

Daily MCQs- 27th October

1. Consider the following statements about Polio Disease

- 1) A country is said to have eradicated polio when no new case of wild poliovirus is reported for three successive years.
- 2) Wild Poliovirus type 3 is the second strain of the poliovirus to be eradicated among the three strains.
- 3) Type 1 wild poliovirus is still in circulation and is restricted to Afghanistan and Pakistan.

Which of the statements given above is/are correct?

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

Answer: D

Explanation

All the statements are correct

What is Polio?

- Polio, or poliomyelitis, is a disabling and life-threatening disease caused by the **poliovirus**.
- The virus **spreads from person to person** and can infect a person's spinal cord, causing paralysis (can't move parts of the body).

Transmission

- Poliovirus is **very contagious** and spreads through person-to-person contact.
- It lives in an infected person's throat and intestines.

Poliovirus only infects people. It enters the body through the mouth and spreads through:

- Contact with the feces of an infected person.
- Droplets from a sneeze or cough of an infected person (less common)

Types and Vaccines

There are **three wild types of poliovirus (WPV) – type 1, type 2, and type 3**. There are two vaccines used to protect against polio disease, **oral polio vaccine and inactivated poliovirus vaccine**.

- The **oral polio vaccine (OPV)** is used in many countries to protect against polio disease and has been essential to the eradication effort. People who receive OPV may shed the virus and can infect others, especially those who are not vaccinated.
- **Inactivated poliovirus vaccine (IPV)** protects people against all three types of poliovirus. IPV does not contain live virus, so people who receive this vaccine do not shed the virus and cannot infect others and the vaccine cannot cause disease.

Each region is said to have eradicated polio only when all countries in the area demonstrate the **absence of wild poliovirus transmission for at least three consecutive years** in the presence of

certification standard surveillance. A country is said to have eradicated polio when no new case of wild poliovirus is reported for three successive years

Wild poliovirus type 3 (WPV3) has been declared as eradicated worldwide in 2019, which means, it is the second strain to be eradicated following Wild poliovirus type 2 eradication in 2015, And Type 1 wild poliovirus is still in circulation and is restricted to Afghanistan and Pakistan.

Why in the news?

World Polio Day was observed on October 24,2020.

<https://indianexpress.com/article/explained/explained-why-is-world-polio-day-observed-where-india-stands-6882895/>

2. With reference to “convalescent - plasma therapy”, consider the following statements

1. Under this therapy, the blood serum obtained from one who has recovered from an infectious disease is administered to a sick person
2. The convalescent plasma therapy has not been used during past viral epidemics prior to COVID-19 outbreak

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 : A

Explanation

- India has taken a bold step to provide **innovative treatment to patients** suffering from COVID-19 disease - **plasma therapy**
- Technically called “**convalescent-plasma therapy**”, the treatment aims at using the **immune power gained by a recovered person** to treat a sick person.
- Antibodies are one of the front-line immune response to an infection by a microbe. They are a particular type of **proteins secreted by immune cells called B lymphocytes** when they encounter an invader, such as a novel coronavirus

Convalescent-plasma therapy

- **Blood is drawn from a person who has recovered** from COVID-19 sickness. The serum is separated and screened for virus-neutralizing antibodies.
- **Convalescent serum**, that is the blood serum obtained from one who has recovered from an infectious disease and especially rich in antibodies for that pathogen, is **then administered to a COVID-19 patient**. The sick acquires **passive immunisation**
- We have effective **antibiotics** against bacterial infection. However, we do not have effective **antivirals**. Whenever a new viral outbreak takes place, there are no drugs to treat it. Hence, **the convalescent serum has been used during past viral epidemics**
 - Ø 2009–2010 H1N1 influenza virus pandemic
 - Ø The Ebola outbreak in 2018
- After the antibody serum is given, it will **stay on the recipient for at least three to four days**. During this period, the sick person will recover. Various studies have confirmed this

<https://indianexpress.com/article/explained/the-plasma-therapy-debate-6888258/>

3. Consider the following statements regarding the Indian Ocean Commission (IOC)

1. It is an international organisation consisting of 22 coastal states bordering the Indian Ocean

2. India is a founding member of this organisation

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

4.) Ans: D

Explanation

Indian Ocean Commission (IOC)

- It is an **intergovernmental organization** that was created in **1982 at Port Louis, Mauritius** and institutionalized in 1984 by the **Victoria Agreement in Seychelles**. The **IOC is composed** of five **African Indian Ocean nations: Comoros, Madagascar, Mauritius, Reunion and Seychelles**.

Ø **Indian ocean Rim Association (IORA)**: It is an international organisation consisting of 22 coastal states bordering the Indian Ocean

- Notwithstanding their different characteristics (Reunion as a French overseas region; Mauritius and Seychelles as Middle-Income Countries whereas Comoros and Madagascar are amongst the Least-Developed Countries), the **five islands share geographic proximity, historical and demographic relationships**, natural resources and common development issues

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- Recently, **India has been approved as an observer state** for a five-nation grouping in the Western Indian Ocean, Indian Ocean Commission (IOC), which includes Madagascar, Comoros, Seychelles, Mauritius and French Reunion
- The IOC is also **significant for its geographical location**, as the islands sit around a “**key choke-point**” in the Indian Ocean — the Mozambique Channel.
- Given China’s growing presence in the region, India **hopes to increase its naval presence** and gain support for its maritime projects across the Indo-Pacific, beginning at East African shores.

4. Which of the following is/are the members of the Organization of the Petroleum Exporting Countries (OPEC)?

1. Nigeria
2. Saudi Arabia
3. Russia
4. China

Select the correct answer using the codes given below

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

Answer : C

Explanation

- The **Organization of the Petroleum Exporting Countries (OPEC)** is a permanent, **intergovernmental organization**, created at the **Baghdad Conference** in 1960, by Iran, Iraq, Kuwait, Saudi Arabia, and Venezuela.
- In accordance with its Statute, the mission of the Organization of the Petroleum Exporting Countries (OPEC) is **to coordinate and unify the petroleum policies of its Member Countries** and **ensure the stabilization of oil markets** in order to secure an efficient, economic and regular supply of petroleum to consumers, a **steady income to producers** and a fair return on capital for those investing in the petroleum industry
- It aims to **manage the supply of oil** in an effort to set the price of oil in the world market, in order to **avoid fluctuations that might affect the economies** of both producing and purchasing countries.
- OPEC membership is open to any country that is a substantial exporter of oil and which shares the ideals of the organization.
- As of 2019, **OPEC has a total of 14 Member Countries** viz. Iran, Iraq, Kuwait, United Arab Emirates (UAE), **Saudi Arabia**, Algeria, Libya, **Nigeria**, Gabon, Equatorial Guinea, Republic of Congo, Angola, Ecuador and Venezuela are members of OPEC.
- The **non-OPEC countries** which export crude oil are termed as **OPEC plus countries**. OPEC plus countries include Azerbaijan, Bahrain, Brunei, Kazakhstan, Malaysia, Mexico, Oman, Russia, South Sudan and Sudan.

Why in the news?

The Organisation of Petroleum Exporting Countries (OPEC) is hoping that lockdowns and curfews in some countries in the event of a second or third wave of COVID-19 infections will not dent global energy demand.

<https://www.thehindu.com/business/opec-hopeful-fresh-lockdowns-will-not-dent-energy-demand/article32947264.ece>

5. Which of the following is/are advantages of Bharat Stage 6 (BS6) emission standards over BS4 emission standards?

1. Reduced nitrogen oxide emission
2. Reduced Particulate Matter (PM) levels
3. Reduced traces of Sulphur in emission

Select the correct answer using the codes given below

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

5.) Ans: C

Explanation

Bharat Stage Emission Standards (BSES)

- They are set by **the Central Pollution Control Board** under the Ministry of Environment and Climate Change to **keep air pollutants emitted by the internal combustion engine** of vehicles under control
- They are based on **European (EURO) emission standards**.
- Bharat Stage (BS) emission norms were first brought into effect in 2000 under the head **"India 2000"**. This was **followed by BS2 in 2001 and BS3 in 2005**.
- However, the emission norms were made more stringent only with the enforcement of Bharat Stage IV (BS4).
- Thereafter, the Government of India skipped the implementation of BS5 in 2016 and **decided to introduce Bharat Stage VI (BS6) in 2020 instead**

Difference between BS6 emission norms and BS4

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The following are the key differences between BS4 and BS6 emission norms:

- **Diesel Particulate Filter (DPF) and Selective Catalytic Reduction (SCR)** are being introduced with the roll-out of Bharat Stage VI norms, which were **not a part of Bharat Stage IV**.
- **Real Driving Emission (RDE)** will be introduced in India for the first time with the implementation of Bharat Stage VI emission norms. It will measure a vehicle's emission in real-time conditions against laboratory conditions.
- **Sulphur and Nitrogen Oxide content:** Sulphur traces in BS6 fuel is five times lower (10 ppm) as compared to sulphur traces in BS4 fuel (50 ppm). Further, nitrogen oxide level for BS6-grade diesel engines and petrol engines will be brought down by 70% and 25%, respectively.
- BS VI can bring **Particulate Matter (PM) in diesel cars down by 80 per cent** . The new norms will bring down **nitrogen** oxides from diesel cars by 70 per cent and in petrol cars by 25 per cent

ü The **Society of Indian Automobile Manufacturers** has said it has approached the Supreme Court seeking directions to ensure that sale and registration of **BS-IV complaint** is allowed till March 31, 2020

