversity	Minimum diversity
Population B	Population A

25. Which of the following statements regarding the ethical argument for conserving biodiversity is incorrect?

- a) We owe to millions of plant, animal and microbe species with whom we share this planet.  
**b) Every species has an intrinsic value only when it is of an economic value to us.**  
c) It is our moral duty to care for the well-being of all species i.e., our biological legacy  
d) All of these

**Solution : -**

Every species has an intrinsic value, even if it may not be of current or any economic value to us.

26. Amazon rainforests are considered as 'lungs of the planet' as they contribute \_\_\_\_\_ of the total oxygen in the earth's atmosphere.

- a) 10% b) 15% **c) 20%** d) 30%

**Solution : -**

About 20% of the world oxygen is produced in the amazon rainforests. They are described as the 'lungs of the planet' because they provide the essential world environmental service of continuously recycling CO<sub>2</sub> into O<sub>2</sub>.

27. Which of the following exotic species has become menace to many water bodies in India?

- a) Lantana camara **b) Eichhornia crassipes** c) Panthenium hysterophorus d) Eupatorium odoratum

28. A population characteristic of a species susceptible to extinction is

- a) Low trophic level in food chain **b) Inability to switch over to alternate food source**  
c) Wide range of distribution d) High biotic potential

29. Which one of the following is not a method of in situ conservation of biodiversity?

- a) Wildlife Sanctuary **b) Botanical Garden** c) Sacred Grove d) Biosphere Reserve

**Solution : -**

Botanical garden - ex - situ conservation (offsite conservation) i.e. living plants (flora) are conserved in human-managed system.

30. There are four major causes of accelerated rates of species extinction, which are collectively called as 'the evil quartet'. Which one of the following is not included in 'the evil quartet'?

- a) Over exploitation **b) Pollution** c) Co-extinctions d) Alien species invasions

**Solution : -**

The world is facing accelerated rates of species extinctions, largely due to human interference. There are four major causes collectively called as -the evil quartet, it includes (i) Habitat loss and fragmentation (ii) Over exploitation; (iii) Alien species invasions and (iv) Co-extinctions.

31. Cryopreservation is the preservation of germplasm at very low temperature of around:  
a)  $-121^{\circ}\text{C}$    **b)  $-196^{\circ}\text{C}$**    c)  $0^{\circ}\text{C}$    d)  $-101^{\circ}\text{C}$ .

**Solution : -**

Cryopreservation is preservation at  $-196^{\circ}\text{C}$  (liquid nitrogen). It can maintain tissue culture, embryos, animal cells/tissues, spermatozoa indefinitely. The cryopreserved material is revived through special technique when required.

32. When a taxon is facing a very high risk of extinction in the wild in the near future is  
a) Threatened species   b) Rare species   c) Vulnerable species   **d) Endangered species**
33. Waking up to a bulbul's song in the morning is related to  
a) narrow utilitarian   **b) broadly utilitarian**   c) ethical   d) both (b) and (c)
34. In a national park, protection is provided to  
a) flora and fauna   **b) entire ecosystem**   c) fauna only   d) flora only

**Solution : -**

National park is a reserved area used for conservation purposes. It is maintained by government. Cultivation, grazing, forestry and habitat manipulation are not allowed. Protection is provided to the entire ecosystem.

35. 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**

**Solution : -**

Keeping animals in zoological parks is not a cause for loss of biodiversity rather it is a method of conservation of biodiversity.

36. Reason of diversity in living beings is due to \_\_\_\_\_.  
a) mutation   **b) long term evolutionary change**   c) gradual change   d) short term evolutionary change

**Solution : -**

Because of long evolutionary process there is diversity. Adaptability to continuous changes in environmental conditions is important for natural selection of variants and variations generation after generation leading to emergence of diverse descendants.

37. Which of the following National Parks is home to the famous deer Hangul?  
**a) Dachigam National Park, J and K**   b) Keibul Lamjao National Park, Manipur  
c) Bandhavgarh National Park, Madhya Pradesh   d) Eaglenest Wildlife Sanctuary, Arunachal Pradesh

**Solution : -**

Fact

38. Ten species (i) to (x) sampled in four areas A - D having 11 - 13 habitats (given in the brackets) possess populations (in thousands) given in the table. Which one has the maximum species diversity?

a)

	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	(x)	
A	(11)	1.2	1.2	0.52	-	-	3.1	1.1	9.0	-	10.3

b)

	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	(x)	
B	(12)	10.2	-	0.62	1.5	1.5	3.0	-	8.2	1.1	11.2

c)

	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	(x)
C	(13)	11.3	0.9	0.48	1.45	1.44	2.0	8.8	2.2	4.1

d)

	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	(x)	
D	(12)	3.2	10.2	11.1	0.4	0.43	3.3	0.8	7.3	11.3	2.1

**Solution : -**

Area 0 = 3.2 + 10.2 + 11.1 + 4.8 + 0.4 + 3.3 + 0.8 + 7.3 + 11.3 + 2.1 = 54.5 species

39. The exotic species, which when introduced in India became notorious weed, is:

- a) Lantana camara    b) Eichhornia crassipes    c) Parthenium hysterophorus    **d) all of these**

**Solution : -**

Lantana, Eichhornia and Parthenium are all exotic species, which had been introduced in India. Lantana camara has replaced many species in forests of Uttar Pradesh and Madhya Pradesh. Eichhornia (Water hyacinth) has clogged water bodies including wetlands resulting in death of several aquatic plants and animals. Parthenium has pushed out several herbs and shrubs from open places in the plains.

40. Identify the odd combination of the habitat and the particular animal concerned \_\_\_\_\_.

- a) Sunderbans - Bengal Tiger    b) Periyar- Elephant    c) Rann of Kutch - Wild Ass  
d) Dachigam- Snowleopard, National park

**Solution : -**

Dachigam national park is famous for conservation of Hangul which is one of India's most scenically beautiful wildlife reserves. It is located only 22 kilometers from Srinagar.

41. Cryopreservation of gametes of threatened species in viable and fertile condition can be referred to as: \_\_\_\_\_.

- 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.

**Solution : -**

Cryopreservation of gametes of threatened species in viable and fertile condition can be referred to as advanced ex-situ conservation of biodiversity. It is the process of freezing biological material at extreme temperatures (-196°C) in liquid nitrogen. At these low temperatures, all biological activity stops which leads to cell death and DNA degradation.

42. In the following question, a statement of assertion is followed by a statement of reason. Mark the correct choice as :

**Assertion:** Threatened species are those living species which have been greatly reduced in their number and are liable to become extinct if the causative factors continue.

**Reason:** IUCN is an international organisation which maintains the IUCN red list of threatened species, to assess the conservation status of different species

- a) If both assertion and reason are true and reason is the correct explanation of assertion  
**b) If both assertion and reason are true but reason is not the correct explanation of assertion.**  
c) If assertion is true but reason is false    d) If both assertion and reason are false.

43. The diversity of organisms sharing the same habitat or community is termed as

- a) **alpha diversity**    b) beta diversity    c) gamma diversity    d) delta diversity.

**Solution : -**

Ecological diversity is of three types: (i) Alpha diversity (Within community diversity) is species diversity in a given community or habitat. It is dependent upon species richness and evenness. (ii) Beta diversity (Between community diversity) is biodiversity in a range of communities due to replacement of species with the change in community/habitat because of presence of different microhabitats, niches, etc. (iii) Gamma biodiversity is diversity of habitats/ecosystems over a total landscape or geographical area.

44. Match column I with column II and select the correct option from the given codes.

Column I	Column II
A. Beta diversity	(i) Tropical areas
B. Rich biodiversity	(ii) Dodo
C. Gamma diversity	(iii) Between community diversity
D. Extinct species	(iv) Great Indian bustard
E. Critically endangered species	(v) Diversity of whole geographical region

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

45. Which of these organisms are protected by people of 'Bishnoi' community of Rajasthan?

- a) Prosopis cineraria    b) Black buck    c) Bhojpatra    **d) Both (a) and (b)**

**Solution :** -

Bishnois of Rajasthan protect Prosopis cineraria and black buck religiously.

46. An important international effort or convention for biodiversity conservation is

- a) UNESCO    **b) IUCN**    c) IBWL    d) NBPGR

47. Which one of the following pairs of organisms are exotic species introduced in India?

- a) Lantana camara, water hyacinth**    b) Water hyacinth, prosopis cineraria    c) Nile perch, Ficus religiosa  
d) Ficus religiosa, Lantana camara

**Solution :** -

Exotic species - a species that has introduced from another geographic region to an area. Outside its natural range. Exmaples are water hyacinth, Lantana Camara.

48. A hotspot of biodiversity in India is :

- a) Eastern Ghats    **b) Western Ghats**    c) Gangetic plain    d) Sunderbans

**Solution :** -

The three hotspots such as Western Ghats and Sri Lanka, Indo-Burma and Himalaya cover India's biodiversity regions

49. \_\_\_\_\_ National Park was the first national park of India.

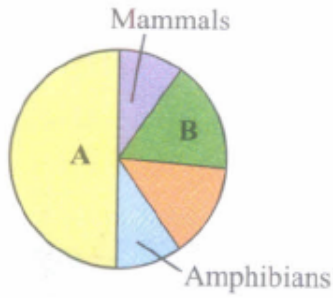
- a) Jim Corbett**    b) Nanda Devi    c) Kaziranga    d) Jaldapara

**Solution :** -

Jim Corbett National Park (District Nainital, Uttrakhand) is the first national park of India, established in 1936.



50. The given pie diagram Mammals represents the proportionate number of species of major taxa of vertebrates. Identify the groups A and B.



- a) A - Reptiles, B - Birds    **b) A - Fish, B - Birds**    c) A - Birds, B - Fish    d) A - Birds, B - Reptiles

**Solution : -**

Among vertebrates, fish account for the maximum share with approximately 26,959 species. Birds have 9,700 identified species and reptiles have 7,150 species.

  
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