

**MUHAMMAD IMRAN****ZOO504 - Wildlife****Solved Questions FINAL TERM (PAST PAPERS)****1. Two names of dams**

- Mangla dam
- terbel dam

**2. game reserve****Definition:**

*“A game reserve is an area wherein controlled hunting and shooting is permitted on permit basis”*

A game reserve (wildlife preserve) is a large area of land where wild animals live safely or are hunted in a controlled way for sport.

- In the game reserves the major focus is specifically the animals.
- If hunting is prohibited, a game reserve may be considered a "Nature Reserve"
- Wherein all aspects of naturally-occurring life in the area are considered.
- Most of the areas in game reserves have created to provide habitat protection for animal species commonly referred to as game (huntable species for sport or meat)

**2. 4 national park**

- Kirthar National Park
- Hingol national park
- Lal Suhanra National Park
- Hazarganji Chiltan National Park
- Ayubia National Park
- Khunjerab National Park

**3. what is wildlife**

“Wildlife” refers to neither cultivated or domesticated nor tamed organisms. Or Organisms that grow or live wild in an area without being intervened by humans.

Wild life is natural renewable resource with a great importance throughout world.

**It comprises innumerable varieties of living organism in their natural habitats.**

- Wild Plants
- Wild Animals
- Fungi
- Microorganisms

**Wildlife can be found in all ecosystems.**

- Deserts
- Forests
- Rain forests
- Plains
- Grasslands

**4. National Parks**

Pakistan has 29 Protected Areas known as National Parks.

**5. Game reserves in Pakistan**

There are 96 Game reserves in Pakistan

IUCN recognized 66 Game/Hunting reserves in Pakistan.

## 6. Why animal trapped

- United Nations Development Programme (UNDP) to rescue dolphins trapped in irrigation canals and return them to the Indus mainstream has had some success in reducing mortality

## 7. Not on Indus Dolphin 3

### Description

- It has a long beak which thickens towards the tip, large teeth • Body is stocky with rounded belly • Flippers are large and paddle shaped • Forehead is steep • Poorly seeing eye
- Eye hasn't developed a lens, the dolphin still uses its eyes to differentiate between light and dark • Tail flukes are broad in relation to body size • Grey brown in colour, sometimes with a pinkish belly • Males smaller than females • Length 1.5 and 2.5m.

### Habit & Habitat

- These dolphins favour silt laden, turbid waters of the Indus river system, • At temperature 8C° and 33C° • Deepest river channel • Deep, low-velocity water • Less common in secondary channels and small braids

### Distribution Native

- India • Bangladesh • Nepal • Pakistan

### Threats

- Human development • The construction of dams and dikes segments the populations reducing the mature individuals to mate • It also reduces their habitat because they cannot move freely through these structures.

## 8. Types of Marten

- Two species common to Pakistan are • Stone marten (*Martes foina*) • Yellow throated marten (*Martes flavigula*) • The stone marten has a dense fur coat of rich liver chestnut hue

## 9. Short note on Brown Bear

*Ursus arctos* Grizzly Bear

### Description:

- Large animals • Dark in colour • Long guard hair over the shoulder • Characterized by adistinctive humps on shoulders • Long claws on the front paws
- Sexual maturity: 4.5 to 7 years of age. • Litter size ranges from one to four but two are common. • Cubs remain with their mothers for at least two and half years. • Female breed every three years.

### Feeding habit:

- Chiefly vegetarian • Feed mostly on fruits, honey and ants. • Occasionally kill sheep and goat.

### Threats

- Brown Bears are attracted to areas with available human-related foods • Being large and somewhat aggressive, these bears may threaten life and property (often agricultural products) and may be killed as a consequence

### Conservation actins

- Conservation actions vary greatly among nations and regions within nations.
- Large populations of this species are legally hunted, and thus managed as a game animal.

## 10. IUCN definition of National park

Large natural or near natural areas set aside to protect large-scale ecological processes, which also provide a foundation for environmentally scientific, educational, recreational and visitor opportunities.

## 11. Capra Description

- Body length 52 inches, 4.4 feet
- Have strong limbs terminating in broad hooves.
- Female and young male
- Yellow brown to reddish grey
- Male are beautiful with long horn
- White hair in old age
- Male have short beard
- Female black beards • Gestation period: • 150-155 days, 5 months • Twins are common
- Sexual maturity • About 3 years • Gregarious from large herds. • Older male generally keep together
- Wild goat wonderful has sense of balance and can make standing leap upwards. • Food • The leaves and bushes small shrubs and herbs.
- Within herds and groups animals are not unduly dominated by individuals

## 12. How many Wildlife Sanctuaries in Pakistan? 2

In Pakistan presently there are 99 Wildlife Sanctuaries.

## 13. Name the Largest National Park of Pakistan 2

Hingol National Park is the largest in Pakistan

## 14. Scientific name of wild goat 2

Capra aegagrus

## 15. Hingol National park location

It is located along the Makran coast in southwestern, Balochistan-Pakistan.

## 16. Why hunting of Markhor performed

Markhor hunting for trophy

## 17. Location of Cholistan Wildlife Sanctuary 2

- Cholistan desert • In the South Eastern portion of Punjab

## 18. Location of Margalla hills National park 2

North of the Islamabad City, Capital of Pakistan.

## 19. How many Categories of endangered species?

Avoid products made from endangered species Overseas trips can be exciting and fun, and everyone wants a souvenir. But sometimes the souvenirs are made from species nearing extinction. Avoid supporting the market in illegal wildlife trade including Tortoise-shell, Ivory, Coral, Snakes, Turtles and lizards, live monkeys or apes. Be careful of products including Fur from tigers, polar bears, Crocodile skin, Medicinal products made from rhinos, tiger or Asiatic black bear, most like birds including Parrots, Macaws, Finches.

## 20. Most traded wild animal ? 2

Indian Pangolins are considered to be the most traded wild animal in the world.

- Leopard cat skins are commercially traded internationally for the fur trade,

## 21. Feeding habitat of Barking deer?

Diet includes grasses, low growing leaves, tender shoots and fruits.

## 22. Record maintain in zoo...2 marks

- ✓ No zoo shall acquire any animal in violation of Wildlife Act.
- ✓ No zoo shall exhibit any animal that is seriously sick or injured.
- ✓ No zoo shall use any animal, other than the elephant in plains and yak in hilly areas for riding purposes.
- ✓ Each zoo shall be closed to visitors at least once a week.
- ✓ Each zoo shall have a wall at least two meters high from the ground level.

## 23. Scientific name of domestic goat?

Capra aegagrus hircus

## 24. Name of major threats to snow leopard?

Major threats to snow leopards

- ✓ Poaching
- ✓ Conflict with communities
- ☐ Shrinking home:
- ✓ Changing climate
- ✓ Lack of effective law enforcement.

## 25. 3 zoo rules?

Zoo is a facility in which animals are

- Housed within enclosures
- Displayed to the public
- They may also breed
- "Today, the zoo is on the list of inevitable field trips and vacation destinations."

## 26. Habitat of hog deer .3 marks

Shrub dominated wetlands. Artificial terrestrial plantations like ChangaManga ,Riverine area, It prefers to live in grassy patches bordering forests.

## 27. Characteristics of male torpogan.5

**Facts:**

Tragos= goat

Pan=Greek god

Tragopans are commonly called "horned pheasants" Having two brightly colored, fleshy horns on their heads. They can erect during courtship displays. There are five recognized species of tragopans.

- Western tragopan (Tragopan melanocephalus)
- Satyr tragopan(Tragopan satyra)
- Temminck's(tragopan Tragopantem minckii)
- Blyth's tragopan(Tragopan blythii)
- Cabot's tragopan(Tragopan caboti)

### 1. Tragopanmelanocephalus

Syn: Western Tragopan, Black-headed Tragopan, Western Horned-pheasant

**Description:**

Medium sized pheasant. Sexes are highly dimorph. Male grey upper parts and reddish facial skin Numerous white spots. Each spot bordered with black and deep crimson patches on the sides and back of the neck. The throat is bare with blue skin while the bare facial skin is red. They have a small black occipital crest.

- Weighs 1.8–2.2 kg (4.0–4.9 lb)
- Length from 55–60 cm (22–24 in)

Females have pale brownish-grey upper parts finely vermiculated. Spotted with black, and most of the feathers have black patches and central white streaks.

- Weigh 1.25–1.4 kg (2.8–3.1 lb).
- Length 48–50 cm (19–20 in).
- Monogamous

**Feeding Habit**

The diet primarily consists of leaves of trees and shrubs. Also includes roots, flowers, acorns, seeds, berries, grubs and insects. Tragopans are shy and wary birds quick to hide amongst the dense vegetation they inhabit if disturbed.

**Distribution**

Native: India, Pakistan

Found in western Himalayas, between 8000-12000 from hazara eastward to Garhwali- Ladakh

**IUCN Status:** Vulnerable

**Distribution in Pakistan**

- Largely restricted to area between Jhelum and Kunhar rivers of Hazara district
- Forest of Kaghan valley, in Machiara National park (A.K)
- Pales valley in Cholistan district

**Threats**

Hunting and trapping for

- Its meat (especially in winter)
- Its decorative plumage

**Conservation****28. What is ZOO boom?**

- In the 1950s, there was a 'Zoo Boom' • At that time entrepreneurs recognized the potential money to be made from exhibiting wild animals to satisfy public curiosity • Until the 20th century, there was little or no concern for the welfare of zoo animals • It was not until the late 1970s and early 1980s that the appearance of zoos began to change to reflect the public opinion • People were then educated about the true conditions endured by zoo animals

**29. Scientific name of domestic goat?**

Capra falconeri

**30. Explain Urial and its sub types?**

Urial is a wild sheep with long legs and relatively small horns, native to central Asia. Urial is represented by three sub species in Pakistan.

- ☐ Ovis ammon (Marco Polo sheep) ☐ Ovis orientalis (Urial)

**31. Indian Pangolin Native Countries?**

India, Nepal, Pakistan

**32. Extinct animals names 2 present in Pakistan?**

The primary **threat** to **pangolins** in Asia is poaching and illegal hunting for illicit international trade, predominantly for **pangolin** meat, which is considered a delicacy in China and Vietnam, and for **pangolin** scales, which are used as an ingredient in traditional Asian medicine.

### 33. National Park?

Large natural or near natural areas set aside to protect large-scale ecological processes, which also provide a foundation for environmentally scientific, educational, recreational and visitor opportunities. Primary objective To protect natural biodiversity along with its underlying ecological structure. Other objectives • To manage the area in order to perpetuate, in as natural a state as possible. To maintain viable and ecologically functional populations. • To contribute to local economies through tourism. • To manage visitor use for inspirational, educational recreational purposes.

Distinguishing features • The area should contain representative examples of major natural regions, and biological and environmental features or scenery. • It should be of sufficient size to maintain ecological processes. • The composition, structure and function of biodiversity should be to a great degree in a “natural” state.

### 34. Macro polo Sheep?

**Scientific Name:** Ovisammonpolii

**National Status:** Critically Endangered

**IUCN Red list Threat Status:** Near threatened Marco polo sheep is one of the nine Argali subspecies. The name ‘Argali’ is the Mongolian word for wild sheep. It is the largest species of wild sheep.

The general coloration varies between each animal. Light yellow to a reddish-brown to a dark greybrown..Argali from the Himalayas are usually relatively dark. Russian ranges argali are often relatively pale. The legs and belly are creamy white without any darker pattern on the frontal area.

### 35. Feeding habit of Indian bustard?

The great **Indian bustard** is omnivorous **feeding** on seeds, crops, berries and cereals. They also **feed** on large insects, rodents, small birds and reptiles.

### 36. Administration rule of Large ZOO?

General guidelines that zoo administration must follow for its maintenance • No zoo shall acquire any animal in violation of Wildlife Act. No zoo shall exhibit any animal that is seriously sick or injured. • No zoo shall use any animal, other than the elephant in plains and yak in hilly areas for riding purposes. • Each zoo shall be closed to visitors at least once a week. • Each zoo shall have a wall at least two meters high from the ground level. • No zoo shall have any residential complexes for the staff within the main campus for the zoo. Such complexes, if any shall be separated from the main campus of the zoo by boundary wall with a minimum height of two meters from the ground level • No zoo shall keep any animal chained or tethered unless doing so is essential for its own well being. The zoo operators shall provide a clean and healthy environment in the zoo by planting trees, creating green belts and providing lawn and flowers bed etc. • The built up area in any zoo shall not exceed twenty five percent of the total area of the zoo. • The built up area includes administrative buildings, stores, hospitals, restaurants, visitors rest sheds, animal houses and pucca roads.

### 37. Objective of ZOO?

**Zoos** are in a unique position to teach and inspire a diverse audience about wildlife and the role of **zoos**, the dangers facing animals in their natural habitats and to inspire visitors to get involved with conservation.

### 38. Biology and Behavior of Saker Falcon?

This bird is physically adapted to hunting close to the ground in open terrain, combining rapid acceleration with high manoeuvrability. Specialising on mid-sized diurnal terrestrial rodents (especially ground squirrels).

### 39. Marten are found in Pakistan?

Stone martens are found throughout mountain ranges of Baluchistan and Northern areas.

### 40. Breeding in ZOO animals?

Captive **breeding** is the **breeding** of **wild animals** in places such as **zoos**, especially **animals** which have become rare in the **wild**.

### 41. Conservation action of Kingfisher?

Conservation Actions Underway

- Bern Convention Appendix II.



- EU Birds Directive Annex I.
- There are no known current conservation measures for this species within its European range.

**Conservation Actions proposed**

- Preservation of rivers and streams must be mediated through industry, agriculture and water authorities
- Research to investigate the importance of individual threats and mitigation measures against all the factors.

Conservation Actions proposed □ Preservation of rivers and streams must be mediated through industry, agriculture and water authorities □ Research to investigate the importance of individual threats and mitigation measures against all the factors.

**42. Main Threat Panther?****Threats**

- The primary threats to Leopards are anthropogenic.
- Habitat fragmentation
- Reduced prey base
- Conflict with livestock
- Game farming have reduced Leopard populations throughout most of their range
- Leopards are targeted for
- Trophy hunting
- Illegal wildlife trade for their
- Skins (used in traditional ceremonies)
- Bones and other parts (used for medicinal purposes in eastern cultures).
- In Indo-Malaya and China, a recent reports estimate very high levels of Leopard removal at four individuals per week for 10 years

**43. Write the short notes on Indian vulture?**

The Indian vulture (*Gyps indicus*) is an Old World vulture native to India, Pakistan and Nepal. It has been listed as Critically Endangered on the IUCN Red List since 2002, as the population severely declined. ... It breeds mainly on hilly crags in central and peninsular India.

**44. Mention the number of animal's exhibits large zoo and mini zoo?**

Number of the Animals exhibited

- Large Zoo (More than 750)
- Medium Zoo (500-750)
- Small Zoo (200-499)
- Mini Zoo (200)

**45. How many species of Martens?****Two species common to Pakistan are**

- Stone marten (*Martes foina*)

The stone marten has a dense fur coat of rich liver chestnut hue

**Distribution**

Stone martens are found throughout mountain ranges of Baluchistan and Northern areas.

- Yellow throated marten (*Martes flavigula*)

The yellow throated marten is considerably larger in size than the stone marten. The whole of its chest, throat and lower jaw are yellowish in color. General body color is silvery, tail is longer; rhinarium is naked and black.

**Distribution**

Yellow throated marten is found in Chitral, Azad Kashmir and Margala hills

**46. What is animal enclosure?**

Essential features regarding animal enclosures are:

- All animal enclosures in zoo shall be so designed as to fully ensure the safety of

i. Animals

ii. Caretakers

iii. Visitors

Essential features regarding animal enclosures are: • All animal enclosures in zoo shall be so designed as to fully ensure the safety of • Animals • Caretakers • Visitors, • Stand of barriers and adequate warning signs shall be provided for keeping the visitors at a safe distance from animals.

- All animal enclosures in a zoo shall be so designed as to meet the full biological requirements of the animals housed therein. • The enclosures shall be of such size as to ensure that the animals get space for their free movement and exercise.
- Within herds and groups animals are not unduly dominated by individuals

#### 47. Scientific name of black buck? 2 marks

Antelope Cervicapra.

#### 48. Aims of PAWS?

**Pakistan Animal Welfare Society (PAWS)**

Aims to create an equitable relationship between humans and animals in Pakistan.

#### 49. How can we educate people about wildlife protection?

Most people of any country are ignorant about the utility of wildlife. Hence, for the conservation of wildlife there is a great need of educating people.

To achieve this goal following methods can be adapted.

- Celebration of wild life week every year.
- Publicity through media and film shows.
- Holding conducted tours, essay competitions, lectures, seminars, etc.
- Setting up nature clubs in educational institutions.
- Publication of wildlife books and journals.
- Establishment of natural history museums etc.

At the formal level, schools, colleges and universities should include in the curriculum, the study of ecology, wildlife and conservation. • The creation of awareness and right attitude towards wildlife and their conservation.

Active involvement of Mass media such as newspapers and magazines, radio and television.

• Awareness among public about National parks and sanctuaries, zoological parks and natural history museums.

Cinematography on wildlife and the necessity for conservation should be screened even to the remotest villages and to all classes of students, so that they develop love and affection towards wildlife.

#### 50. How herbicides and pesticides can effect endangered species?

Certain herbicides and pesticides are horrible pollutants that causing severe damage to the environment and animals dependent upon. To provide natural food to animal if spray are done to kill pest or weed herbs it may cause problems to endangered species as they may die.

- Find alternative ways to reduce negative effect on the wildlife in the area.
- These are hazardous pollutants that affect wildlife at many levels.
  - Many herbicides and pesticides take a long time to degrade and build up in the soils or throughout the food chain.
- Predators such as hawks, owls and coyotes can be harmed if they eat poisoned animals.
- Some amphibians are particularly vulnerable to these chemical pollutants



### 51. short note on leopard cat?

- **Scientific Name:** Prionailurus bengalensis
- **IUCN Red list Threat Status:** Least concern
- **Description**

The leopard cat looks like a miniature, long-legged and more slender version of a leopard. Body markings are like leopard; head with stripes. Its fur varies highly in colour and markings according to the region. Generally spotted body fur coat

### 52. How pollution effect wetlands

Wetland degradation is a big and growing problem occurring due to pollution inputs.

**The primary pollutants causing wetland degradation are**

- Sediments
- Fertilizers
- Human sewage
- Animal waste
- Road salts
- Pesticides
- Heavy metals

### 53. 2 Wild sanctuaries of KPK? 2 marks

Khyber Pakhtun Khwa(KPK)

Manglo

Argam Basti

### 54. Define wetlands. 2marks

**Wetlands** are areas where water is the primary factor controlling the environment and the associated plant and animal life.

They occur where the water table is at or near the surface of the land, or where the land is covered by shallow water.

### 55. Trading of animals? 2 marks

Trading of wildlife and its products .e.g. Bush meat, Ivory, hide, trophy, fur etc.

### 56. Invasive species? 2 marks

An invasive or alien species is established outside of its natural past or present distribution, whose introduction and/or spread threaten biological diversity.

An **invasive species** is a species that is not native to a specific location (an [introduced species](#)), and that has a tendency to spread to a degree believed to cause damage to the environment, human economy or human health.

### 57. Habitat of chukor? 2 marks

**Habitat**

Lives on barren rocky slopes with sparsely stunted grass and bushes. In winters, it comes down to an elevation of 1200-1500 m. Re ascends in summer to 2500 m.

### 58. Define Territory 2.marks

It is basically the home of the wild animals, it's the particular area in which animals itself defined by other animals or may within the same species to fight to protect that particular area that is called Territory.

### 59. How birds and insects help to maintain ecosystem?

Insects and birds add to the economic gains through pollination of plants.

Maintaining the 'balance of Nature'. e.g. Carnivore-herbivore balance.

### 60. Mintaka means? 2 marks

**Mintaka means :** *"Thousand goats."*

### 61. Onus proof? 2 marks

#### **Onus of Proof**

- When in any proceedings taken under this Act.
- When in any proceedings taken under this Act.

Wild animal, trophy or meat shall be presumed to be the property of until the contrary is proved.

### 62. Name largest national park of Pakistan?

Hingol National Park was established in 1988. It is now named as Dharune-Hingol National Park, formed by the mergence of two Parks.

### 63. Scientific name of Wild Goat and Domestic Goat?

BLACK BUCK ..... Antilope cervicapra

WILD GOAT.....Capra aegagrus.

### 64. Two dams of pakistan?

- Tarbela Dam
- Mangla Dam
- Hub dum

### 65. Define Wildlife?

**"Wildlife"** refers to neither cultivated or domesticated nor tamed organisms.Or Organisms that grow or live wild in an area without being intervened by humans.

Wild life is natural renewable resource with a great importance throughout world.

### 66. Experimental Wild Animals?

**Wild animals as Experimental Animals** - Monkeys, Rabbits, Guinea-pigs, Rats etc.

### 67. Threat to Indian Vultures?

#### **Threats**

These vultures were being found dead and dying in Pakistan and throughout India. The anti-inflammatory drug diclofenac has been identified as the cause of mortality. Vultures are exposed to diclofenac and other NSAIDs through scavenging on the carcasses of largely cattle and buffalo that have been treated with the drugs prior to death and left for scavengers to consume. Hence likely contributory factors are

- Poisoning
- Pesticide use
- Conversion and disturbance of forested habitats within its range.

### 68. Game reserve in Pakistan?

There are 99 Game reserves in Pakistan . IUCN recognized 66 Game/Hunting reserves in Pakistan.

### 69. Urial and Subspecies description? 3

#### **Distribution:**

Found in Chitral& Northern areas. On mountains upto 3000 meters elevation

## 70. Indian Spotted Eagle description?

### Description

A medium-sized eagle about 60 cm in length and has a wingspan of 150 cm with a short tail. Adults are essentially brown. The legs appear longer and thinner due to the tarsii being less thickly feathered. This species has a lighter coloration overall compared to its relatives with a darker iris that makes the eyes appear darker than the plumage. The young birds are giving a spotted appearance glossy brown. Tips of the head and neck feathers being creamy. The upper tail coverts are light brown with white giving a barred appearance. The median coverts have large creamy spots. After about eighteen months the bird moults and becomes a darker shade and has less spots.

## 71. Capra description? 3

### Description:

Body length 52 inches, 4.4 feet have strong limbs terminating in broad hooves. Female and young male yellow brown to reddish grey. Male are beautiful with long horn, white hair in old age. Male have short beard, Female black beards.

## 72. Threats to Sand Dune Cat?

### Threats

Habitat degradation and loss are considered to be the major threats to the Sand Cat. Many areas are also more heavily frequented by humans, their domestic animals and commensals (i.e. red fox, *Vulpes vulpes*).

- Arid ecosystems are being rapidly converted.
- Infrastructural development
- Human settlement and activity
- Degradation occurs through livestock grazing
- They are also killed in retaliation for killing chickens or Houbara and MacQueen's bustard

## 73. Note on capra hircus?

### o *Capra hircus*

Females are beardless but carry backward curving horns. Measure up to 15 cm and bear fine annulations towards their base. The younger males and females show a characteristic shape pattern with a dark stripe running from the corner of eye to the muzzle. Mature males are spectacularly beautiful and may have horns over one meter in length. In adults the hair coat is of reddish buff in color. The belly and the outside of lower limbs, beard and fore part of face varies from black to chestnut brown in color. The shoulder height. They are capable of surviving in very arid desert conditions. They inhabit mountain crests up to 3300 m.

- In males is 85 to 95 cm. In females 55 to 60 cm.
- The weight of adult Males up to 120 kg, Females 50 to 55 kg

## 74. Hygiene and feeding zoo rules? 5 marks

Maintenance of hygiene is important in every walk of life.

- Every zoo shall have ensure timely supply of wholesome and unadulterated food.
- The food must be in sufficient quantity to each animal according to the requirement of the individual animal, so that no animal remains undernourished.
- Every zoo shall have provide for a proper waste disposal system for treating both the solid and liquid wastes generated in the zoo.
- All leftover food items and animal excreta shall be removed from each enclosure regularly.
- Waste disposal should be done in a congenial manner to general cleanliness of the zoo.
- The zoo operators shall make available round the clock supply of potable water for drinking purposes in each enclosure.

This would not affecting the hygiene and cleanliness of zoo • The large and medium zoo shall have an incinerator for disposal of the carcasses and other refuse material

## 75. What is location of Astore sanctuary?

### Location:

- Astore District
- Between Nanga Parbat
- Gilgit–Baltistan, Pakistan

## 76. Threats to wild ass. 5 marks

### Threats

- Illegal trade seems to happen primarily on a national level.
- Poaching for meat, hides and fat, is believed to have apparent medicinal properties.
- Overgrazing by livestock reduces food availability, and herders also reduce the availability of water at springs. The cutting down of nutritious shrubs and bushes exacerbates the problem.
- A series of drought years could have devastating effects on this species
- Habitat fragmentation is a particular concern in Mongolia as result of the increasingly dense network of infrastructure

## 77. Location of safari park?

Safari park in Lahore Pakistan.

## 78. Primary objective of national parks?

### Primary objective

To protect natural biodiversity along with its underlying ecological structure.

### Other objectives

- To manage the area in order to perpetuate, in as natural a state as possible.
- To maintain viable and ecologically functional populations.
- To contribute to local economies through tourism.

To manage visitor use for inspirational, educational recreational purposes

## 79. Three rules for zoo? 3 marks

### Zoo Rules

#### Zoo is a facility in which animals are

- Housed within enclosures
- Displayed to the public
- They may also breed
- “Today, the zoo is on the list of inevitable field trips and vacation destinations.”
  - Every zoo shall have one full-time officer incharge of the zoo.
  - The said officer shall be delegated adequate administrative and financial powers as may be necessary for proper upkeep and care of zoo.
  - Stand of barriers and adequate warning signs shall be provided for keeping the visitors at a safe distance from animals.
  - All leftover food items and animal excreta shall be removed from each enclosure regularly.

## 80. Threats to snow leopard? 3 marks

### Major threats to snow leopards

#### ✓ Poaching

Snow leopards have long been killed for their Beautiful fur, Bones, Body parts, Traditional Asian

Medicine. ☐ **Conflict with communities**

Retaliation for attacking herders' livestock. Decline in the leopard's natural prey is forcing them to rely more on livestock for food and increasing the risk of retaliatory killings. Due to hunting, competition from increasing livestock herds, and habitat loss.

- ✓ **Shrinking home:** Snow leopards need vast areas to thrive. Expanding human and livestock populations are rapidly encroaching on their habitat. New roads and mines are also fragmenting their remaining range.
- ✓ **Changing climate**

All the threats will be exacerbated by the impact of climate change on the fragile mountain environment. Hence, putting the future of snow leopards at even greater risk.

- ✓ **Lack of effective law enforcement.**

## 81. Feeding habits of common peafowl?

**Feeding habit** Omnivorous:

- Grain and green crops to insects
- Small reptiles
- Mammals
- Berries
- Termite
- Grasshopper
- Ants and beetles.
- Roots in high fairly open trees in large number.

**Peafowl** have an omnivorous diet, that is, they will eat both other animals and plants. They **feed** from the soil - they don't fly - and that is where they take most of their nutrients. ... Among their favorite foods we can point out fruits, seeds, berries, plants, vegetables, insects, larvae and small reptiles.

## 82. What are conservation strategies for king fisher? 3 marks

### Conservation Actions Underway

- Bern Convention Appendix II.
- EU Birds Directive Annex I.
- There are no known current conservation measures for this species within its European range.

### Conservation Actions proposed

- Preservation of rivers and streams must be mediated through industry, agriculture and water authorities
- Research to investigate the importance of individual threats and mitigation measures against all the factors.

## 83. Note on barking deer?

### Muntjacs

- ✓ Muntiacusmuntja
- ✓ Cervusmoschatus
- ✓ Cervusmuntjak

**IUCN Red list Threat Status:** Least concern

It gives calls similar to barking, usually upon sensing a predator. Hence the common name for all muntjacs of "barking deer"

### Description:

It is a little dainty creature and weighs about 22-25 kg. Coloration varies from deep brown to yellowish with creamy or whitish markings. Only males have antlers. The upper canines of the male are elongated into tusks, which curve strongly outward from the lips. Females also develop small tusks in the upper jaw. Capable of inflicting severe injuries with these tusks, when defending themselves or their fawns. Two bony ridges are present in the front part of the skull.

### Feeding habit:

Diet includes grasses, low growing leaves, tender shoots and fruits.

### Distribution

**Native:** Brunei Darussalam; Indonesia; Malaysia; Thailand

**Regionally extinct:** Singapore

**Pakistan:** Confined to Himalayan foothills. Commonly found in Margala hills, Swat and Azad Kashmir.



### Threats

Generally Muntjac is an important source of bushmeat. Selected body parts and the foetus are also used in traditional medicine. Individuals are usually killed during, or shortly after, their capture. Foothold snares are commonly used as well as spears and firearms. Dogs are often employed.

#### 84. Maintenance of Zoo?

- ✓ No zoo shall acquire any animal in violation of Wildlife Act.
- ✓ No zoo shall exhibit any animal that is seriously sick or injured.
- ✓ No zoo shall use any animal, other than the elephant in plains and yak in hilly areas for riding purposes.
- ✓ Each zoo shall be closed to visitors at least once a week.
- ✓ Each zoo shall have a wall at least two meters high from the ground level.
- ✓ No zoo shall have any residential complexes for the staff within the main campus for the zoo.
- ✓ Such complexes, if any shall be separated from the main campus of the zoo by boundary wall with a minimum height of two meters from the ground level
- ✓ No zoo shall keep any animal chained or tethered unless doing so is essential for its own well being
- ✓ The zoo operators shall provide a clean and healthy environment in the zoo by planting trees, creating green belts and providing lawn and flowers bed etc.
- ✓ The built up area in any zoo shall not exceed twenty five percent of the total area of the zoo.
- ✓ The built up area includes administrative buildings, stores, hospitals, restaurants, visitors rest sheds, animal houses and pucca roads.

#### 85. Name national Park?

- o Ayub National Park
- o Chinji National Park
- o Hingol National Park

#### 86. Rules of Administrator of large zoo. 2 marks

##### Large zoo

At least one full time curator having the sole responsibility of looking after the upkeep of animals and maintenance of the animal enclosures. At least two full-time veterinarians.

#### 87. Note on rabies ? 2 marks

**Rabies** (Hydrophobia) : Bite Wound Disease

**Host:** Any mammal, usually carnivores; highest incidence is in skunks, foxes, bats, and raccoons.

**Transmission:** Bite wounds, infected saliva in cuts or skin abrasions, aerosol in bat caves.

#### 88. Characteristics of the male tragopan? 5 marks

Medium sized pheasant. Sexes are highly dimorph. Male grey upper parts and reddish facial skin Numerous white spots. Each spot bordered with black and deep crimson patches on the sides and back of the neck. The throat is bare with blue skin while the bare facial skin is red. They have a small black occipital crest.

- Weighs 1.8–2.2 kg (4.0–4.9 lb)
- Length from 55–60 cm (22–24 in)

#### 89. Threats Indian Pangolin. 5 marks

**English Name:** Scaly Ant eater

**Scientific Name:** Manis crassicaudata

**National status:** Vulnerable

**IUCN Red list Threat Status:** Endangered

Pangolins are considered to be the most traded wild animal in the world

**Description**

The Indian Pangolin has Relatively tiny head, Hump-backed body. Thick tapering tail almost equal in length to its body. They are completely covered with scales. Made of keratin which is getting harden as the creatures get older. The scales bear fine longitudinal striation on their surface. There is hardly any external ear. The muzzle tapers to a narrow, down-curving snout. The hind legs are stout and rather columnar with five blunt pinkish white toe nails.

**Habitat and Ecology**

It occurs in various types of tropical forests as well as open land, grasslands. Degraded habitat, including in close proximity to villages. The species is thought to adapt well to modified habitats. Provided its ant and termite prey remains abundant. The animal is Solitary, Nocturnal, Burrow-dwelling. During mating season, adult males and females share the same burrow. Females usually give birth to one young. Gestation period of 165 days. Longevity in the wild is unknown. In captivity it has been recorded up to 13 years 2 months. This species is arboreal in some habitats, and is a good climber, using its prehensile tail and claws to climb trees

**Distribution****Native:**

India, Nepal, Pakistan

Mangla, Potohar and Salt Range across Indus south to near Karachi and northward in the mountainous areas upto Kallat

- Sri Lanka
- Possibly extinct:
- Bangladesh

**Threats**

Primarily threatened by Hunting, Poaching (for meat and scales), Illegal international trade. Up to 100,000 pangolins are estimated to be hunted and sold every year its meat is consumed as a source of protein locally. The meat is considered a delicacy in China, Vietnam and other parts of south-east Asia. Scales are used in whole or powdered form in the preparation of traditional medicines. An increase in the Agrarian economy Improved irrigation. The use of pesticides comprise additional threats to this species. Occasionally killed out of fear for having an odd shape

**90. Species conserved by SGP?****Small Grants Programme (SGP)**

- “Small support for long term impact”.

SGP of WWF-Pakistan has been supporting grass root level organizations and researchers to strengthen efforts to conserve threatened and endangered species and ecosystem. Under the programme more than 450 projects have been successfully completed.

**SGP has supported innovative conservation initiatives for priority species and ecosystem.**

- Marine turtles
- Snow leopard
- Indus River dolphin
- Sharks
- Mangroves forests
- Indus river delta
- Coniferous forests.

Collaborative research programs should be initiated with neighboring countries with common ecosystem.

**91. Chashma and taunsa barrage river dolphin?**

Chashma and Taunsa Barrage Dolphin Sanctuary was declared open to the public in 1972

**Location:**

- Mianwali District, Punjab-Pakistan

**Features:**

For a wide variety of waterfowls including threatened species, an important site for

- Breeding □ Staging
- Wintering
- Mid-winter waterfowl counts in recent years have regularly exceeded 20,000 birds
- Anatidae (ducks, geese, swans)
- The endangered Indus Dolphin occurs in the river both upstream and downstream of the barrage

**Issues for consideration:**

- Taunsa Barrage Wildlife Sanctuary is currently confronted with multiple issues
- Limited cultivation is practiced inside the sanctuary area
- Clearing off the natural vegetation
- Alteration of the natural ecosystem
- Degrading wildlife habitat
- Invasion of alien species
- Hence, adverse environmental impacts.

**Management Plan:**

WWF-Pakistan has developed a sustainable management plan. Indus river dolphin conservation project.

## 92. Urial and it's sub species? 5 marks

**Urial& Sub Species****Prominent species in Pakistan**

- Ovis ammon (Marco Polo sheep)
- Ovis orientalis (Urial)

**Ovis orientalis**

Urial is a wild sheep with long legs and relatively small horns, native to central Asia. Urial is represented by three sub species in Pakistan.

**Ovis orientalis vignei Ladakh Urial or Shapu**

Fur tends to be more greyish in winter and less red. The chest ruff is comparatively short with black hairs predominating. The horns turn markedly inwards at their tips

**Distribution:**

Found in Chitral & Northern areas. On mountains upto 3000 meters elevation

**Status:** Endangered

**Ovis orientalis blandfordi**

Afghan or Baluchistan Urial. Luxuriantly developed neck ruff. The body fur is reddish. The rams have horns which often develop more than a complete arc. Tips of horn bending slightly outwards

**Distribution:**

Found in Sindh, Baluchistan and Southern hilly regions of KPK.

**Status:** Endangered

**Ovis orientalis punjabiensis**

Locally called as Punjabi Dunba. Tend to be smaller and stouter in build compared with the Afghan sub-species. Mature rams develop a conspicuous saddle mark in the form of a vertical band of mixed black and white hairs. Horns are more massive at their base than the Afghan population. Horns never curve round in more than a complete arc.

**Distribution:**

Occurs in between the Indus and Jhelum rivers at elevations of 250 -1,500 m

- Salt range
- Kala Chitta
- Jhelum hills.

**Status:** Endangered

**Threat:**

The status of Punjabi urial is susceptible to physical and emotional injury.

**Reasons for Decline in numbers**

- Poaching
- The capture of newborn lambs that are kept as pets
- Fragmentation of home ranges
- Competition with domestic livestock

Habitat disturbance and destruction associated with increasing agriculture, forestry and mining. The construction of the M-2 Motorway between Islamabad and Lahore created a substantial barrier to seasonal migrations and to dispersal.

**93. Wetland types**

**Types of Wetlands:** Five major wetland types are generally recognized.

- Marine
- Estuarine
- Lacustrine
- Riverine
- Palustrine

**Marine:** Coastal wetlands including coastal lagoons, rocky shores, and coral reefs.

**Estuarine:** Including deltas, tidal marshes, and mangrove swamps.

**Lacustrine:** Wetlands associated with lakes.

**Riverine:** Wetlands along rivers and streams.

**Palustrine:** Wetlands that lacks flowing water, "marshy"; marshes, swamps and bogs

**94. Note on *Capreolus capreolus* 5 marks****Facts:**

Tragos= goat

Pan=Greek god

Tragopans are commonly called "horned pheasants" Having two brightly colored, fleshy horns on their heads. They can erect during courtship displays. There are five recognized species of tragopans.

- Western tragopan (*Capreolus capreolus*)
- Satyr tragopan (*Capreolus satyra*)

- Temminck's(tragopan Tragopantemminckii)
- Blyth's tragopan(Tragopanblythii)
- Cabot's tragopan(Tragopancaboti)

### 1. Tragopan melanocephalus

Syn: Western Tragopan, Black-headed Tragopan, Western Horned-pheasant

#### Description:

Medium sized pheasant. Sexes are highly dimorph. Male grey upper parts and reddish facial skin Numerous white spots. Each spot bordered with black and deep crimson patches on the sides and back of the neck. The throat is bare with blue skin while the bare facial skin is red. They have a small black occipital crest.

- Weighs 1.8–2.2 kg (4.0–4.9 lb)
- Length from 55–60 cm (22–24 in)

Females have pale brownish-grey upper parts finely vermiculated. Spotted with black, and most of the feathers have black patches and central white streaks.

- Weigh 1.25–1.4 kg (2.8–3.1 lb).
- Length 48–50 cm (19–20 in).
- Monogamous

#### Feeding Habit

The diet primarily consists of leaves of trees and shrubs. Also includes roots, flowers, acorns, seeds, berries, grubs and insects. Tragopans are shy and wary birds quick to hide amongst the dense vegetation they inhabit if disturbed. **Distribution**

Native: India, Pakistan

Found in western Himalayas, between 8000-12000 from hazara eastward to Garhwali- ladakh

**IUCN Status:** Vulnerable

#### Distribution in Pakistan

- Largely restricted to area between Jhelum and Kunhar rivers of Hazara district
- Forest of Kaghan valley, in Machiara National park (A.K) □ Pales valley in Cholistan district

#### Threats

Hunting and trapping for

- Its meat (especially in winter)
- Its decorative plumage

#### Conservation

CITES Appendix I

## 95. Aesthetic Important of Wildlife?

It is the pleasure to enjoy the beauty of wildlife

- People enjoy seeing plants and animals in their natural habitats for recreation.
- They are a source of joy, wonder, and pleasure for many people.
- Wildlife tourism (ecotourism).
- Bird watching, is now a growing part of wildlife tourism.
- Animals photographed for recreational purposes also have aesthetic value.
- Exotic game ranches
- Viewing non-native species in a “near-native” habitat.
- Visiting Safari parks/zoo as recreational activity
- Visiting hilly areas for recreational purpose

**96. Note on ramsars of Sindh**

1. Keenjhar (Kalri) Lake
2. Haleji Lake
3. Drigh Lake
4. Indus Dolphin reserve
5. Jubho lagoon
6. Nurri Lagoon

**97. Leopard Cat description. 10 marks**

**Scientific Name:** *Prionailurus bengalensis*

**IUCN Red list Threat Status:** Least concern

**Description**

The leopard cat looks like a miniature, long-legged and more slender version of a leopard. Body markings are like leopard; head with stripes.

Its fur varies highly in colour and markings according to the region. Generally spotted body fur coat

- **In the tropics** Fur is yellowish-brown with white underparts
- **In the northern** part of the species' range Greyish brown thick fur and are also larger and heavier than the ones in the south.

The size and shape of the black markings covering the body and limbs are also highly variable. The spots sometimes form lines along the neck and back. The irises are deep, golden brown to grey. Males are larger than females

- Body length 54-60 cm
- Weight 3-4 kg.
- Longevity: up to 13 years
- Litter size: 2-3 cubs

**Habitat and Ecology**

Leopard Cats can occur in a wide variety of habitats. Tropical rainforest, Temperate coniferous forest, Shrub forest and successional grasslands. The northern boundary of its range is limited by snow cover. Leopard Cat does not occur in deep snow. It is not found in the cold steppe grasslands, and generally does not occur in arid, treeless areas. The Leopard Cat is predominantly nocturnal and crepuscular. Some diurnal activity has been recorded.

**Distribution**

The leopard cat occurs throughout most of India, West into Pakistan and Afghanistan. Its range extends into the Himalayan foothills across most of China. North to the Korean peninsula and into the Russian Far East. It is found in most of Southeast Asia: Thailand, Vietnam and China. On the islands of Sumatra, Java, Borneo and Taiwan. On small islands off South Korea. The leopard cat is the only wild cat species which is native to Japan and the Philippines.

**Threats**

Leopard cat skins are commercially traded internationally for the fur trade, primarily coats. Skins are also used as decorations in some parts of its range. They are occasionally kept as pets. Sometimes taken from the wild. Sometimes from captive breeding. They have been interbred with domestic cats, particularly in the West, to make the popular Bengal breed. Their bones are used in some traditional Asian medicines

**Conservation**

Leopard Cat populations in Bangladesh, India and Thailand are listed on CITES Appendix I. All other populations are listed on Appendix II.