

# 28 Apr 2022: UPSC Exam Comprehensive News Analysisz

# **TABLE OF CONTENTS**

Α.	GS	1	Re]	Late	d

B. GS 2 Related

**HEALTH** 

1. A look at child and adolescent healthcare systems

**GOVERNANCE** 

1. Birth, death reporting to be automated

C. GS 3 Related

**ECONOMY** 

1. Indonesia's palm oil export ban

D. GS 4 Related

E. <u>Editorials</u>

**EDUCATION** 

1. Building back to avert a learning catastrophe

**ECONOMY** 

1. Energy independence through hydrogen

F. Prelims Facts

1. Kwar hydroelectric project

G. Tidbits

1. SSLV 'development flights' likely in 2022

2. Labour codes to be rolled out soon

3. Plan for 4G upgrade in LWE areas

H. UPSC Prelims Practice Questions

I. UPSC Mains Practice Questions

# A. GS 1 Related

Nothing here for today!!!

# B. GS 2 Related



# Category: HEALTH

# 1. A look at child and adolescent healthcare systems

Syllabus: Issues relating to development and management of Social Sector/Services relating to Health

Mains: The need for a holistic healthcare system for children and key recommendations to develop a comprehensive care system.

#### Context

This article discusses the need for revamping the children and adolescent health care sector.

### **Background**

- Around 86 lakh deaths were recorded among children and adolescents (0-20 years) in the year 2019.
- With "Ensure healthy lives and promote well-being for all at all ages" being one of the key aspects of the <u>United Nations Sustainable Development Goals</u>, it is expected that countries might fail to meet the targets.
- A new Lancet report urges for the complete revamp of the children and adolescent healthcare sector.

# The need for comprehensive care

- A significant number of deaths occurred between 28 weeks of gestation and 20 years of age which
  is considered to be the crucial period in the lifecycle that forms the foundation for building human
  capital.
- The significance of the impact of early life poverty on the growth and development of children.
  - As seen in the low and middle-income countries, early-life poverty has adverse effects on the survival, nutrition and cognitive development of children.
- Although progress has been made in improving the key aspects of healthcare, there are huge inequities as these interventions are not financially affordable to many children in low-income and middle-income countries.
- The COVID-19 pandemic also has highlighted the devastating effects that gaps in healthcare and education can have on children.

#### Recommendations

- There is an urgent need to improve the health and social systems for all children in low and middleincome countries and these systems must be better equipped to address the emerging needs of children and families.
- Scaling-up of evidence-based interventions for children which also includes aspects such as mental health, addressing unintentional injuries, non-communicable diseases, and neglected tropical diseases.



- A piecemeal approach, addressing the problems of only certain age groups is not the best method to handle the crises. Instead, a holistic care approach that includes nutrition, preventive health, education, and community is needed.
- The close involvement of family, especially lending help during pregnancy and continuing through the relevant years of growth of the child, is also recommended.

#### **Nut Graf**

Children are said to be the bulwark of a nation's future and with less than eight years to meet the UN's SDGs, addressing the issues associated with their growth and development should be the highest priority.

# **Category: GOVERNANCE**

# 1. Birth, death reporting to be automated

Syllabus: Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

Prelims: Civil Registration System (CRS)

Mains: The proposed changes to the Civil Registration System and the need for introducing the changes.

# Context

- The Union government is looking to restructure the Civil Registration System (CRS).
- This move is to enable the registration of birth and death in real-time independent of location and with very less human activity

# Civil Registration System (CRS)

- The Civil Registration System (CRS) is a unified process of continuous, permanent, compulsory and
  universal recording of the vital events and characteristics that are required in the country.
- In India, the CRS includes the registration of births and deaths.
- CRS provides the best source of information on vital rates at all levels.
- The Registrar General, India (RGI) at the Central Government level coordinates and unifies the activities of registration throughout the country.
- The CRS, run by the RGI, is linked to the <u>National Population Register (NPR)</u>, which already has a database of 119 crore residents.

### The need for the changes in the CRS

- The CRS currency faces various issues associated with timelines, efficiency and uniformity. This is causing delayed and under-coverage of birth and death.
- Recently there were many reports of online registration systems being compromised from States.

### **Changes introduced in the CRS**

 The Government has planned to introduce changes in the CRS through an IT-enabled backbone that helps in the real-time registration of birth and death with minimum human interventions.



- It said the changes would be in terms of automating the process delivery points which makes the service delivery time-bound, uniform and free from discretion.
- The RGI has proposed changes to the Registration of Births and Deaths Act, 1969 that helps to maintain the database of registered birth and deaths at the national level.
  - According to the proposed changes, the database can be used to update the population register, electoral register, Aadhaar, ration card, passport and driving licence databases.

#### **Nut Graf**

The Government has planned to introduce transformational changes in the Civil Registration System which are said to be sustainable, scalable and independent of the location to resolve the issues faced by the system and ensure prompt delivery of service to the public.

# C. GS 3 Related

# **Category: ECONOMY**

## 1. Indonesia's palm oil export ban

Syllabus: Indian Economy and its related issues

Mains: Significance of palm oil to India and the rest of the world, and impact of Indonesia's palm oil export ban on India.

#### **Context**

Indonesia, which is the world's largest producer and exporter of palm oil, decided to extend a ban on all exports of the commodity.

#### **Details**

- The ban will be expanded to crude palm oil, RBD (Refined, Bleached & Deodorized) palm oil and used cooking oil.
- The ban is aimed at reducing the domestic shortages of cooking oil and reducing the skyrocketing costs of the commodity.

# Significance of palm oil in the global supply chain

- Palm oil is the most extensively used vegetable oil in the world.
- Palm oil accounts for about 40% of the global supply of edible oils.
  - Other edible oils include the likes of soybean, rapeseed (canola), and sunflower oil.
- The main reasons for the extensive use of palm oil for cooking purposes are;
  - Palm oil is inexpensive.
  - Oil palms **yield more oil in terms of area** than any other vegetable oil source.
- Although palm oil is mainly used as cooking oil it is also used in the manufacturing of cosmetics, processed food, biofuels, cleaning products, etc.

# Palm oil production in Indonesia

• Indonesia and Malaysia together produce about 90% of the global palm oil.



Indonesia alone accounts for about 60% of the global supply of palm oil.

### Reasons for the surge in the prices of edible oils

- Increased demand for palm oil due to a **shortage of the supply of other vegetable oils**.
  - The production of soybean oil, the second most-produced oil, is affected due to a poor soybean season in Argentina which is a major producer.
  - The production of rapeseed oil has been impacted due to the **drought in Canada** in 2021.
  - The supply of sunflower oil has been affected due to the war in Ukraine as Russia and Ukraine together account for about 80% of the oil globally.
- The shortage of labour due to the COVID pandemic also played its role in shooting up the prices
  of edible oils.

# Impact of palm oil export ban on India

- India is the biggest importer of palm oil.
- Palm oil accounts for about 40% of India's vegetable oil consumption.
- India imports nearly 50% of its annual palm oil imports from Indonesia.
  - India imports about 4 million tonnes of palm oil from Indonesia annually.
- The move to ban exports of palm oil by Indonesia will significantly increase the prices of edible oil in India.
- India also imports about 90% of soybean oil from Russia and Ukraine, which has almost stopped completely since the start of the conflict in Ukraine, further aggravating the prices.
- However, experts believe that though the latest move by Indonesia would create a short term price
  volatility in India, it would be favourable for the domestic edible oil refiners as it will boost the
  domestic crushing and refining of oil seeds.

Read more - National Mission on Edible Oil-Oil Palm (NMEO-OP)

# Nut Graf

The ban on the export of palm oil by Indonesia amid the surging global food prices in the wake of the Ukraine conflict has got massive repercussions for not just India but also the rest of the world as the decision might ease the local prices in Indonesia but the prices elsewhere are expected to skyrocket.

# D. GS 4 Related

Nothing here for today!!!

# E. Editorials

# **Category: EDUCATION**

1. Building back to avert a learning catastrophe

Syllabus: Issues Relating to Development and Management of Social Sector/Services relating to Education

Prelims: 'The State of the Global Education Crisis: A Path to Recovery' report



Mains: Disruption caused by the pandemic in the school education sector and recommendations

#### Context:

• The rise in the number of daily COVID-19 cases has led to demand from some sections of parents to move back to online or hybrid classes by closing down physical classrooms even as schools, parents and children have just begun getting accustomed to regular offline classes.

### Background:

#### Disruption caused by the pandemic in school education:

- The COVID-19 pandemic has emerged as the biggest disruption in the field of school education in the last 100 years.
- The December 2021 joint report by UNESCO, UNICEF and the World Bank titled 'The State of the Global Education Crisis: A Path to Recovery' estimates that in the first 21 months of the pandemic, schools in countries around the world were either partially or fully closed for an average of 224 days.
- The impact has been all the more severe in India where the schools were closed for physical classes due to repeated waves of the pandemic. By March or early April 2022, when re-opened, schools in India had cumulatively closed for physical classes for around 570 days to 600 days one of the longest school closures in the world.
- The prolonged school closures have had short, medium and long term impacts on school
  children. The school closures have resulted in poor learning outcomes for children and mental
  stress and have also affected the nutritional status of students dependent on the mid-day meal
  scheme.

#### **Arguments against school closures:**

• The article argues against the demand for shifting back to the hybrid mode of learning or partial closure of schools and instead argues for keeping schools fully open. The article makes use of the following arguments in this direction.

# COVID-19 will linger:

- Given the fact that the SARS-CoV-2 will continue to remain in the months and years to follow, it is impractical, unnecessary, and unscientific to consider an 'open and shut' mode for schools with spikes in cases.
- One needs to acknowledge the fact that in the foreseeable period COVID-19 cases would not be zero in any age group including schoolchildren. Hence the focus should be on limiting the spread rather than aiming for zero cases as envisaged in the full closure of schools.

#### No relation between school reopening and spike in cases:

• The news of children being detected COVID-19 positive is drawing more media attention after school re-opening. This seems to give rise to speculation that the rise in cases among children is due to schools which may not be true.



Notably, there is no evidence that children have contracted the infection in schools. In most cases, children are more likely to have got the infection from family members. This has been proved by the successive seroprevalence surveys across the Indian States which reported that nearly 70% to 90% of all children had already got infection even before schools were re-opened.

#### Lesser threat to children:

- Society should stop worrying about children contracting COVID-19 infection given that the risk of COVID-19 in children is very low.
  - While children do get SARS-CoV-2 infection at the same rate as adults, the probability of the adverse outcomes of moderate to severe disease is very low. Most healthy children do not develop severe outcomes.
  - Also, the seroprevalence surveys across the Indian States note high previously infected rates among children. This means they were able to resist the infection and thus remain protected from future infections as well to some degree.

### Threat of learning losses:

• The recurring closures of schools are leading to huge learning losses in children. Studies have shown that every month of school closure results in the loss of learning ability lags by two months.

#### Recommendations:

# **Ensuring all children return to school:**

- One needs to understand that the re-opening of schools does not mean that all children have begun
  returning to school. Children from poor, backward, rural, urban slum-dwellers houses and girl
  children may not enrol back to school due to a number of socio-economic reasons.
- Special attention is needed for the enrolment of such children. We need to ensure that no child has
  dropped out of the education system and that every eligible child is enrolled.

# **Ensure learning recovery:**

- Acknowledging the learning loss created by prolonged school closures, governments and schools
  must focus on the most important priority in school education learning recovery.
- This will first require the assessment of the learning level of children and then the formulation of relevant strategies for learning recovery like **consolidation of curriculum**, **increasing teaching time and relevant teacher training** to accommodate the learning levels and needs of children.
- Innovative approaches and the participation of civil society organisations working in the field of education also need to be explored in ensuring learning recovery.

#### Increase allocations to the education sector:

- The shock caused by the pandemic in the education sector must serve as a wake-up call for the challenges in school education.
- In this direction, additional government investment by both the Union and State governments in the school education sector would definitely help.



• In India, government spending on education accounts for about 3% of GDP, which is almost half the average for the education spending of low- and middle-income countries.

# Concept of health-promoting schools:

- Apart from focusing on education, there is the need to also prioritize the concept of 'health promoting schools'. In this direction, the following measures would help.
  - **Mental health issues and needs** in school-age children have doubled in the pandemic period. This necessitates the need to have facilities for mental health services and counselling sessions for the school-age children.
  - Given the critical role played by the supplementary nutrition programmes such as midday meal scheme in the nutritional security of children from poor households, such schemes should be prioritized and further expanded. Nutritional security will only help strengthen the children's immunity to diseases.
  - Hand washing with soap and water and toilet facilities should be improved in every school, especially in rural and government schools. This will also prepare schools in preventing the possible spread of COVID-19 and also reduce other water-borne illnesses in school-age children.
  - The Education and Health Departments in Indian States need to work together to ensure regular services such as school health as well as a health check-ups for schoolchildren.

### **Nut Graf**

Realizing the adverse impacts caused by the prolonged school closures, India needs to desist from recurrent school closures based on spikes in COVID cases given that benefit of in-person education is far greater than any risk posed currently by the pandemic. The priority should be to bring school education back on track and develop a road map for learning recovery as part of the society's moral and social responsibility towards the future of this nation.

Category: ECONOMY

1. Energy independence through hydrogen

Syllabus: Infrastructure: Energy

Prelims: Green Hydrogen

Mains: Significance of Hydrogen for India; Challenges and recommendations for mainstreaming green hydrogen ecosystem in India

#### Context:

- India's Green Hydrogen Policy was released in February 2022. It outlines various policies and initiatives to mainstream the use of Green Hydrogen in India to further boost India's energy transition.
  - Green hydrogen is hydrogen produced by splitting water by electrolysis. This produces hydrogen and oxygen. Electrolysis requires a constant supply of water and electricity.

# Significance of hydrogen for India:

**Energy independence for India:** 



- Though currently, India's per capita energy consumption is about one-third of the global average, the
  increasing economic growth rate and standard of living will surely increase India's demand for
  energy. That India continues to remain dependent on energy imports from other countries does
  not augur well for India's energy security.
- The **high volatility in prices and uncertainty in supply chains** remains a constant threat to India's energy security.
- Given that hydrogen can be manufactured in India, it will reduce India's dependency on other countries. Thus the new age fuel, hydrogen can be **India's gateway to energy independence**.
- Hydrogen fulfils the three Es of India's energy energy security, energy sustainability and energy access.

# **Export potential:**

Hydrogen could help completely transform India's energy ecosystem by transforming India from an
energy importer to a dominant exporter over the next few decades. India could export to projected
future import centres like Japan, South Korea, etc.

#### **Decarbonization of the economy:**

- Hydrogen can play a major role in the decarbonisation of India's transport sector. The usage of
  hydrogen in fuel cell vehicles as against battery electric vehicles offers several advantages. These
  would have a faster fuelling and long-driving range. This would make them compatible with long-haul
  transportation vehicles which continues to remain a major constraint for <u>Li-lon batteries</u> based
  electric vehicles.
- In the industrial segment, hydrogen can de-carbonise 'hard-to-abate' sectors such as iron and steel, aluminium, copper, etc.
- Thus with hydrogen, India would not only move closer towards realizing the target to achieve Net Zero by 2070 but also could lead the world in achieving <a href="Paris Agreement's">Paris Agreement's</a> goal to limit global warming to 2°C compared to pre-industrial levels. It can help lay the foundation of a new India which aims to be a global climate leader.

#### Complement renewable energy:

 As compared to electricity, hydrogen can be stored on a large scale and for a longer duration. This makes it a viable alternative to complement the ever-increasing supply of variable renewable energy. Hence Hydrogen holds immense potential and importance in realizing India's renewable energy target of 500 GW by 2030.

### Versatility of hydrogen:

- Hydrogen has a huge prospect to produce fuels such as methanol, synthetic kerosene and green ammonia.
  - Ammonia, having high energy density could be promoted as a mode of transportation.

# Hydrogen usage in India:

• India's hydrogen consumption was around 7 Mt in 2020 and according to The Energy and Resources Institute (TERI), it is anticipated to leapfrog to about 28 Mt in 2050.



#### Challenges in mainstreaming green hydrogen:

- India needs to rapidly **build the capacity of electrolysers** to produce green hydrogen. Currently, this capacity is very low. This would entail huge costs in itself for India.
- Additionally, India needs to **ensure an exponential increase in electricity supply** to meet the energy demands of electrolysis. This necessitates a rapid expansion in renewable energy.
- **Water scarcity** will prove to be another major challenge in realizing green hydrogen in India given that the production of 1 kg of hydrogen by electrolysis requires around nine litres of water.
- The above factors will lead to a high cost of green hydrogen which can affect the economic viability of the segment. This would pose challenges to the initial adoption of green hydrogen fuel.
   The lack of widespread demand may deter initial investments in the segment.

# **Recommendations:**

• The government should take appropriate measures to ensure the viability of green hydrogen at least in the initial phase of adoption after which the market forces can play their role. These measures could be understood from the demand and supply sides for better understanding.

#### Demand side:

- Create an initial demand through policies which mandate mature industries such as refining and fertilizers to adopt green hydrogen. This could be supplemented with adequate incentives for adoption.
- Industries manufacturing low emission hydrogen-based products should be incentivized by government policies. This will create more demand for green hydrogen.
- Blending hydrogen with natural gas must be facilitated by framing blending mandates, and regulations.
- Concepts such as carbon tariffs need to be introduced to incentivize the demand for green hydrogen.

# Supply side:

- Alternative sources of hydrogen production such as biogas conversion into hydrogen should be explored to tackle the challenge of water scarcity in green hydrogen production.
- A Viability Gap Funding (VGF) scheme may be introduced for hydrogen-based projects to help commercialize and scale up nascent technologies. Affordable and easily accessible financing facilities should be ensured for related industries and sectors through measures such as Priority Sector Lending (PSL).
- Schemes such as **Production Linked Incentive (PLI)** should be expanded to the related sectors to ensure adequate production capacity of related products.
- An adequate number of Hydrogen fuel stations should be planned to ensure an unhindered supply of the fuel on demand.
- Given the criticality of the cost factor in mainstreaming green hydrogen, **investment in R&D** should be accelerated to bring its cost at par with fossils.

**Nut Graf** 



Hydrogen can lay the foundation of a new India which would be energy-independent; a global climate leader and international energy power provided India is able to address the challenges in mainstreaming green hydrogen in India.

# F. Prelims Facts

## 1. Kwar hydroelectric project

Syllabus: GS-3; Infrastructure: Energy

Prelims: Kwar hydroelectric project

### **Context**

Cabinet Committee on Economic Affairs (CCEA) chaired by the Prime Minister approved an investment of ₹4,526.12 crores for the 540-megawatt Kwar hydroelectric project.

### Kwar hydroelectric project

- The hydroelectric project is built across the Chenab river in the Kishtwar district of Jammu and Kashmir.
- The project is implemented by Chenab Valley Power Projects Private Ltd. which is a joint venture between the National Hydroelectric Power Corporation (NHPC) and the Jammu and Kashmir State Power Development Corporation.
- The project is estimated to generate 1975.54 million units in a 90% dependable year.



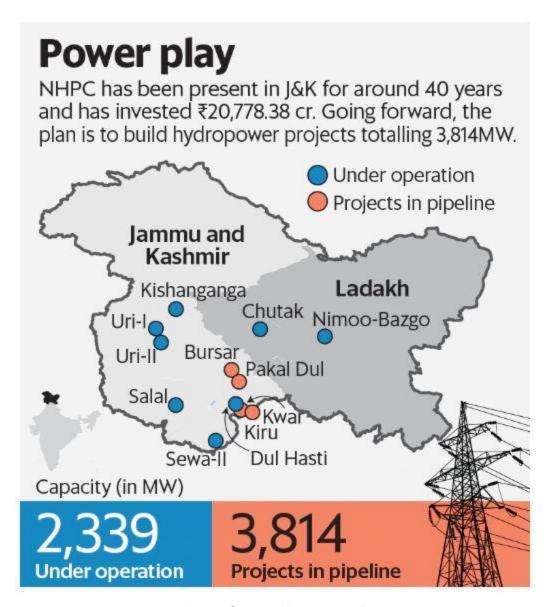


Image Source: Moneycontrol

# **G.** Tidbits

### 1. SSLV 'development flights' likely in 2022

- The Indian Space Research Organisation (ISRO) is planning to have all three development flights planned for the Small Satellite Launch Vehicle (SSLV) in 2022.
- SSLV which is designed as a 'launch on demand' and a cheaper alternative for placing small payloads in orbit would have multiple mounting options for nano, micro and small satellites.
- All three stages of the SSLV will be solid propulsion stages.
- Being developed with private participation, the SSLV will be able to place 500 kg payloads in lowearth orbit.



The Centre had sanctioned a total of ₹169 crore for the development project, which includes the cost
of development, qualification of vehicle systems and flight demonstration through the three planned
development flights named SSLV-D1, SSLV-D2 and SSLV-D3.

#### 2. Labour codes to be rolled out soon

- The Union Labour and Employment Minister said that four labour codes, which were passed by Parliament in 2019 and 2020, would be implemented soon.
- About 29 Central Acts on wages, social security, occupational safety and industrial relations have been subsumed into four codes.
- Read more about Labour Codes

# 3. Plan for 4G upgrade in LWE areas

- The Union Cabinet approved a Universal Service Obligation Fund (USOF) project for upgrading 2G mobile services to 4G at security sites in <u>LWE (Left Wing Extremism)</u> areas.
- The government has chosen BSNL for the project to promote the development of indigenous 4G telecom equipment to achieve self-reliance in the telecom sector.

# **H. UPSC Prelims Practice Questions**

### Q1. Consider the following statements:

- 1. The pardoning power by the Governors of the states is immune from judicial review.
- Article 161 bestows upon the Governor, the power to grant pardon in a case relating to capital punishment.

Which of the statements given above is/are correct? (Level: Medium)

- a. 1 only
- b. 2 only
- c. Both
- d. None

Answer: d

# **Explanation:**

- Statement 1 is not correct, In the Epuru Sudhakar Case, the Supreme Court held that "Exercise or non-exercise of the pardoning power by the President or Governor is not immune from judicial review". SC held that judicial review of the order of the President or the Governor under Article 72 or Article 161 of the Constitution, can be impugned on the following grounds:
  - That the order has been passed without application of mind
  - That the order is mala fide
  - That the order has been passed on extraneous or wholly irrelevant considerations
  - That relevant materials have been kept out of consideration



- That the order suffers from arbitrariness.
- Statement 2 is not correct, Article 161 mentions that the Governor of a State shall have the power to grant pardons, reprieves, respites or remissions of punishment or to suspend, remit or commute the sentence of any person convicted of any offence against any law relating to a matter to which the executive power of the State extends.
  - Previously, the governor could not pardon the death sentence, which only the Indian President could do. But recently in August 2021, the Supreme Court held that the Governor of a State can pardon prisoners, including death row ones, even before they have served a minimum of 14 years of a prison sentence.

# Q2. With respect to Attorney General (AG) of India, which of the following statements is/are correct?

- 1. The President of India appoints a person who is qualified for the post of Supreme Court Judge.
- 2. He has the right to vote when he participates in the proceedings of the Indian Parliament as he is part of the Union Executive.
- 3. He can practise privately too as he is not debarred from private legal practice.

## Options: (Level: Easy)

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

## Answer: c

## **Explanation:**

- Statement 1 is correct, the President of India appoints a person who is qualified for the post of Supreme Court Judge.
- Statement 2 is not correct, AG has got the right to speak and to take part in the proceedings of both the Houses of Parliament but has no right to vote when he participates in the proceedings of the Indian Parliament.
- Statement 3 is correct, AG can practise privately too as he is not debarred from private legal practice.

#### Q3. Consider the following statements:

- 1. According to Natya Shastra, 'Odhra Magadha' is the earliest form of present-day Odissi Dance.
- 2. Tribhanga is closely associated with Odissi.

# Which of the above statements is/are correct? (Level: Medium)

a. 1 only



- b. 2 only
- c. Both
- d. None

Q4. Which of the following statements about Small Satellite Launch Vehicle (SSLV) is/are correct?

- 1. SSLV is a three-stage rocket.
- 2. The first and third stages are incorporated with two solid propulsion systems, with the second powered by liquid engines.

**Options: (Level: Difficult)** 

- a. 1 only
- b. 2 only
- c. Both
- d. None

Answer: a Explanation:

- Statement 1 is correct, Small Satellite Launch Vehicle (SSLV) is a three-stage Launch Vehicle.
- Statement 2 is not correct, All three stages of the SSLV will be solid propulsion stages.
  - SSLV is configured with **three Solid Propulsion Stages** and liquid propulsion based Velocity Trimming Module (VTM) as a terminal stage.

Q5. With reference to 'palm oil', consider the following statements:

- 1. The palm oil tree is native to Southeast Asia.
- 2. The palm oil is a raw material for some industries producing lipstick and perfumes.
- 3. The palm oil can be used to produce biodiesel.

Which of the statements given above are correct? (Level: Medium)

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

Answer: b

**Explanation:** 



- Statement 1 is not correct, Oil palm trees are native to Africa and were brought to South-East Asia as an ornamental tree crop.
- Statement 2 is correct, palm oil is used as a raw material in the lipstick and perfumes industries.
- Statement 3 is correct, palm oil can be used to produce biodiesel.

# **I. UPSC Mains Practice Questions**

- 1. What are the major objectives of the 'National Mission on Edible Oil Palm Oil'? How would this ensure the lowering of India's dependence on edible oil imports in the long run? (250 words; 15 marks)[GS-3, Economic Development]
- 2. Make a case for focusing more on Hydrogen run vehicles as part of a sustainable future rather than on electric battery run vehicles. (250 words; 15 marks)[GS-3, Technology]

