

## UPSC Prelims 2020

### Environment

1. Which of the following are the reasons/ factors for exposure to benzene pollution?

1. Automobile exhaust
2. Tobacco smoke
3. Wood burning
4. Using varnished wooden furniture
5. Using products made of polyurethane

Select the correct answer using the code given below:

- (a) 1, 2 and 3 only
- (b) 2 and 4 only
- (c) 1, 3 and 4 only
- (d) 1, 2, 3, 4 and 5

Answer: D

Source: WHO, NCBI

**Explanation: Benzene pollution can occur from Automobile exhausts, Wood burning and Tobacco smoke. Varnished furniture and Polyurethane products contain benzene. Corrosion or Burning of these products cause benzene to leak into environment.**

2. With reference to India's biodiversity, Ceylon, frogmouth, Coppersmith barbet, Gracchinned minivet and white-throated redstart are

- (a) Birds
- (b) Primates
- (c) Reptiles
- (d) Amphibians

Answer: A

Explanation: The four species listed in the question are types of birds. Ceylon Frogmouth - [https://en.wikipedia.org/wiki/Sri\\_Lanka\\_frogmouth](https://en.wikipedia.org/wiki/Sri_Lanka_frogmouth)

Copper Smith Barbet - [https://en.wikipedia.org/wiki/Coppersmith\\_barbet](https://en.wikipedia.org/wiki/Coppersmith_barbet) Grey

Chinned Minivet - [https://en.wikipedia.org/wiki/Grey-chinned\\_minivet](https://en.wikipedia.org/wiki/Grey-chinned_minivet)

White- throated redstart - [https://en.wikipedia.org/wiki/White-throated\\_redstart](https://en.wikipedia.org/wiki/White-throated_redstart)

3. Steel slag can be the material for which of the following ?

1. Construction of base road

2. Improvement of agriculture

soil

3. Production of cement

Select the correct answer using the code given below:

(a) 1 and 2 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

Answer: D

**Explanation: Steel-slag can be used to produce energy-saving cement by co-grinding with OPC clinker and blast furnace slag.**

**Steel slags can be used in several activities, such as construction and paving, and also in the agricultural sector due to its ability to correct soil acidity, as it contains some nutrients for the plants and also as silicate fertilizer that is capable of providing silicon to the plants. Thus, steel slagscan be considered as a sustainable alternative to agricultural practice.**

<https://www.intechopen.com/books/recovery-and-utilization-of-metallurgical-solid-waste/the-comprehensive-utilization-of-steel-slag-in-agricultural-soils>

4. In natural road construction , the use of which of the following is preferred for ensuring environment sustainability or to reduce carbon footprint?

1. Copper slag

2. Cold mix asphalt technology

3. Geotextiles

4. Hot mix asphalt technology

5. Portland cement

Select the correct answer using the code given below:

(a) 1,2and 3 only

(b) 2,3 and 4 only

(c) 4 and 5 only

(d) 1 and 5 only

Answer: A

Explanation:

[https://niti.gov.in/planningcommission.gov.in/docs/aboutus/committee/wrkgrp12/tranSPORT/wGREP\\_rural.pdf](https://niti.gov.in/planningcommission.gov.in/docs/aboutus/committee/wrkgrp12/tranSPORT/wGREP_rural.pdf)

5.Consider the following statements:

1. Coal ash contains arsenic , lead and mercury.
2. Coal – fired power plants release sulphur dioxide and oxides of nitrogen into theenvironment.
3. High ash content is observed in Indian coal.

Which of the statements given above is/are correct?

(a) 1 only

(b) 2 and 3 only

(c) 3 only

(d) 1, 2 and 3

Answer: D

6.What is the use of biochar in farming?

1. Biochar can be used as a part of the growing medium in vertical farming.
2. when biochar is a part of the growing medium, it promotes the growth of nitrogen-fixing microorganisms.

3. When biochar is a part of the growing medium it enables the growing medium to retain water for longer time.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 2 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Answer: D

7. If a particular plant species is placed under schedule VI of the Wildlife Protection Act 1972, What is the implication ?

- (a) A licence is required to cultivate that plant.
- (b) Such a plant cannot be cultivated under any circumstances.
- (c) It is a genetically modified crop plant
- (d) Such a plant is invasive and harmful to ecosystem.

Answer: A

8. What is/are the advantage/advantages zero tillage in agriculture?

1. Sowing of wheat is possible without burning the residue of previous crop.
2. Without the need of nursery of rice saplings, direct planting of paddy seeds in the wet soil is possible.
3. Carbon sequestration in the soil is possible

Select the correct answer using the code given below:

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 3 only
- (d) 1, 2 and 3

Answer: D

9. According to India's National policy on bio fuels which of the following can be used as raw material for the production of bio fuels?

1. Cassava
2. Damaged wheat grains
3. Groundnut seeds
4. Horse gram
5. Rotten Potatoes
6. Sugar beet.

Select the correct answer using the code given below:

- (a) 1,2,5 and 6 only
- (b) 1,3,4 and 6 only
- (c) 2, 3, 4 and 5 only
- (d) 1,2,3,4,5 and 6

Answer: A

10. Which one of the following statements best describes the term Social Cost of Carbon?

It is a measure, in monetary value, of the

- (a) Long-term damage done by a ton of CO<sub>2</sub> emissions in a given year.
- (b) Requirement of fossil fuels for a country to provide goods and services to its citizens, based on the burning of those fuels.
- (c) Efforts put in by a climate refugee to adapt to live in a new place.
- (d) Contribution of an individual person to the carbon footprint on the planet Earth.

Answer: A

11. In the context of India, which of the following is/are considered to be practice(s) of eco-friendly agriculture?

1. Crop diversification
2. Legume intensification

3. Tensiometer use
4. Vertical farming.

Select the correct answer using the code given below:

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

12. What are the advantages of fertigation in agriculture?

1. Controlling the alkalinity of irrigation water is possible.
2. Efficient application of Rock, Phosphate and all other phosphatic fertilizers is possible.
3. Increased availability of nutrients to plants is possible.
4. Reduction in the leaching of chemical nutrients is possible.

Select the correct answer using the code given below:

- (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: D

13. With Reference to chemical fertilizers in India, consider the following statements:

1. At present the retail price of chemical fertilizers is market-driven and not administered by the Government.
2. Ammonia, which is an input of urea, is produced from natural gas.
3. Sulphur, which is a raw material for phosphoric acid fertilizer, is a by-product of oil refineries.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 and 3 only
- (c) 2 only
- (d) 1,2 and 3

Answer: B

14. Which of the following Protected Areas are located in Cauvery basin?

1. Nagarhole National Park
2. Papikonda National Park
3. Sathyamangalam Tiger Reserve
4. Wayand Wildlife Sanctuary

Select the correct answer using the code given below:

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

Answer: C

15. Which one of the following protected areas is well-known for the conservation of a subspecies of the Indian swamp deer (Barasingha) that thrives well on hard ground and is exclusively graminivorous?

- (a) Kanha National Park
- (b) Manas National Park
- (c) Mudumalai Wildlife Sanctuary
- (d) Tal Chappar Wildlife Sanctuary

Answer: A

Explanation: **Hard ground swamp deer (Barasingha or Rucervus duvaucelii)**, the state animal of Madhya Pradesh, is seeing a revival in the Kanha National Park **and Tiger Reserve (KNPTR)** after having been perilously close to extinction for a long time. The deer was brought back from the verge of extinction with the help of a successful breeding programme and conservation practices at the KNPTR.

<https://www.downtoearth.org.in/news/wildlife-biodiversity/near-extinct-hard-ground-swamp-deer-see-revival-in-kanha-69603>

16. Which of the following are the most likely places to find the musk deer in the natural habitat?

1. Askot Wildlife Sanctuary
2. Gangotri National Park
3. kishanpur Wildlife Sanctuary
4. Manas National Park

- a) 1 and 2 only
- b) 2 and 3 only
- c) 3 and 4 only
- d) 1 and 4 only

Answer: A

Explanation: **Musk Deer is found in Askot Mush Deer Sanctuary and Gangotri National Park.**

[https://en.wikipedia.org/wiki/Askot\\_Musk\\_Deer\\_Sanctuary](https://en.wikipedia.org/wiki/Askot_Musk_Deer_Sanctuary)

[https://en.wikipedia.org/wiki/Gangotri\\_National\\_Park](https://en.wikipedia.org/wiki/Gangotri_National_Park)

17. With reference to India's Desert National Park , which of the following statements are correct?

1. It is spread over two districts.
2. There is no human habitation inside the park.
3. It is one of the natural habitats of Great Indian Bustard.

Select the correct answer using the code given below:

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1,2 and 3

Answer: C

18. Among the following Tiger Reserves, which one has the largest area under Critical Tiger Habitat?"

- (a) Corbett
- (b) Ranthambore
- (c) Nagarjunsagar -Srisaïlam
- (d) Sunderbans

Answer: C