Q: Consider the following statement regarding E. coli:

1. They are harmless and beneficial.
2. It can be transmitted to humans through contaminated food, water, or contact with faecal matter from infected individuals or animals.
3. It is a type of bacteria that can be found in the intestines of humans only.

Choose the correct option from the codes given below:

a) 1 and 2
b) 2 and 3
c) 1and 3
d) 1, 2 and 3

Ans: a
Explanation:

- Escherichia coli, commonly known as E. coli, is a type of bacteria that can be found in the intestines of humans and animals.
- coli is a rod-shaped bacterium of the Enterobacteriaceae family.
- While most strains of E. coli are harmless and even beneficial, some strains can cause illness and infections.
- Some kinds of E. coli can cause diarrhoea, while others cause urinary tract infections, respiratory illness and pneumonia, and other illnesses.
- Pathogenic E. coli can be transmitted to humans through contaminated food, water, or contact with faecal matter from infected individuals or animals.

Q: Consider the following statement regarding Aeolus Wind Satellite:

1. The satellite is launched by NASA.
2. Its aim to study Earth's winds and their influence on the planet's climate and weather patterns.
3. It aims to provide accurate and comprehensive data on wind patterns in the Earth's atmosphere to improve weather forecasting.

Choose the correct option from the codes given below:

a) 1 and 2
b) 2 and 3
c) 1and 3
d) 1, 2 and 3

Ans: b
Explanation:

- Aeolus Wind Satellite is a satellite mission launched by the European Space Agency (ESA) to study Earth's winds and their influence on the planet's climate and weather patterns.
- The mission is named after Aeolus, the ruler of the winds in Greek mythology.
- Aeolus was launched on August 22, 2018, from the Guiana Space Centre in French Guiana.
- It is a 1,360-kilogram satellite.
- The primary goal of the Aeolus mission is to measure global wind profiles from space.
- It aims to provide accurate and comprehensive data on wind patterns in the Earth's atmosphere to improve weather forecasting, understand climate dynamics, and enhance our knowledge of the Earth's atmospheric circulation.
- It is the first satellite mission to acquire profiles of Earth’s wind on a global scale.

Q: Consider the following statement regarding Waterspouts:

1. It is a non-supercell tornado over water.
2. They form mostly in tropical and subtropical areas.

Choose the correct option from the codes given below:

a) 1 Only
b) 2 Only
c) 1 and 2
d) None of the above

Ans: c
Explanation:

- A waterspout is a tornado-like column or funnel of violently rotating air that usually forms over the surface of the sea.
- It is a non-supercell tornado over water having a five-part life cycle,
  - ❖ formation of a dark spot on the water surface;

- ❖ spiral pattern on the water surface;
- ❖ formation of a spray ring;
- ❖ development of the visible condensation funnel;
- ❖ and ultimately, decay;

- Waterspouts form mostly in tropical and subtropical areas. But regions, including Europe, Middle-East, Australia, New Zealand and Antarctica also report these on rare occasions.

Q: Consider the following statement regarding Yellow Sea:

1. It connects with the Bohai Sea to the northwest.
2. Yellow River and the Yangtze River discharge into the Yellow Sea.
3. The warm current of the Yellow Sea is a part of the Tsushima Current.

Choose the correct option from the codes given below:

a) 1 and 2
b) 2 and 3
c) 1and 3
d) 1, 2 and 3

Ans: d
Explanation:

- Yellow Sea is a marginal sea of the western Pacific Ocean.
- The Yellow Sea is situated between mainland China to the west and north, the Korean Peninsula to the east, and the Shandong Peninsula and Liaodong Peninsula to the south.
- It connects with the Bohai Sea to the northwest.
- Several major rivers, including the Yellow River and the Yangtze River, discharge into the Yellow Sea, carrying significant amounts of sediment and nutrients.
- The warm current of the Yellow Sea is a part of the Tsushima Current, which diverges near the western part of the Japanese island of Kyushu and flows at less than 0.5 mile (0.8 km) per hour northward into the middle of the sea.

Q: Consider the following statement regarding Indravati Tiger Reserve:

1. The park derives its name from the Indravati River.
2. It is home to one of the last populations of rare wild buffalo.
3. Major forest types are tropical evergreen forest.

Choose the correct option from the codes given below:

a) 1 and 2
b) 2 and 3
c) 1and 3
d) 1, 2 and 3

Ans: a
Explanation:

- Indravati Tiger Reserve is located in the Bijapur district of Chhattisgarh.
- The park derives its name from the Indravati River, which flows from east to west and forms the northern boundary of the reserve with the Indian state of Maharashtra.
- Indravati attained the status of a national park in 1981 and a tiger reserve in 1983 under Project Tiger.
- It mainly comprises of undulating hilly terrain with altitudes ranging between 177 to 599 m above sea level.
- Three major forest types are recognized in Indravati: Moist Mixed Deciduous Forest with Teak, Moist Mixed Deciduous Forest without Teak, and Southern Dry Mixed Deciduous Forest.
- Some common species include teak, achar, karra, kullu, shisham, semal, haldu, arjun, bel and Jamun.
- It is home to one of the last populations of rare wild buffalo.
- Major faunal species include tiger, leopard, striped hyena, wolf, common mongoose, freshwater crocodile, common monitor lizard, Indian bull frog, herons, white-necked stork, black-necked stork, white ibis, black ibis etc.