



30 Days Revision Module Day 21 - Biodiversity (UPSC Prelims 2021)

1) Consider the following statements

1. They are defined in the Wildlife Protection Act 1972.
2. They are notified by the Central Government with the consent of the Gram Sabha.
3. The forest rights in Critical Wildlife Habitats can be modified or resettled.

Which of the statements given above is/are correct?

- a. 1 only
- b. 1 and 3 only
- c. 2 and 3 only
- d. 1, 2 and 3

Answer : c

- Critical wildlife habitats (CWH) are defined under the Forest Rights Act, 2006.
- Such areas are required to be kept as inviolate for the purposes of wildlife conservation as may be determined and notified by the Central Government in the Ministry of Environment and Forests.
- This is notified after open process of consultation by an Expert Committee, which includes experts from the locality appointed by that Government wherein a representative of the Ministry of Tribal Affairs shall also be included, in determining such areas.
- The act envisages a bigger role for the gram sabha, whose free informed consent must be given before any relocation is carried out.
- The forest rights in CWLHs can be modified or resettled.

2) Recently the Government of India had announced a 'voluntary disclosure scheme' urging Indians to declare possession of any "exotic live species". In this regard, consider the following statements.

1. The Exotic live species are animal or plant species moved from their original range to a new one most often by people.
2. The "exotic live species" used in this scheme shall be construed to mean only "the animals named under the Appendices of the Convention of International Trade in Endangered Species (CITES) of Wild Fauna and Flora".
3. This Exotic live species does not include species from the Schedules of the Wild Life (Protection) Act 1972.

Which of the statements given above is/are correct?

- a. 1 only
- b. 1 and 2 only
- c. 2 and 3 only
- d. 1, 2 and 3

Answer : d

- Exotic live species are animal or plant species moved from their original range (location) to a

new one. These species are introduced to a new location most often by people.

- Many citizen of the country have kept CITES (Convention of International Trade in Endangered Species)enlisted exotic animal species in their possession but there is no unified information system available of such stock of species at the State/Central level.
- Ministry of Environment, Forest and Climate Change has decided to collect stock information from the holders of such species through voluntary disclosure in next six months.
- The registration will be done for the stock of animals, new progeny, as well as for import and exchange. This will help in better management of the species and guide the holders about proper veterinary care, housing and other aspects of well-being of the species.
- The advisory says 'exotic live species' will mean animals named under Appendices I, II and III of the Convention on International Trade in Endangered Species (CITES) of Wild Fauna and Flora.
- It will not include species from the Schedules of the Wild Life (Protection) Act, 1972.

3) Consider the following statements regarding the Eco sensitive zone (ESZ).

1. The state governments should declare land falling within 10 km of the boundaries of national parks and wildlife sanctuaries as eco fragile zones or ESZs under the Environmental (Protection) Act, 1986.
2. The purpose of the ESZ was to provide more protection to the parks by acting as a shock absorber or transition zone.
3. The Activities in the Eco-Sensitive Zones would be of a regulatory nature rather than prohibitive nature.

Which of the statements given above is/are correct?

- a. 1 only
- b. 1 and 2 only
- c. 2 and 3 only
- d. 1, 2 and 3



Answer : d

- According to the 2011 Guidelines issued under the EPA, 1986, proposal for ESZ should be prepared and declared by the states considering various parameters and forwarded to the MoEF&CC for further processing and notification. The width of the ESZ and type of regulations would differ from one PA to other.
- However, as a general principle the width of the ESZ could go up to 10 kms around a PA (may not be uniform all around it) as provided in the Wildlife Conservation Strategy-2002.
- The purpose of declaring Eco-Sensitive Zones around National Parks and Sanctuaries is to create some kind of "Shock Absorber" for the Protected Areas. They would also act as a transition zone from areas of high protection to areas involving lesser protection.
- The Activities in the Eco Sensitive Zones would be of a regulatory in nature rather than prohibitive nature.2011 Guidelines specify activities that are to be prohibited, regulated and permissible in the ESZ -

1. Prohibited activities are commercial mining, polluting industries, major hydroelectric projects etc.
2. Restricted with safeguards (Regulated) activities are Felling of trees, Establishment of hotels and resorts, Drastic change of agriculture system, widening of roads, introduction of exotic species etc.
3. Permissible activities are Rain Water Harvesting, Organic farming, Ongoing Agricultural Practices etc.

4) Which one of the following statements regarding the Status of leopard in India 2018 is **not correct**?

- a. The highest population of the leopard was found in the Central Indian states.
- b. The leopard population has been increased by 60% in the country.
- c. The leopards are found only in forested habitats and not found in arid and semi-arid landscapes.

d. The current Leopard estimation is limited to 2,600 metres altitude.

Answer : c

- As for region-wise distribution, the highest number of 8,071 leopards were found in central India and eastern ghats, which include the states of Madhya Pradesh, Maharashtra, Rajasthan, Odisha, Chhattisgarh, Jharkhand, Telangana and Andhra Pradesh.
- The latest estimation of leopards in India, pegs the country's leopard population at 12,852 in 2018, marking an increase of about 60 percent from the 2014 estimation.
- Other leopard occupied areas such as non-forested habitats (coffee and tea plantations and other land uses from where leopards are known to occur), higher elevations in the Himalayas, arid landscapes and majority of North East landscape were not sampled for this report. In the desert regions of India, they are found in Mukundara, Sariska and Ranthambore.
- The current Leopard estimation is limited to 2,600 metres altitude. They are distributed from Trans-Himalayas to Gangetic plains.

5) With respect to the process of alteration and de-notification of Tiger Reserves in India, consider the following statements

1. No alteration in the boundaries of a tiger reserve shall be made except on a recommendation of the National Tiger Conservation Authority and the approval of the National Board for Wild Life.
2. No State Government shall de-notify a tiger reserve, except in public interest with the approval of the Tiger Conservation Authority and the National Board for Wild Life.

Which of the statements given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answer : c

- Under section 38 W (1) of WPA "No alteration in the boundaries of a tiger reserve shall be made except on a recommendation of the Tiger Conservation Authority and the approval of the National Board for Wild Life."
- Under section 38 W (2) of WPA "No State Government shall de-notify a tiger reserve, except in public interest with the approval of the Tiger Conservation Authority and the National Board for Wild Life".

6) Consider the following statements

1. India has Protected Areas about 5% of the total geographic area of the country
2. India has the highest number of leopards population in the world
3. India has about 70% of the global tiger population

Which of the statements given above is/are correct?

- a. 1 and 2 only
- b. 3 only
- c. 1 and 3 only
- d. 1, 2 and 3

Answer : d

- India has a network of 903 Protected Areas in the country covering about 5% of the total geographic area of the country.
- India has 70% of the global tiger population, 70% of asiatic lions and more than 60% of leopards population.

7) India has recently released the 'National Marine Turtle Action Plan'. In this regard, consider the following statements regarding the Marine Turtles in India.

1. The Indian coastal waters support five species of sea turtles such as Olive ridley, Green, Hawksbill, Leatherback and Loggerhead.
2. The above said five species of sea turtles that occur in Indian coastal waters are protected under Schedule I of the Wildlife (Protection) Act, 1972
3. Except for Loggerhead turtles, the remaining four species (Leatherback, Hawksbill, Green and Olive ridley turtles) nest along the Indian coastline and islands of India.
4. India is home to the largest known nesting population of olive ridley turtles.

Select the correct answer using the code given below

- a. 1, 2 and 3 only
- b. 1 and 3 only
- c. 2 and 3 only
- d. 1, 2, 3 and 4

Answer : d

- Five species of sea turtles are known to inhabit Indian coastal waters and islands.
- These are the Olive Ridley (*Lepidochelys olivacea*), Green (*Chelonia mydas*), Hawksbill (*Eretmochelys imbricata*), Loggerhead (*Caretta caretta*) and the Leatherback (*Dermochelys coriacea*) turtles
- In India, though sea turtles are protected under the Indian Wildlife Protection Act of 1972, under the Schedule I Part II, they face grave threats.
- Except the Loggerhead, the remaining four species nest along the Indian coast.
- The coast of Orissa in India is the largest mass nesting site for the Olive-ridley, followed by the coasts of Mexico and Costa Rica.

8) Consider the following statements.

1. Mahendra Giri biosphere reserve has been proposed at the Eastern Ghats region in Odisha.
2. Kanhargaon is the recent Wildlife Sanctuary notified by the Maharashtra Government in the Vidarbha regions.
3. India's First dolphin research centre has been proposed at Assam
4. The Nehru Zoological Park of Hyderabad has become the first in India to acquire ISO 9001:2015 certificate.

Which of the statements given above are correct?

- a. 1, 2 and 3 only
- b. 1, 2 and 4 only
- c. 1, 3 and 4 only
- d. 2, 3 and 4 only

Answer : b

- The Odisha government has proposed a second biosphere reserve in the southern part of the state at Mahendragiri, a hill ecosystem having rich biodiversity. The 5,569-square kilometre Similipal Biosphere Reserve is Odisha's first such reserve and was notified May 20, 1996.
- The Maharashtra revenue and forest department notified the Kanhargaon Wildlife Sanctuary, which will be spread over 269 square kilometres in Chandrapur district in the Vidarbha regions. This takes the state's total tally of wildlife sanctuaries to 50.
- Government has set up the Vikramshila-Ganges dolphin sanctuary in 60 kms range of Ganga between Sultanganj and Kahalgaon to protect Dolphins. It will start functioning on two acres of land in Patna University.
- Nehru Zoological Park, Hyderabad, with its standard working procedures, has acquired ISO 9001:2015 Quality Management Standards Certification from ASCB, UK. The Hyderabad Zoo has become the first zoo in the country to receive ISO 9001:2015 Quality Management Standards Certificate.

9) Consider the following statements

1. The Meghamalai Wildlife Sanctuary is the 51st tiger reserve for India as well as the 5th Tiger Reserve in the State of Tamilnadu.
2. The Pilibhit Tiger Reserve (PTR) has bagged the first-ever international award, TX2, for doubling the number of tigers.

Which of the statements given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answer : c

- The Meghamalai Wildlife Sanctuary is the 51st tiger reserve for India as well as the 5th Tiger Reserve in the State of Tamilnadu.
- An area of 1,01,657.13 hectares or 1016.5713 sq.km in Srivilliputhur Grizzled Giant Squirrel Sanctuary and Megamalai Wildlife Sanctuary have been combined to create the tiger reserve.
- With this new tiger reserve, Vaigai river and its catchment areas will be fully protected.
- The Pilibhit Tiger Reserve (PTR) and the Uttar Pradesh Forest department have bagged the first-ever international award, TX2, for doubling the number of tigers in four years against a target of 10 years.
- PTR was the first to receive the award among 13 tiger range countries. The award was presented by CATS, Global Tiger Forum, IUCN, UNDP, The Lion's Share and WWF, for its remarkable contribution to tiger conservation.

10) Consider the following statements with reference to the Sloth bears

1. Sloth bears are generally nocturnal in nature
2. Sloth bears are found only in India in the Indian subcontinent
3. It is listed as vulnerable by the International Union of Conservation of Nature Red List

Which of the statements given above is/are correct?

- a. 1 and 3 only
- b. 2 and 3 only
- c. 1 only
- d. 1, 2 and 3

Answer : a

- Sloth bears are solitary creatures and generally nocturnal. Nocturnality is an animal behavior characterized by being active during the night and sleeping during the day.
- Sloth bears (*Melursus ursinus*) are a unique bear species, endemic to the Indian subcontinent, mainly India, Sri Lanka and Nepal.
- Sloth bears are classified as 'Vulnerable' in the IUCN Red List. They are threatened by habitat loss, poaching for body parts and are sometimes captured for use in performances or hunted because of their aggressive behavior and destruction of crops.

11) Consider the following statements

1. Caracal, a critically endangered species, is a medium size wildcat found in the parts of Gujarat and Rajasthan.
2. The Fishing cat is the only wild cat species in India that is a wetland specialist, and it is found at Sundarbans of West Bengal, Chilika of Odisha, Coringa and Krishna Mangroves of Andhra Pradesh.

Which of the statements given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answer : c

- The National Board for Wildlife and Union Ministry of Environment, Forest and Climate Change recently included the caracal, a medium-sized wildcat found in parts of Rajasthan and Gujarat, in the list of critically endangered species.
- It is placed under Schedule I of Wildlife Protection Act, 1972.
- Apart from Sundarbans in West Bengal and Bangladesh, fishing cats inhabit the Chilika lagoon and surrounding wetlands in Odisha, Coringa and Krishna mangroves in Andhra Pradesh.
- They abound in estuarine floodplains, tidal mangrove forests and also inland freshwater habitats.
- Chilika Lake, the largest brackish water lagoon in Asia and India's oldest Ramsar Site, has now an ambassador the Fishing Cat.
- The Fishing Cat is the only wild cat species in India that is a wetland specialist.
- The fishing cat is listed as Endangered on the IUCN Red List, which means that it faces a high threat of extinction in the wild.
- It is listed in Schedule I under Wildlife Protection Act, 1972 and Appendix II part of Article IV of CITES

12) Recently, a rare bird species were sighted in Assam paddy fields and was given an auspicious name, 'Deu Korchon', in Assamese to increase awareness about it and to protect it from harm. This bird is considered sacred in certain Buddhist religious traditions. Which bird is it?

- a. Mandarin Duck
- b. Black - necked Crane
- c. Himalayan Quail
- d. Forest owlet



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Answer : b

- A pair of black-necked cranes were sighted in the countryside of the outskirts of the Panbari range of Manas National Park, a first-ever record in Assam.
- It is a medium-sized crane that breeds on the Tibetan Plateau and remote parts of India and Bhutan.
- They have been mostly recorded in high altitudes of Jemithang and Sangti valley in western parts of Arunachal Pradesh in India.
- Locals of Panbari have named bird deu korchon (Deu means related to God and mythology, and Korchon means crane) as it has mythological importance in Buddhist culture.
- Conservation status - Listed in Schedule I of Wildlife (Protection) Act 1972 and as Endangered on the IUCN Red List

13) Consider the following pairs:

National Park/ Biosphere Reserve

River associated with it

- | | | |
|--------------------------------|---|---|
| 1. Orang National Park | - | River Subansiri |
| 2. Ranthambore National Park | - | At the confluence of Yamuna and Chambal |
| 3. Silent Valley National Park | - | River Periyar |

Which of the pairs given above is/are correctly matched?

- a. 2 only
- b. 3 only
- c. 1, 2 and 3

d. None of the above

Answer : d

- Orang National Park – Brahmaputra River
- Ranthambore National Park – Banas River in the North and Chambal River in the South
- Silent Valley National Park – River Kunthipuzha

14) Which of the following Tiger reserves have been declared as biosphere reserves under the UNESCO World Network of Biosphere Reserves (WNBR)?

1. Simlipal National Park
2. Panna National Park
3. Manas National Park
4. Sundarbans Forests

Select the correct answer using the code given below.

- a. 1, 2 and 3 only
- b. 2, 3 and 4 only
- c. 1, 2 and 4 only
- d. 1, 3 and 4 only

Answer : c

- Twelve of the eighteen biosphere reserves of India are a part of the World Network of Biosphere Reserves, based on the UNESCO Man and the Biosphere (MAB) Programme list.
- Biosphere Reserves

1. Nilgiri, 2000
2. Gulf of Mannar, 2001
3. Sunderban, 2001
4. Nanda Devi, 2004
5. Nokrek, 2009
6. Pachmarhi, 2009
7. Similipal, 2009
8. Achanakmar-Amarkantak, 2012
9. Great Nicobar, 2013
10. Agasthyamala, 2016
11. Khangchendzonga, 2018
12. Panna National Park in Madhya Pradesh has been declared a UNESCO Biosphere Reserve in 2020



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15) Which of the following reasons can be attributed to the rare presence of very small animals in Polar Regions?

- a. Scarce biodiversity to support them
- b. Difficulty in regulating body temperature
- c. Presence of too many predators and the slower reproductive rate will not ensure the continuation of the species
- d. Absence of food and prey species

Answer : b

- Heat loss or heat gain is a function of surface area. Since small animals have a larger surface area relative to their volume, they tend to lose body heat very fast when it is cold outside; then they have to expend much energy to generate body heat through metabolism.
- This is the main reason why very small animals are rarely found in polar regions.

16) Consider the following statements regarding Dugong

1. It is a herbivores mammal that is adapted to live both in marine and freshwater ecosystem.
2. It solely depends on seagrass for its diet.
3. Mining and trawling are a threat to their habitat.
4. There is no threat of hunting as it does not have significant commercial importance.

Which of the statements given above is/are correct?

- a. 1, 3 and 4 only
- b. 2, 3 and 4 only
- c. 1 and 3 only
- d. 2 and 3 only

Answer : d

- Dugongs are cousins of manatees and share a similar plump appearance, but have a dolphin fluke-like tail. And unlike manatees, which use freshwater areas, the dugong is strictly a marine mammal.
- Commonly known as "sea cows," dugongs graze peacefully on sea grasses in shallow coastal waters of the Indian and western Pacific Oceans.
- Dugongs are threatened by sea grass habitat loss or degradation because of coastal development or industrial activities . If there is not enough sea grass to eat then the dugong does not breed normally. Mining and trawling are also threat to its habitat.
- This makes the conservation of their shallow water marine habitat very important.
- Human activities that may threaten dugong populations directly or indirectly include destruction or modification of habitat, coastal development, pollution, fishing activities, vessel strikes, unsustainable hunting or poaching, uncontrolled mariculture and tourism.
- The dugong was a prized source of oil, hide, and meat, and charcoal from their bones was used in sugar refining.

17) Consider the following statements

1. Gangetic Dolphin is marine water dolphins and reside in the Deep waters.
2. Apart from ultrasonic waves, the Gangetic dolphins also use their sharp eyesight to track their prey.
3. Due to the increase in violent cases against Gangetic river dolphins in India during the last year, IUCN has upgraded its conservation status to Critically Endangered.

Which of the statements given above are **not correct**?

- a. 1 and 2 only
- b. 1 and 3 only
- c. 2 and 3 only
- d. 1, 2 and 3

Answer : d

- The South Asian river dolphin (*Platanistagangetica*) is an endangered freshwater or river dolphin found in the shallow water regions of the Indian Subcontinent.
- Unlike other river dolphins which have developed visual traits convergently, the Gangetic dolphin doesn't rely much on eyesight due to the presence of muddy water in its habitat and as a result has tiny, non-functional eyes that lack lenses.
- It predominantly depends on echolocation for identifying surroundings.
- Increased violent cases against this dolphin have made IUCN upgrade its status to the endangered category.

18) The conservation site is sandwiched between two wildlife sanctuary, one on the east and other to the west. It is also the nesting habitat of three hornbill species, which are called the farmers of the forest.

Recently, there has been rapid deforestation in the region as per satellite image.”
Identify the conservation site from the above description

- a. Shivalik forest
- b. Papum reserve forest
- c. Bandhavgarh reserve forest
- d. Amrabad Tiger Reserve

Answer : b

- Papum Reserve Forest is an Important Bird and Biodiversity Areas in Arunachal Pradesh.
- Papum RF is a nesting habitat of three species of the large, colourful fruit-eating hornbills: Great, Wreathed and Oriental Pied.
- It is located between two IBAs, Itanagar Wildlife Sanctuary to the east and Pakke Wildlife Sanctuary to the West.
- A study based on satellite data has flagged a high rate of deforestation in a major hornbill habitat in Papum RF of Arunachal Pradesh.

19) Consider the following protected areas.

1. Great Himalayan National Park
2. Hemis National Park
3. Nanda Devi National Park
4. Gangotri National Park

Which one of the following wildlife species is commonly found in all of the given above protected areas?

- a. Flying squirrel
- b. Pygmy Hog
- c. Snow Leopard
- d. Red Panda



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Answer : c

- The snow leopard is an endangered species found in the following national parks of India -

1. Hemis national park
2. Dachigam national park
3. Gangotri national park
4. Great Himalayan and pin national parks
5. Valley of flower national park
6. Nanda Devi national park
7. Govindpashuvihar national park
8. Khangchendzonga national park
9. Namdapha national park

20) The 'Wanted Alive' series of TRAFFIC aims at saving which of the following group of animals from poaching?

- a. Tiger, Leopard, Snow Leopard, Clouded Leopard
- b. Tiger, Snow Leopard, Himalayan Black Bear, Pangolin
- c. One-horned Rhino, Asian Elephant, the Royal Bengal Tiger, Indian Bison
- d. Pangolin, Clouded Leopard, Snow Leopard, Asian Elephant

Answer : a

- The 'Wanted Alive' series of TRAFFIC of 2012 is a public service advertisement campaign that features the four Asian big cats - Tiger, Leopard, Snow Leopard and Clouded Leopard, all of

them threatened by illegal trade in their body parts.

- Strong messaging carried by the campaign ask readers to do their part to ensure the four species continue to live in the wild.
- This advertisement campaign reminds people that these felines are "Wanted Alive" in their natural habitat.



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