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MONTHLY PRESTORMING

MAY 2021

Shankar IAS Academy™

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01-05-2021

1) With respect to *Office of the Principal Scientific Adviser*, consider the following statements:

1. It was established in 1999 by the Union Cabinet Secretariat.
2. It aims to provide pragmatic and objective advice to the Prime Minister and cabinet in matters of science & technology.

Which of the statement(s) given above is/are incorrect?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

2) Consider the following statements with respect to *Sustainable Livelihoods for Tribal Households in India*

1. The main objective of the project is to strengthen Tribal Research Institutes (TRIs) through Grants-in-aid.
2. It was jointly launched by TRIFED and the World Bank.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

3) With respect to *Legal Metrology Act, 2009*, consider the following statements:

1. The act provides for application of legal requirements to measurements and measuring instruments.
2. The act is regulated and administered by the Ministry of Consumer Affairs, Food and Public Distribution.

Which of the statement(s) given above is/are incorrect?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

4) With respect to *Codex Committee on Spices and Culinary Herbs (CCSCH)*, consider the following statements:

1. It was established in 2013 under Codex Alimentarius Commission (CAC).
2. The Committee is chaired by India and Spices Board of India is its Secretariat.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

5) Consider the following statements with respect to *Codex Alimentarius Commission (CAC)*

1. It was established in 1963 within the framework of the Joint Food Standards Programme to protect the health of consumers and ensure fair practices in the food trade.
2. It is an intergovernmental body established jointly by the UN's Food and Agriculture Organisation (FAO) and the World Health Organisation (WHO).

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

6) Which of the following statement(s) is/are incorrect with respect to *Immunisation Agenda 2030*?



1. It is launched by GAVI, the vaccine alliance based on various health reports prepared by respective countries.
2. It also intends to reduce the number of zero-dose children by 50% and to achieve 90% coverage for essential vaccines given in childhood and adolescence.

Select the correct answer using the codes given below:

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

7) Consider the following statements with respect to *Pricing Regulation for Drugs in India*?

1. The pricing of essential drugs is regulated centrally through The Essential Commodities Act, 1955.
2. Regulation of drugs under Drugs (Prices Control) Order (DPCO) is not applicable for patented drugs or fixed-dose combination (FDC) drugs.

Which of the statement(s) given above is/are incorrect?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

8) Consider the following statements with respect to *Removal of Judges of High Court*

1. President can issue the removal order only after an address by the Parliament has been presented to him in the same session for such removal.
2. The address must be supported by a special majority of each House of Parliament.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

9) *Global EV Outlook 2021* is published by which of the following organisations?

- a. International Energy Agency
- b. Organisation for Economic Co-operation and Development
- c. International Atomic Energy Agency
- d. International Renewable Energy Agency

10) Consider the following statements with respect to *Mucormycosis*?

1. It is a bacterial infection found in Covid patients that has high mortality rate of 80%.
2. Patients those who require oxygen therapy during Covid-19 illness are at a much higher risk of mucormycosis which causes facial pain, headaches, and pain around the eyes.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answers

1. d

- The Office of the Principal Scientific Adviser to the Government of India has curated information and brought a simple visual reference to manage mild symptoms of COVID-19 at home- "Home care tips for managing COVID-19."

Office of the Principal Scientific Adviser to the Government of India



- It was established in November 1999 by Union Cabinet Secretariat.
- The PSA's office aims to provide pragmatic and objective advice to the Prime Minister and cabinet on matters related to science, technology and innovation with a focus on application of science and technology in critical infrastructure, economic and social sectors in partnership with Government departments, institutions and industry.

2. d

- *TRIFED has recently entered into a collaborative project titled "Sustainable Livelihoods for Tribal Households in India" with The LINK Fund, a philanthropic operational foundation, which is mandated to eradicate extreme poverty and mitigate the effects of climate change.*
- As a part of this association, both the organizations will also work together to creating women-centered infrastructure and innovation and entrepreneurship.

The LINK Fund (TLS)

- It is a practitioner-led fund that is headquartered in Geneva, Switzerland and works to end extreme poverty and mitigate the effects of climate change.

Sustainable Livelihoods for Tribal Households in India

- The project will work towards:
 1. Tribal development and employment generation by providing support to tribals for increasing value addition in their produce and products
 2. Sustainable livelihoods and value addition for increase in income
 3. Employment generation through technological intervention for efficiency in value addition for MFPS, produce and crafts diversification, skill training and enhancement of value additions in minor forest produce (MFP).

3. d

- Considering the present pandemic situation of COVID-19 and for meeting the demand of medical devices, Department of Consumer Affairs, Government of India has permitted the importers of medical devices to import a

certain categories of medical devices for three months subject to the condition that the importers shall make all declarations required under these rules immediately after import/custom clearance and before sale by way of stamping or putting sticker or online printing, as the case may be.

The Legal Metrology Act, 2009

- It aims to establish and enforce standards of weights and measures, regulate trade and commerce in weights, measures and other goods which are sold or distributed by weight, measure or number and for matters connected therewith or incidental thereto.
- The objective of Legal Metrology is to ensure public guarantee from the point of view of security and accuracy of the weightings and measurements.
- The act is regulated and administered by the Ministry of Consumer Affairs, Food and Public Distribution.
- The Ministry of Consumer Affairs, Food & Public Distribution has also issued an advisory under the Legal Metrology Act, 2009 to ensure these items are not sold for more than the Maximum Retail Price (MRP).
- The Legal Metrology (Packaged Commodities), Rules 2011 are primarily intended to ensure that the consumers are able to make informed choices by being informed of essential declarations on the pre-packed commodities.

4. c

- *The Codex Committee on Spices and Culinary Herbs (CCSCH) has finalised and recommended quality standards for four spices; cloves, oregano, basil, and ginger, during its fifth session held virtually from 20th -29th April 2021.*
- *The committee forwarded these four new standards to the Codex Alimentarius Commission (CAC) for adoption at final step 8, as full-fledged Codex standards.*

Codex Committee on Spices and Culinary Herbs

- To develop and expand worldwide standards for spices and culinary herbs, and to consult with other international organisations in the standards development process CCSCH was

formed in 2013 under Codex Alimentarius Commission (CAC) with support of more than a hundred countries with India as the host country and Spices Board as the Secretariat for organising the sessions of the committee.

- CCSCH is the youngest of the Codex Commodity Committees.
- The Committee is chaired by India and Spices Board India is its Secretariat.
- This committee is mandated to elaborate worldwide, science-based quality standards for spices and culinary herbs, in accordance with the Codex principles of consumer protection and fair trade practices.
- Dr M.R. Sudharshan is the current Chairman of the Committee.
- Normally the Committee meetings are held once in 18 months.
- The Last meeting of CCSCH was conducted in 2019 at Trivandrum.
- In its past four sessions, the committee developed and finalized Codex standards for four spices, viz. dried or dehydrated forms of black/white/green pepper, cumin, thyme, and garlic.

5. c

Codex Alimentarius Commission (CAC)

- It was set up in 1963 within the framework of the Joint Food Standards Programme to protect the health of consumers and ensure fair practices in the food trade.
- It is an intergovernmental body established jointly by the UN's Food and Agriculture Organisation (FAO) and the World Health Organisation (WHO).

6. a

Immunisation Agenda 2030

- Recently, the United Nations and other agencies have launched the Immunisation Agenda 2030 (IA2030) during the World Immunisation Week.
- It will contribute to achieving the UN-mandated Sustainable Development Goals specifically SDG 3 i.e. Good Health and Wellbeing.

- Covid-19 pandemic has affected routine immunization globally.
- It sets an ambitious, overarching global vision and strategy for vaccines and immunization for the decade 2021–2030.
- The IA2030 is based on learnings from Global Vaccine Action Plan (GVAP).
- It aims to address the unmet targets of the GVAP that were initially to be fulfilled as part of the global immunisation strategy of the 'Decade of vaccines' (2011–2020).
- GVAP was developed to help realize the vision of the Decade of Vaccines, that all individuals and communities enjoy lives free from vaccine preventable diseases.
- As part of this new immunisation programme, global agencies like the World Health Organization (WHO), UNICEF and others have set a target of avoiding 50 million vaccine-preventable infections in this decade.
- Zero-dose children are those who have received no vaccines through immunisation programmes.

GAVI Vaccine Alliance

- It is a public–private global health partnership with the goal of increasing access to immunisation in poor countries.
- GAVI brings together[clarification needed] developing country and donor governments, the World Health Organization, UNICEF, the World Bank, the vaccine industry in both industrialised and developing countries, research and technical agencies, civil society, the Bill & Melinda Gates Foundation and other private philanthropists.
- GAVI has observer status at the World Health Assembly.

7. d

Pricing Regulation for Drugs in India

- The pricing of essential drugs is regulated centrally through The Essential Commodities Act, 1955.
- Under Section 3 of the Act, the government has enacted the Drugs (Prices Control) Order (DPCO).

- The DPCO lists over 800 drugs as “essential” in its schedule, and has capped their prices.
- The capping of prices is done based on a formula that is worked out in each case by the National Pharmaceutical Pricing Authority (NPPA), which was set up in 1997.
- However, regulation through DPCO is not applicable for patented drugs or fixed-dose combination (FDC) drugs.
- This is why the price of the antiviral drug remdesivir, which is currently in great demand for the treatment of serious cases of Covid-19, is not regulated by the government.

8. c

Removal of Judges of High Court

- A judge of a high court can be removed from his office by an order of the President.
 - The President can issue the removal order only after an address by the Parliament has been presented to him in the same session for such removal.
 - The address must be supported by a special majority of each House of Parliament.
 - The special majority is a majority of the total membership of that House and majority of not less than two-thirds of the members of that House present and voting.
 - The grounds of removal are two i.e. proved misbehaviour or incapacity which implies that a judge of a high court can be removed in the same manner and on the same grounds as a judge of the Supreme Court.
 - Procedure for removal of judge of High Court are as follows
1. The Judges Enquiry Act (1968) regulates the procedure relating to the removal of a judge of a high court by the process of impeachment:
 2. A removal motion signed by 100 members (in the case of Lok Sabha) or 50 members (in the case of Rajya Sabha) is to be given to the Speaker/Chairman.
 3. The Speaker/Chairman may admit the motion or refuse to admit it.
 4. If it is admitted, then the Speaker/Chairman is to constitute a three member committee to investigate into the charges.

5. The committee should consist of the chief justice or a judge of the Supreme Court, a chief justice of a high court, and a distinguished jurist.
6. If the committee finds the judge to be guilty of misbehaviour or suffering from an incapacity, the House can take up the consideration of the motion.
7. After the motion is passed by each House of Parliament by special majority, an address is presented to the president for removal of the judge.
8. The president passes an order removing the judge.

9. a

Global EV Outlook 2021

- The number of electric cars, buses, vans and heavy trucks on roads is expected to hit 145 million by 2030 according to the report.
- According to the report if governments ramp up their efforts to meet international energy and climate goals, the global electric vehicle fleet could increase further still, hitting 230 million by the end of the decade.
- Both of these projections exclude two- and three-wheeled electric vehicles.
- Roughly three million new electric cars were registered last year, a record amount and a 41% rise compared to 2019.
- This jump pushed the total number of electric cars on the road to over 10 million, a figure supplemented by approximately 1 million electric buses, vans and heavy trucks.

10. b

Mucormycosis

- Mucormycosis is a fungal infection that has a high mortality rate of 50 per cent.
- It is caused by a fungus called Mucorales, which is usually not known to affect humans.
- Increasing number of Covid-19 patients have been developing this infection while still at the hospital or after discharge.
- Some of the common symptoms of the infection include sinusitis, blackish nasal



discharge, facial pain, headaches, and pain around the eyes.

- The infection often necessitates urgent surgery to remove affected parts above the neck.
- Both symptomatic and asymptomatic patients with Covid-19 may be at risk.
- Before the pandemic, patients with uncontrolled diabetes were at a higher risk of mucormycosis because the high blood sugar levels made it easier for the fungi to grow and survive, and their weaker immune systems offered less protection against the infection.

c. 1 and 3 only

d. 2 and 3 only

3) Consider the following statements with respect to State Disaster Response Fund (SDRF)

1. The Central Government contributes 75% of SDRF allocation for general category States/UTs and 90% for special category States/UTs.
2. The annual Central contribution to the fund is released in two equal installments as per the recommendation of the NITI Aayog.
3. The fund shall be used only for meeting the expenditure for providing immediate relief to the victims.

Which of the statement(s) given above is/are correct?

a. 1 only

b. 1 and 2 only

c. 1 and 3 only

d. 2 and 3 only

4) With respect to India-UK bilateral relations, consider the following statements:

1. India and the United Kingdom enjoys a Strategic Partnership since 2004.
2. UK is the 3rd largest inward investor in India, after Mauritius, and Singapore.
3. Global Alliance for Vaccines and Immunisation (GAVI) was jointly initiated by India and the United Kingdom.

Which of the statements given above are correct?

a. 1 and 2 only

b. 1 and 3 only

c. 2 and 3 only

d. 1, 2 and 3

03-05-2021

1) Indian Navy has recently deployed seven Indian Naval Ships under Operation Samudra Setu II. For which of the following reasons the Indian Naval Ships have been deployed for?

- a. To repatriate Indian citizens stranded in neighbouring countries
- b. To provide liquid medical oxygen-filled cryogenic containers to various countries
- c. To provide COVID-19 vaccines to struggling neighbourhood countries
- d. None of the above

2) With respect to Oxygen Concentrators, sometimes seen in the news recently, consider the following statements:

1. They are simple devices which contains fixed amount of pressurized oxygen to help individuals access it through a mask or cannula.
2. Oxygen concentrators can work 24 x 7 without refilling.
3. The device can be easily used on our own when oxygen levels are falling, without a medical guidance.

Which of the statement(s) given above is/are correct?

a. 1 only

b. 2 only



5) With respect to *President's Rule in India*, which of the following statements is *incorrect*?

- Article 356 of Indian Constitution gives President, the power to suspend state government and impose President's rule of any state in the country
- Upon the imposition of this rule, there would be no Council of Ministers
- A proclamation imposing President's Rule must be approved by both the Houses of Parliament within two months from the date of its issue
- A proclamation of President's Rule can be revoked only with the approval of the parliament

6) Which of the following States have recently implemented a free medical insurance called "Chiranjeevi"?

- Andhra Pradesh
- Telangana
- Maharashtra
- Rajasthan

7) Consider the following statements about ozone hole over Arctic

- It has reached a maximum extension of around 1 million sq km.
- Recently, German Aerospace Centre observed closure of ozone hole mainly because of the reduced pollution levels due to covid-19 lockdown.

Which of the above statement(s) given above is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

8) Consider the following statements about "Special 301 Report"

- It is released by the World Trade Organisation indicating a country's level of trade protectionism.

2. India has been recently lifted from the priority watch list under the report.

Which of the above statement(s) given above is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

9) Which of the following countries launched an unmanned module named "Harmony of the Heavens" as part of its permanent Space Station mission?

- Japan
- European Union
- China
- None of the above

10) Which of the following organisations released Global Electric Vehicle Outlook 2021?

- Ministry of New and Renewable Energy
- European Union
- International Energy Agency
- None of the above

Answers

1. d

- As part of operation 'Samudra Setu II', Indian Navy had recently deployed seven Indian Naval ships.

Operation Samudra Setu II

- The ships have been deployed **for shipment of liquid medical oxygen-filled cryogenic containers and associated medical equipment from various countries.**
- The Indian Naval Ships are Kolkata, Kochi, Talwar, Tabar, Triakand, Jalashwa and Airavat.

Operation Samudra Setu

- It was launched in 2020 by the Indian Navy.

- Around 4000 Indian citizens stranded in neighbouring countries, amidst COVID 19 outbreak, were successfully repatriated back to India under the operation.

2. b

- Oxygen level is measured by oxygen saturation, known briefly as SpO₂.
- This is a measure of the amount of oxygen-carrying haemoglobin in the blood.
- A healthy individual with normal lungs, will have an arterial oxygen saturation of 95% – 100%.
- According to a WHO training manual on pulse oximetry, if the oxygen saturation is 94% or lower, the patient needs to be treated quickly.
- A saturation of less than 90% is a clinical emergency.

Oxygen Concentrators

- Atmospheric air has roughly 78% nitrogen and 21% oxygen.
- Oxygen concentrators are simple devices which **take in ambient air** and increase the oxygen concentration, by filtering out and throwing away nitrogen.
- These Oxygen concentrators work the same way in supplying oxygen needed by the body such as oxygen tanks or cylinders, with the use of a cannula, oxygen masks or nasal tubes.
- The difference is that, **while the cylinders need to be refilled, the Oxygen Concentrators can work 24 x 7.**
- Using oxygen concentrators without medical guidance can be very harmful.

3. c

- As a special dispensation, the Department of Expenditure, Ministry of Finance at the recommendation of Ministry of Home Affairs has released, in advance of the normal schedule, the 1st instalment of the Central Share of the State Disaster Response Fund (SDRF) for the year 2021-22 to all the States.
- An amount of Rs.8873.6 crore has been released to the States.

- Normally, the first instalment of SDRF is released in the month of June as per the recommendations of the Finance Commission.
- However, in relaxation of normal procedure, not only has the release of SDRF been advanced, the amount has also been released without waiting for the utilization certificate of the amount provided to the States in the last financial year.
- Up to 50% of the amount released i.e. Rs.4436.8 crore can be used by the States for COVID-19 containment measures.

State Disaster Response Fund (SDRF)

- The fund, constituted under Section 48 (1) (a) of the Disaster Management Act, 2005, is the primary fund available with State Governments for responses to notified disasters.
- The Central Government contributes 75% of SDRF allocation for general category States/UTs and 90% for special category States/UTs (NE States, Sikkim, Uttarakhand, Himachal Pradesh, Jammu and Kashmir).
- The annual Central contribution is released in two equal installments as per the recommendation of the **Finance Commission**.
- SDRF shall be used only for meeting the expenditure for providing immediate relief to the victims.

Disaster(s) covered under SDRF

- Cyclone, drought, earthquake, fire, flood, tsunami, hailstorm, landslide, avalanche, cloudburst, pest attack, frost and cold waves.

Local Disaster

- A State Government may use up to 10 percent of the funds available under the SDRF for providing immediate relief to the victims of natural disasters that they consider to be 'disasters' within the local context in the State and which are not included in the notified list of disasters of the Ministry of Home Affairs subject to the condition that the State Government has listed the State specific natural disasters and notified clear and transparent norms and guidelines for such disasters with the approval of the State

Authority, i.e., the State Executive Authority (SEC).

4. a

- India and the United Kingdom share close and friendly ties.
- The bilateral relationship was upgraded to a strategic partnership in 2004.
- UK is the 3rd largest inward investor in India, after Mauritius, and Singapore.

GAVI - the vaccine alliance

- It was created in 2000 as an international organization.
- It brings together public and private sectors with the shared goal of creating equal access to new and underused vaccines for children living in the world's poorest countries.

5. d

- A proclamation of President's Rule may be revoked by the President at any time by a subsequent proclamation.
- Such a proclamation does not require parliamentary approval.

6. d

- Rajasthan government launched the scheme.
- Under the scheme, every family in the state will be able to get free medical insurance of up to Rs. 5 lakh per year.
- It covers Medical expenses of 5 days before hospitalisation and 5 days after discharge.

7. a

- Last year, the ozone hole over arctic has reached maximum extension of around 1 million sq km.
- The European Union's Copernicus Atmosphere Monitoring Service (CAMS) announced that a hole in the Arctic ozone layer has closed.
- The ozone hole's closing was because of a phenomenon called the polar vortex, and not because of reduced pollution levels due to Covid-19 lockdowns around the world.

8. d

- The report is released by Office of the United States Trade Representative.

- It indicates about the adequacy and effectiveness of US trading partners' protection and enforcement of intellectual property rights.
- India, along with eight other countries on the Priority Watch List for IP protection and enforcement.

9. c

- The module, named "Tianhe", or "Harmony of the Heavens", was launched by the China on the Long March 5B, China's largest carrier rocket.
- It will become living quarters for three crew on a permanent space station that it plans to complete by the end of 2022.

10. c

- This report is an annual publication that identifies and discusses recent developments in electric mobility across the globe.
- It is released by the **International Energy Agency**. It is developed with the support of the members of the Electric Vehicles Initiative (EVI).

04-05-2021

1) Consider the following statements with respect to *National Building Code of India*

- 1. It has been published by the Bureau of Indian Standards (BIS).**
- 2. The code will not be applicable to the Union territory of Lakshadweep and Andaman & Nicobar Islands.**
- 3. Under the Code, Hospitals are classified under the hazardous category.**

Which of the statement(s) given above is/are correct?

- 1 only
- 1 and 2 only
- 2 and 3 only
- 1, 2 and 3



2) With respect to *Wood snakes*, consider the following statements:

1. They are harmless, sub-fossorial and often found while digging soil in farms and under the logs in the Western Ghat forests.
2. They feed on earthworms and possibly other invertebrates.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

3) Which of the following is *not* located in the state of Sikkim?

1. Nathu La
2. Gurudongmar Lake
3. Mt. Khangchendzonga
4. Jaldapara Wildlife Sanctuary

Select the correct answer using the codes given below:

- a. 4 only
- b. 2 and 4 only
- c. 2, 3 and 4 only
- d. None of the above

4) *Asian Development Outlook, 2021* was released recently by?

- a. New Development Bank
- b. Asian Development Bank
- c. SCO Interbank Consortium
- d. Asian Infrastructure Investment Bank

5) *Lag B'omer Festival*, sometimes seen in the news recently, is annually celebrated in?

- a. Egypt
- b. Israel

c. Bhutan

d. Turkey

6) Which of the following statement(s) is/are incorrect with respect to *Network for Greening the Financial System (NGFS)*?

1. It is launched in Paris One Planet Summit in 2017 which includes central banks and financial supervisors.
2. Reserve Bank of India is a member of NGFS to support the transition towards a sustainable economy.

Select the correct answer using the codes given below:

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

7) Consider the following statements with respect to *Consolidated Sinking Fund*?

1. The fund should be maintained outside the consolidated fund of the States and the public account.
2. It should not be used for any other purpose, except for redemption of loans.
3. It is administered by Department of economic affairs and respective State treasuries.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 1 & 2 only
- c. 1 & 3 only
- d. 2 & 3 only

8) Consider the following statements with respect *Sedition Law*?

1. The law was inserted into the Section 124A of Indian Penal Code in 1870, by the British.



2. Lala Lajpat Rai was first freedom fighter to get prosecuted under this law in 1919.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

9) What is the following purpose of NASA's GRACE Mission?

- a. Mapping heat variation in Sun's outer layer
- b. Estimates of glacier loss and groundwater pumping.
- c. Measuring climatic changes due to anthropogenic activities.
- d. Mapping variations in the Earth's gravity

10) Consider the following statements with respect to SUTRA Model?

- 1. It is a model for saturated-unsaturated, variable-density ground-water flow with solute or energy transport.
- 2. It has been used to simulate the effects of saltwater intrusion, contaminant transport, and thermal pollution.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answers

1. a

National Building Code of India, 2016

- The code is a national instrument providing guidelines for regulating the building construction activities **across the country**.

- It serves as a Model Code for adoption by all agencies involved in building construction works be they Public Works Departments, other government construction departments, local bodies or private construction agencies.
- It was published by the **Bureau of Indian Standards (BIS)**.

Frequent Hospital fires and the implementation of NBC

- Part 4 of the Code deals with Fire and Life Safety.
- The document provides specifications and guidelines for design and materials that reduce the threat of destructive fires.
- Under the Code, all existing and new buildings are classified by nature of use, such as residential, educational, institutional, assembly (like cinemas and auditoria), business, mercantile, industrial, storage and hazardous.
- **Hospitals come under the institutional category.**
- National Building Code (NBC) is a "recommendatory document", and States have been asked to incorporate it into their local building bylaws, making the recommendations a "mandatory requirement".
- Evidently, fire safety rules exist in every State, but the provisions of the Code are ignored in practice, and even mandatory certifications do not reflect compliance.

2. c

- *Scientists have recently discovered a new species of wood snake in the Western Ghats of Tamil Nadu.*

Xylophis deepaki

- It is a tiny snake of just 20 cm length with iridescent scales.
- First stumbled upon in a coconut plantation in Kanyakumari, is now reported to be an endemic species of Tamil Nadu and has been sighted in a few locations in the southern part of the Western Ghats.
- The species is named in honour of Indian herpetologist Deepak Veerappan for his

contribution in erecting a new subfamily Xylophiinae to accommodate wood snakes.

Wood snakes

- Wood snakes are harmless, sub-fossorial and often found while digging soil in farms and under the logs in the Western Ghat forests.
- They feed on earthworms and possibly other invertebrates.
- Interestingly, their close relatives are found in northeast India and Southeast Asia and are known to be arboreal.

3. a

- Jaldapara Wildlife Sanctuary is situated at the foothills of the Eastern Himalayas in Alipurduar District of northern West Bengal.

4. b

Asian Development Outlook 2021

- It was released recently by the **Asian Development Bank (ADB)**.
- According to the report, the ongoing 'second wave' of COVID-19 pandemic could put India's economic recovery at risk.
- The report said excluding the second wave, India's economy, was expected to grow 11 per cent in fiscal year 2021, which ends March 31, 2022, amid a strong vaccine drive.
- India's gross domestic product (GDP) was expected to expand 7 per cent in 2022.
- The report said that the pandemic was the biggest threat to Asia and the Pacific (including India).
- This was mainly due to delay in vaccine rollouts or major new outbreaks.

5. b

- *At least 44 people were crushed to death in a stampede as tens of thousands of ultra-Orthodox Jews gathered in northern Israel to celebrate the annual Lag B'Omer festival.*

Lag B'Omer festival

- It is an annual Jewish festival observed during the Hebrew month of Iyar.

- It is celebrated on the 33rd day of the Omer, the 49-day period between Passover and Shavuot.
- Lag B'Omer is the only day during the 49-day period when celebration is permitted.
- Hence, it is common for Jews to schedule weddings on this day every year.
- Young boys, who have reached the age of three, are also traditionally brought here for their first hair cut.

6. d

Network for Greening the Financial System (NGFS)

- The Reserve Bank of India (RBI) has joined the Central Banks and Supervisors Network for Greening the Financial System (NGFS) as a member.
- NGFS launched at the Paris One Planet Summit on December 12, 2017.
- It is a group of central banks and supervisors willing to share best practices and contribute to the development of environment and climate risk management in the financial sector.
- It also seeks to mobilise mainstream finance to support the transition towards a sustainable economy.
- The secretariat is hosted by the Banque de France.

7. b

Consolidated Sinking Fund

- CSF was set up in 1999-2000 by the RBI to meet redemption of market loans of the States.
- Initially, 11 States set up sinking funds. Later, the 12th Finance Commission (2005-10) recommended that all States should have sinking funds for amortisation of all loans, including loans from banks, liabilities on account of National Small Saving Fund (NSSF), etc.
- State governments maintain a CSF with the Reserve Bank as a buffer for repayment of their liabilities.

- As per the scheme, State governments could contribute 1-3% of the outstanding market loans each year to the Fund.
- The Fund is administered by the Central Accounts Section of RBI Nagpur.

8. a

Sedition Law

- It is defined as any action that brings or attempts to bring hatred or contempt towards the government of India and has been illegal.
- Sedition laws were enacted in 17th century England when lawmakers believed that only good opinions of the government should survive, as bad opinions were detrimental to the government and monarchy.
- Bal Gangadhar Tilak was first to prosecute under this law in 1897.
- In 1962, the Supreme Court decided on the constitutionality of Section 124A in Kedar Nath Singh v State of Bihar.
- It upheld the constitutionality of sedition, but limited its application to “acts involving intention or tendency to create disorder, or disturbance of law and order, or incitement to violence”.
- It distinguished these from “very strong speech” or the use of “vigorous words” strongly critical of the government.
- In 1995, the Supreme Court, in Balwant Singh v State of Punjab, held that mere sloganeering which evoked no public response did not amount to sedition.
- Recently Supreme Court to agree to examine the constitutional validity of sedition law.

9. d

Gravity Recovery and Climate Experiment (GRACE) mission

- It was selected as the second mission under the NASA Earth System Science Pathfinder (ESSP) Program in May 1997.
- It is a joint partnership between the National Aeronautics and Space Administration (NASA) in the United States and Deutsche Forschungsanstalt für Luft und Raumfahrt (DLR) in Germany.

- It was aimed at accurately mapping variations in the Earth's gravity field over its 5-year lifetime.
- Its objective was to map the Earth's gravity fields by making accurate measurements of the distance between the two satellites, using GPS and a microwave ranging system.
- The gravity variations that GRACE were:
 1. Changes due to surface and deep currents in the ocean;
 2. Runoff and ground water storage on land masses;
 3. Exchanges between ice sheets or glaciers and the oceans; and
 4. Variations of mass within the Earth.

10. c

SUTRA Model

- It was first released in 1984, a three-dimensional groundwater model that simulates solute transport (i.e. salt water) or temperature in a subsurface environment.
- The SUTRA (Saturated-Unsaturated Transport) is a computer program that simulates fluid movement and the transport of either energy or dissolved substances in a subsurface environment.
- It employs a weight grid that is based on a finite element and integrated finite difference hybrid method framework.
- Ministry of Science & Technology has announced that the scientists are working on SUTRA model for charting the trajectory of COVID-19.

05-05-2021

1) PRAYAAS Initiative was launched recently by which of the following organizations?

- a. Indian Council of Medical Research
- b. Indian Council for Cultural Relations
- c. Employees' Provident Fund Organization
- d. Tribal Cooperative Marketing Development Federation of India



2) Consider the following statements with respect to *North East Centre for Technology Application and Reach (NECTAR)*

1. It will look at harnessing and leveraging niche frontier technologies available with central scientific departments and institutions.
2. It is headquartered at Guwahati, Assam.
3. It is an autonomous body under the Department of Science & Technology (DST).

Which of the statement(s) given above is/are correct?

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

3) Consider the following statements with respect to *Deepor Beel Lake*

1. It is a permanent freshwater lake, in a former channel of the Brahmaputra River.
2. It is the only wetland in Assam designated as a site of importance under Ramsar Convention on Wetlands.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

4) India and which of the following countries has recently adopted "*Roadmap 2030*" to elevate bilateral ties to 'Comprehensive Strategic Partnership'?

- a. Japan
- b. France
- c. United Kingdom
- d. United States of America

5) United States of America (USA) has recently approved a major solar energy project in California desert region. Which of the following deserts are *not* a part of California Deserts?

1. Mojave Desert
2. Sonoran Desert
3. Colorado Desert
4. Chihuahuah Desert
5. The Great Basin Desert

Select the correct answer using the codes given below:

- a. 2 and 4 only
- b. 3 and 5 only
- c. 1, 2 and 5 only
- d. None of the above

6) Which of the following statement(s) is/are *incorrect* with respect to *Putola Nach* ?

1. It is a Folk music and Dance festival celebrated across North-Eastern States.
2. In Lower Assam, the form is known as Putala-Bhoariya and influenced by the popular folk form Bhoariya.

Select the correct answer using the codes given below:

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

7) Consider the following statements with respect to *Application Programming Interface (API)*

1. An API is an interface that can be used to program software that interacts with an existing application.
2. Only government and its allied institutions can make use of Open API for developing digital solutions for public welfare.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

8) Consider the following statements with respect *Polar Wandering*

1. It means migration of the magnetic poles over Earth's surface through geologic time.
2. True polar wandering represents the shift in the geographical poles relative to Earth's surface, after accounting for the motion of the tectonic plates.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

9) *R21/Matrix M Vaccine* has a high efficacy against which of the following disease?

- a. SARS - CoV2
- b. MERS - CoV
- c. Malaria
- d. Japanese encephalitis (JE)

10) Consider the following statements with respect to *Integrated Goods and Services Tax (IGST)*

1. It is levied on all the inter-state transfer of goods and services and is governed by the IGST Act.
2. The revenue out of IGST is shared by state government and central government as per the rates fixed by the authorities.

Which of the statement(s) given above is/are incorrect?

Answers

1. c

- The Employees' Provident Fund Organisation (EPFO) sent the pension payment orders to the retiring employees under the Employees' Pension Scheme, 1995 through the "PRAYAAS" initiative.

PRAYAAS Scheme

- PRAYAAS is initiative of the EPFO to disburse pension payment order on the very day of retirement/ superannuation.

2. c

- *Six young girls from the fishing community of Assam has developed a biodegradable and compostable yoga mat made from water hyacinth.*
- The mat called '**Moorhen Yoga Mat**' will soon be introduced to the world market as a unique product.
- The intervention was triggered through an initiative by North East Centre for Technology Application and Reach (NECTAR), to involve the entire women community associated with a collective called 'Simang' meaning dream, led by the 6 girls to create wealth from water hyacinth plants.
- The girls belong to the fishing community living in the fringe of the Deepor Beel.
- *Deepor Beel lake* has been a source of livelihood for 9 villages of the fishing community who shared this biome for centuries.
- But over the years the lake suffered from excessive growth and accumulation of water hyacinth.
- This development could turn this water plant from a nuisance to wealth.

Moorhen Yoga mat

- It was named after Kam Sorai (Purple moorhen, a resident bird of Deepor Beel Wildlife sanctuary).
- The mat comes in a cotton canvas cloth bag where no zip or metal closures are used.
- The bag has adjustable strap and closures effectively designed to be in sync with biodegradability.

North East Centre for Technology Application and Reach (NECTAR)

- It is an autonomous body under Department of Science & Technology (DST), Govt. of India.
- It is headquartered in Shillong, Meghalaya.
- The Centre will look at harnessing and leveraging niche frontier technologies available with central scientific departments and institutions.
- In order to assist the northeastern region, NECTAR will be ensuring applications of appropriate technologies for development in the areas of biodiversity concerns, watershed management, telemedicine, horticulture, etc. through utilization of local products/resources and associated skill development.

3. c

DeeporBeel Lake

- It is a permanent freshwater lake, in a former channel of the Brahmaputra River, to the south of the main river, and to the south-west of Guwahati city.
- It is a listed wetland under the Ramsar Convention in November 2002, for undertaking conservation measures on the basis of its biological and environmental importance.
- It is the only wetland in Assam designated as a site of importance for “conservation and sustainable use” under the Ramsar Convention on Wetlands.
- The DeeporBeel is notified under Guwahati Water Bodies (Preservation and Conservation) Act, 2008.

4. c

- *Indian Prime Minister Mr. Narendra Modi and his British counterpart Mr. Boris Johnson have recently adopted an ambitious ‘Roadmap 2030’ to elevate bilateral ties to a ‘Comprehensive Strategic Partnership’.*

Roadmap 2030

- The Roadmap will pave the way for a deeper and stronger engagement over the next ten years in the areas of people to people contacts, trade and economy, defence and security, climate action and health.

Enhanced Trade Partnership

- The two Prime Ministers launched an ‘Enhanced Trade Partnership’ to unleash the trade potential by setting an ambitious **target of more than doubling bilateral trade by 2030.**
- As part of the ETP, India and the UK agreed on a roadmap to negotiate a comprehensive and balanced FTA, including consideration of an Interim Trade Agreement for delivering early gains.
- The enhanced trade partnership will generate several thousands of direct and indirect jobs in both the countries.

India-UK ‘Global Innovation Partnership’

- A new India-UK ‘Global Innovation Partnership’ was announced at the Virtual Summit that aims to support the transfer of inclusive Indian innovations to select developing countries, starting with Africa.
- Both sides agreed to enhance cooperation on new and emerging technologies, including Digital and ICT products, and work on supply chain resilience.
- They also agreed to strengthen defence and security ties, including in the maritime, counter-terrorism and cyberspace domains.

5. a

- *The US government has recently approved a major solar energy project in the California desert that will be capable of powering nearly 90,000 homes.*
- The 550 million dollar **Crimson Solar Project** will be sited on 2,000 acres of federal land west of Blythe, California.

The California desert region comprises three distinctive deserts

1. The Mojave Desert
 2. The Colorado Desert
 3. The Great Basin Desert
- The Mojave Desert, bounded by the Tehachapi Mountains to the northwest, the San Gabriel and San Bernardino Mountains on the south, and eastward to California's borders with Arizona and Nevada.
 - The Colorado Desert lies in the southeast corner of the state, between the Colorado River and the coastal ranges, and continues into Mexico and Arizona to the southeast.
 - The Great Basin Desert lies immediately to the east of the Sierra Nevada range and extends east to Nevada.

6. a

Putola Nach

- It is an ancient popular traditional folk theatrical performance of Assam.
- The string puppetry of Assam is called Putola Nach and is performed in three areas with distinct characteristics.
- The Putola Nach is also called Putola bhaona due to its ancient link (16th century) with bhaona theatre.
- Areas famous for Putola Nach were Barpeta-Nalbari in western Assam, Kalaigaon in northern Assam and Majuli "island" in eastern Assam.
- In Lower Assam, the form is known as Putala-Bhoariya and influenced by the popular folk form Bhoariya.
- In Kalaigaon of Darrang district, the puppeteers use Bangla, Assamese and Karbi songs in their performances and borrow largely from the mobile theatre of Assam (Bhraymaman).
- It is seen that the puppets of different areas of Assam are divided into khel-dhemalir Putola (playful puppets), dhormo khongkrantiyo Putola (religious puppets) and nrittor Putola (dancing puppets) etc.

- The scholar critics pull the history of Putola Naach (puppetry) to the society of the Stone Age people of pre-historic era.
- It mentioned in the manuscript of Kothagurucharitra that on the twenty second day after the birth of Sankardev, his father Kusumbor Bhuya arranged Saya Putola performance.

7. a

Open API

- In practice, an API is "a set of functions and procedures" that allow one to access and build upon the data and functionality of an existing application.
- An open source API, also called public API, is an application programming interface made publicly available to software developers.
- Open APIs are published on the internet and shared freely, allowing the owner of a network-accessible service to give universal access to consumers.
- These are to support businesses with limited capital to invest in digital applications.
- An overlapping term web service is a resource that's made available over the internet. A Web service is a software system designed to support interoperable machine-to-machine interaction over a network.
- APIs and web services are not mutually exclusive, in fact one is a subset of the other: every web service is an API since it exposes an application's data and/or functionality but not every API is a web service.

8. c

Polar Wandering

- Polar wandering is the motion of a pole in relation to some reference frame.
- It can be used, for example, to measure the degree to which Earth's magnetic poles have been observed to move relative to the Earth's rotation axis.
- This motion is caused by the rearrangement of the mantle and the crust in order to align the maximum inertia with the current rotation axis.

- True polar wandering represents the shift in the geographical poles relative to Earth's surface, after accounting for the motion of the tectonic plates.
- This is the situation with the lowest kinetic energy for the given, unchanging, angular momentum of the earth, and is attained as kinetic energy is dissipated due to the non-rigidity of the earth.
- Global warming and melting glaciers could have redistributed the global water fronts to such an extent that they have redefined the 'polar wander' or the drifting of the Earth's axis.

9. c

R21/Matrix M Vaccine

- Recently, a malaria vaccine candidate 'R21/Matrix M' has shown promise in phase 2b clinical trials, with high efficacy at 77%.
- The previous version 'RTS-S' is a vaccine candidate against malaria that has been in development for more than 30 years.
- R21/Matrix M is a modified version of RTS-S, developed by scientists at University of Oxford, the same location where the AstraZeneca Covid-19 vaccine was developed.
- It was the first to reach WHO's goal of at least 75% efficacy.
- It is designed to stop the Plasmodium falciparum malaria parasite from entering the liver and preventing the subsequent deadly blood stages.
- It targets the liver stage protein of the Plasmodium falciparum life cycle.
- The RTS-S is the first, and to date the only, vaccine to reduce malaria in children.

10. d

Integrated Goods and Services Tax (IGST)

- It is one of the three categories under Goods and Service Tax (CGST, IGST and SGST) with a concept of one tax one nation.
- IGST falls under Integrated Goods and Service Tax Act 2016.
- IGST is charged when movement of goods and services from one state to another. For

example, if goods are moved from Tamil Nadu to Kerala, IGST is levied on such goods.

- The GST on supplies in the course of interState trade shall be levied and collected by the Government of India and
- Such tax shall be apportioned between the Union and the States according to the provisions of law on the recommendations of the Goods and Services Tax Council
- Under the IGST scheme, 50% of the collections will go to the Centre (as the Central Goods and Services Tax component) and the remaining 50% will be allocated to the States and Union Territories (as the State Goods and Services Tax component).
- And, 42% of the CGST will be devolved to the States and Union Territories.
- Centre has waived off IGST on the import of COVID related medical supplies including Remdesivir Injection/API, Medical Oxygen, O2 Concentrators, Cryogenic tanks & COVID Vaccines among others.
- The exemption has been granted till 30th June for free distribution of these medical supplies.

06-05-2021

1) Consider the following statements with respect to *National Data Base for Unorganised Workers (NDUW)*

- 1. The portal aimed at collection of data for unorganised workers for the purpose of giving benefits of the various schemes of the Government.**
- 2. The portal was being developed by the National Informatics Centre (NIC).**
- 3. An inter-state migrant worker can register him/herself on the portal on the basis of submission of Aadhaar alone.**

Which of the statements given above are correct?

- 1 and 2 only
- 1 and 3 only
- 2 and 3 only
- 1, 2 and 3

2) With respect to *Shrews*, consider the following statements:

1. They are small and mouse-like mammals which lives in sub-leaf stratum in the forests.
2. Insects are the primary diet of these animals.
3. They are found only in the main lands and are not found in the Islands.

Which of the statement(s) given above is/are correct?

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

3) Consider the following statements with respect to *Narcondam Island*

1. It is an active inner arc volcano of the Andaman–Java Subduction Complex in the Andaman Sea.
2. Narcondam Hornbill is endemic and found only in the Narcondam Island.
3. It has been listed on the tentative List of World Heritage sites of UNESCO.

Which of the statement(s) given above is/are correct?

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

4) Consider the following statements with respect to *Biodiesel*

1. It is an alternative fuel produced from vegetable oils, animal fats, tallow and waste cooking oil.
2. A significant advantage of Biodiesel is its carbon-neutrality which is, the oilseed absorbs the same amount of CO₂ as is released when the fuel is combusted in a vehicle.

3. Biodiesel is rapidly biodegradable and completely non-toxic.

Which of the statements given above are correct?

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

5) Consider the following statements with respect to *Asiatic Lions*

1. The population estimation of Asiatic Lions is conducted at an interval of every four years.
2. They are listed as critically endangered under the IUCN Red List.
3. Gir National park and its surrounding areas in Gujarat are the only abode of Asiatic Lion.

Which of the statement(s) given above is/are correct?

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

6) Which of the following statement(s) is/are *incorrect* with respect to *Proning* ?

1. It is a medical position in which patients are made to lie on their abdomen to boost their oxygen levels.
2. It is being advised to Covid patients in hospitals, so that they may not require additional oxygen support.

Select the correct answer using the codes given below:

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2



7) Consider the following statements with respect to *Appointment of Chief Minister*

1. The Constitution does not require that a person must prove his majority in the legislative assembly before he is appointed as the Chief Minister.
2. The term of the Chief Minister is not fixed and he holds office during the pleasure of the governor.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

8) Consider the following statements with respect to *Biomedical Waste (Management and Handling) Rules*

1. In State level Chief Secretaries of the States/UTs need to oversee compliance of the rules in every health care facility.
2. Guidelines for biomedical waste management generated from COVID-19 under the rules, categorise expired medicines under Red colour code which needs to be disposed immediately.

Which of the statement(s) given above is/are incorrect?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

9) *Purchasing Manager's Index* is prepared and published by which of the following organizations?

- a. Office for National Statistics under MoSPI
- b. Ministry of Economic Affairs
- c. Economic Adviser in the Ministry of Commerce and Industry.
- d. Independent International Agencies

10) Consider the following statements with respect to *Significant economic Presence (SEP)*

1. It shall mean any transaction in respect of any goods, services or property carried out by a non-resident.
2. Recently user threshold set for an entity to be considered as SEP is set at more than 3 Lakh users and transaction threshold is set at Rs. 2 crores.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answers

1. d

- Section 142 of the Social Security Code, 2020 has been recently notified by Ministry of Labour & Employment covering applicability of Aadhar.
- The notification of section will enable Ministry of Labour and Employment to collect Aadhar details for the database of beneficiaries under various social security schemes.
- It has been clarified that the notification is only for collection of data of workers including migrant workers.
- No benefit will be denied to workers for want of Aadhar.

National Data Base for unorganised workers (NDUW)

- It is at an advanced stage of development by National Informatics Centre.
- The portal is aimed at collection of data for unorganised workers including migrant workers for the purpose of giving benefits of the various schemes of the Government.
- An inter-state migrant worker can register himself on the portal on the basis of submission of Aadhar alone.



2. c

- Scientists from the Zoological Survey of India (ZSI) have discovered a new species of insectivorous mammal, a white-toothed shrew, from Narcondam Island of the Andaman and Nicobar group of islands.
- The species *Crocidura narcondamica* is a new addition to the list of mammals found in the country.
- This is the first discovery of a shrew from this volcanic island (Narcondam Island) and it increases the number of White-toothed shrew (genus *Crocidura*) species in India from 11 to 12.

Shrews

- They are small and mouse-like mammals, and they live in sub-leaf stratum in the forests.
- Insects are the primary diet of these animals.

3. c

- Narcondam Island is a 6.8 km² oceanic island of volcanic origin located about 240 km northeast of Port Blair in the Andaman Islands, in the Bay of Bengal.
- It is a dormant inner arc volcano of the active Andaman–Java Subduction Complex in the Andaman Sea.
- Narcondam is unique for the occurrence of the endemic Narcondam Hornbill (*Aceros narcondami*), which is found only in Narcondam.
- It has been listed on the tentative List of World Heritage sites of UNESCO.

4. d

- Minister of Petroleum & Natural Gas and Steel, Shri Dharmendra Pradhan has recently flagged off the first supply of UCO (Used Cooking Oil) based Biodiesel blended Diesel from IndianOil's Tikrikalan Terminal, Delhi.

Biodiesel

- It is an alternative fuel, similar to conventional or 'fossil' diesel.
- It can be produced from vegetable oils, animal fats, tallow and waste cooking oil.

- A significant advantage of Biodiesel is its carbon-neutrality, i.e. the oilseed absorbs the same amount of CO₂ as is released when the fuel is combusted in a vehicle.
- Also, Biodiesel is rapidly biodegradable and completely non-toxic.

5. a

- Eight Asiatic lions at Hyderabad's Nehru Zoological Park have tested positive for the deadly coronavirus, perhaps the first known case of the human infecting the felines and making them sick in India.

Asiatic Lions

- They are listed as endangered under the IUCN Red List.
- At present Gir National Park and Wildlife Sanctuary is the only abode of the Asiatic lions.
- The population estimation of Asiatic Lions is conducted at an interval of every five years.
- The last population estimation exercise report was released during June 2020.

6. d

Proning

- Proning a medically approved position, which is also being promoted by the Union Ministry of Health and Family Welfare
- Proning has its immediate benefits, as in the recent case of an 82-year-old Covid positive patient from Gorakhpur, whose oxygen levels improved from 75 to 94 after sleeping in a prone position.
- While pruned, the patient is made to lie on his/her belly using pillows.
- One can also lie on their right side (right lateral), left side (left lateral) or sit at a 60-90 degree angle in the 'fowler position'.
- Medically, doctors suggest that a patient remain prone for a minimum of 30 minutes to a maximum of 2 hours.
- This helps improve ventilation to the lungs and hence oxygen levels start improving.
- If oxygen saturation is (SpO₂) drops below 94, timely proning and maintaining good ventilation can save a life.

- Proning improves ventilation to the lungs, and keeps the alveoli units (tiny balloon shaped structures that are the smallest passageway in the respiratory system) open, thereby easing breathing, say the guidelines issued by the Union Ministry of Health.
- Proning should not be practiced during pregnancy, or by patients who have deep venous thrombosis (treated in less than 48 hours).
- Patients with major cardiac conditions, unstable spine femur or pelvic fractures should avoid proning.

7. c

Appointments of Chief Minister

- The Constitution does not contain any specific procedure for the selection and appointment of the Chief Minister.
- Article 164 only says that the Chief Minister shall be appointed by the governor.
- In accordance with the conventions of the parliamentary system of government, the governor has to appoint the leader of the majority party in the state legislative assembly as the Chief Minister.
- When no party has a clear majority in the assembly, then the governor may exercise his personal discretion in the selection and appointment of the Chief Minister.
- The governor usually appoints the leader of the largest party or coalition in the assembly as the Chief Minister and asks him to seek a vote of confidence in the House within a month.
- A person who is not a member of the state legislature can be appointed as Chief Minister for six months, within which time, he should be elected to the state legislature, failing which he ceases to be the Chief Minister.
- Before the Chief Minister enters his office, the governor administers to him the oaths of office and secrecy.
- In his oath of office, the Chief Minister swears:
 1. To bear true faith and allegiance to the Constitution of India,
 2. To uphold the sovereignty and integrity of India,

3. To faithfully and conscientiously discharge the duties of his office, and
 4. To do right to all manner of people in accordance with the Constitution and the law, without fear or favour, affection or ill-will.
- The term of the Chief Minister is not fixed and he holds office during the pleasure of the governor.
 - It does not imply that the governor can dismiss him at any time.
 - He cannot be dismissed by the governor as long as he enjoys the majority support in the legislative assembly.

8. b

Biomedical Waste (Management and Handling) Rules

- According to Biomedical Waste (Management and Handling) Rules, biomedical waste is any waste which is generated during the diagnosis treatment or immunization of human beings or animals or in research activities pertaining thereto or in the production or testing of biologicals
- Central Level - The Central Pollution Control Board (CPCB) to ensure strict compliance of biomedical waste management rules and scientific disposal of the waste.
- State Level - The Chief Secretaries of all the States/UTs to oversee compliance and ensure that authorisation is secured by every health care facility in their respective jurisdiction and also there is adherence to the norms.
- District Level - The District Magistrates in accordance with the District Environmental Plans.
- Central pollution control board (CPCB) has released guidelines for biomedical waste management generated from COVID-19
- These guidelines were to be followed in addition to biomedical waste management rules 2016
- The rules provide for colour coding of waste categories with treatment options
- **Yellow Waste categories include**

1. Human and animal anatomical wasters soiled wastes which can be treated by Incineration or plasma pyrolysis or deep burial.
2. Expired medicines need to be return back to manufacturer or supplier for incineration at >1200 degree Celsius.
3. Chemical wastes can be treated by Incineration.
4. Chemical liquid wastes shall be pre-treated before mixing with other Wastewater.
5. Discarded linens, mattresses etc. which can be treated by Non chlorinated chemical disinfection followed by incineration
6. Microbiological waste shall be pre-treat to sterilise with non-chlorinated chemicals thereafter incineration.
- **Red waste categories include** - Contaminated waste (Recyclable) which can be treated by Autoclaving /micro waving /hydro calving and sterilization and shredding
- **White waste categories include** - Waste sharps including metals which can be treated by Autoclaving/dry heat sterilization
- **Blue waste categories include** - Cardboard boxes with blue coloured marking which can be treated by Disinfection/autoclaving/microwaving/hydroclaving

9. d

Purchasing Manager's Index

- The three principal producers of PMIs are
- 1. Institute for Supply Management (ISM) - which originated the manufacturing and non-manufacturing metrics produced for the United States,
- 2. Singapore Institute of Purchasing and Materials Management (SIPMM) - It produces the Singapore PMI.
- 3. Markit Group - It produces metrics based on ISM's work for over 30 countries worldwide.
- IHS Markit India Manufacturing prepares and publishes Purchasing Managers' Index (PMI) in India.
- It is a survey-based measure that asks the respondents about changes in their perception

about key business variables as compared with the previous month.

- IHS Markit is a global leader in information, analytics and solutions for the major industries and markets that drive economies worldwide.
- As the official data on industrial output, manufacturing and Gross Domestic Product (GDP) growth comes much later, PMI helps to make informed decisions at an earlier stage.
- It is different from the Index of Industrial Production (IIP), which also gauges the level of activity in the economy.
- IIP covers the broader industrial sector compared to PMI.
- However, PMI is more dynamic compared to a standard industrial production index.
- The purpose of the PMI is to provide information about current and future business conditions to company decision makers, analysts, and investors.
- It is calculated separately for the manufacturing and services sectors and then a composite index is also constructed.

10. c

Significant Economic Presence (SEP)

- Income-tax Act, 1961 was amended to bring in the concept of "Significant Economic Presence" for establishing "business connection" in the case of non-resident in India.
- Income tax department notified a threshold for significant economic presence to come in effect from April 1, 2022
- Recently notified thresholds are
- 1. **Transaction threshold** - Any non-resident whose revenue exceeds Rs.2 crore for transaction in respect of goods services or property with any person in India
- 2. **User threshold** - Any entity that systematically and continuously does business with more than 3 lakh users in India
- In 2016 India introduced equalization levy or google tax applicable to payments for digital advertisement services received by non-resident companies without a permanent

establishment (PE) here, if these exceed rupees 1 lakh a year

- It was later expanded to non-resident e-commerce operators with the key Levy at the rate of 2%
- The idea was to tax profits of those online and offline business that do not have a physical presence in India but derive significant economic value from the country
- Later in addition to equalization Levy SEP, was Introduced through finance act, 2018, to enlarge the scope of income of non-residents that arises in India by establishing a business connection of foreign entities in India.

07-05-2021

1) Consider the following statements with respect to *Unique Disability ID (UDID) Portal*

1. The portal aims to create a National Database for Persons with Disabilities (PwDs), and to issue a Unique Disability Identity Card to each person with disabilities.
2. The portal works under the Department of Empowerment of Persons with Disabilities (DEPwD).

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

2) With respect to *TRIPS Agreement*, consider the following statements:

1. It is an international legal agreement between all the member nations of the World Trade Organization (WTO).
2. It was negotiated at the end of the Geneva Round of the General Agreement on Tariffs and Trade (GATT) between 1989 and 1990.
3. The agreement allows compulsory licensing and government use of a

patent without the authorization of its owner.

Which of the statement(s) given above is/are correct?

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

3) With respect to *Kabasura Kudineer*, sometimes seen in the news recently, consider the following statements:

1. It is a poly herbal formulation developed to manage malaria by the Central Council for Research in Ayurvedic Sciences (CCRAS), Ministry of Ayush.
2. It is a classical siddha medicine recommended by the Ministry of AYUSH for the benefit of the vast majority of out of hospital COVID patients.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

4) Which of the following corals can sustain high temperatures?

- a. Fiji Rainbow Reef
- b. Great Barrier Reef
- c. Red Sea Coral Reef
- d. New Caledonia Barrier Reef

5) Consider the following statements with respect to *Central Mechanical Engineering Research Institute (CMERI)*

1. It is the only national level research institute in the field of mechanical engineering in India.



2. It is a constituent laboratory of the Council of Scientific and Industrial Research (CSIR).

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

6) Which of the following statement(s) is/are incorrect with respect to Seismicity in North-Eastern India?

- 1. North-East is demarcated as Seismic Zone III, which indicates a zone with Moderate Damage Risk Zone.
- 2. Mishmi thrust, Lohit thrust, Kopili fault are active tectonic faults in the North-East (NE) Indian region

Select the correct answer using the codes given below:

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

7) Consider the following statements with respect to Model Insurance Villages

- 1. It aims to offer comprehensive insurance protection to all the major insurable risks that villagers are exposed to.
- 2. It is conceptualised and implemented by Life Insurance Corporation of India.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

8) Consider the following statements with respect Casirivimab and Imdevimab Antibody Cocktail

- 1. They are human immunoglobulin G-1 (IgG1) monoclonal antibodies produced by recombinant DNA technology.
- 2. They are specifically directed against the spike protein of SARS-CoV-2.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

9) State of Working India 2021 is prepared and published by which of the following organizations?

- a. Tata Institute of Social Sciences
- b. International Institute for Population Sciences
- c. Azim Premji University
- d. Tata Institute of Fundamental Research

10) Which of the following organizations provide Emergency approvals to Covid-19 drugs in India?

- a. National Pharmaceutical Pricing Authority (NPPA)
- b. Indian Council of Medical Research (ICMR)
- c. Biotechnology Industry Research Assistance Council (BIRAC)
- d. Central Drugs Standard Control Organisation (CDSCO)

Answers

1. c

- The Department of Empowerment of Persons with Disabilities (DEPwD), Government of India has recently issued Gazette notification making it mandatory for all States/UTs to grant certificate of disability through online mode only using UDID portal.

UDID Portal

- Unique ID for Persons with Disabilities project is being implemented since 2016 with a view of creating a National Database for PwDs, and to issue a Unique Disability Identity Card to each person with disabilities.
- The project will not only encourage transparency, efficiency and ease of delivering the government benefits to the person with disabilities, but also ensure uniformity.
- The project will also help in stream-lining the tracking of physical and financial progress of beneficiary at all levels of hierarchy of implementation – from village level, block level, District level, State level and National level.

2. c

- *India has recently welcomed the US support for relaxation in the norms of the agreement on TRIPS to ensure quick and affordable access to COVID vaccines and medicines for developing countries.*
- In October last year, in view of COVID-19 pandemic, India and South Africa had proposed in WTO for temporary waiver from certain provisions of the Trade Related Aspects of Intellectual Property Rights (TRIPS) agreement.
- As a result of proactive outreach by India and other like-minded countries, the proposal has received the support of more than 120 countries.

TRIPS Agreement

- The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) is an international legal agreement between all the member nations of the World Trade Organization (WTO).
- It sets down minimum standards for the regulation by national governments of many forms of intellectual property (IP) as applied to nationals of other WTO member nations.
- TRIPS was negotiated at the end of the Uruguay Round of the General Agreement on Tariffs and Trade (GATT) between 1989 and 1990 and is administered by the WTO.

- The TRIPS agreement introduced intellectual property law into the multilateral trading system for the first time and remains the most comprehensive multilateral agreement on intellectual property to date.

TRIPS requires WTO members to

1. Provide copyright rights, covering authors and other copyright holders, as well as holders of related rights, namely performers, sound recording producers and broadcasting organizations; geographical indications;
 2. Industrial designs;
 3. Integrated circuit layout-designs;
 4. Patents;
 5. New plant varieties;
 6. Trademarks;
 7. Trade names and undisclosed or confidential information.
- TRIPS also specifies enforcement procedures, remedies, and dispute resolution procedures.
 - All the WTO agreements (except for a couple of “plurilateral” agreements) apply to all WTO members.
 - The members each accepted all the agreements as a single package with a single signature — making it, in the jargon, a “single undertaking”.
 - The TRIPS Agreement is part of that package. Therefore it applies to all WTO members.
 - Article 31 allows compulsory licensing and government use of a patent without the authorization of its owner.
 - But this can only be done under a number of conditions aimed at protecting the legitimate interests of the right holder.

3. b

- *In a concerted response to the second surge of COVID-19 infection in the country, the Ministry of Ayush is launching a massive nationwide campaign recently to distribute its proven poly herbal Ayurvedic drugs AYUSH 64 and **Sidha drug Kabasura Kudineer**.*
- **Kabasura Kudineer is included in the Guidelines for Siddha Practitioners for COVID 19 by the AYUSH Ministry.**

Kabasura kudineer

- It is an herbal concoction, comprising dry ingredients of ginger, pippali, clove, cirukancori root, mulli root, kadukkai, ajwain and many other herbs.
- The ingredients are powdered and mixed with water, then boiled to make a decoction of one-fourth of its initial volume.

AYUSH-64

- It is an **Ayurvedic formulation** which was developed by the Central Council for Research in Ayurvedic Sciences (CCRAS), the apex body for research in Ayurveda under the Ministry of Ayush, in 1980 **for management of Malaria**.
- The drug can be useful for the treatment of asymptomatic, mild to moderate COVID-19 infection cases.

4. c

Red Sea Corals

- The corals in the **Gulf of Aqaba**, at the northern tip of the **Red Sea**, have been known to be **resistant to higher temperatures**.
- By studying them at the laboratory, researchers have now decoded the full molecular mechanism behind this resistance.
- The coral *Stylophora pistillata* has a rapid gene expression response and recovery pattern when exposed to heat stress.
- The team noted that the algae and bacteria they live in symbiosis with the coral can also withstand average temperatures 5°C higher than what they typically experience.

5. c

- **CSIR-Central Mechanical Engineering Research Institute (CMERI)** has recently transferred its **Oxygen Concentrator Technology and High Flow Rate Iron Removal Plant Technology** virtually.

Central Mechanical Engineering Research Institute (CMERI)

- It is a public engineering research and development institution in Durgapur, West Bengal, India.

- It is a constituent laboratory of the Indian Council of Scientific and Industrial Research (CSIR).
- This institute is the only national level research institute in the field of mechanical engineering in India.
- CMERI is mandated to serve industry and develop mechanical engineering technology so that India's dependence on foreign collaboration is substantially reduced in strategic and economy sectors.

6. a

Seismicity in North-Eastern India

- A lineament is a linear feature in a landscape dictated by an underlying geological structure such as a fault.
- According to a recent study, an unfamiliar lineament is one factor behind frequent earthquakes in northern Assam's Sonitpur area.
- According to the Geological Survey of India (GSI), Sonitpur district lies within a tectonically complex triangular area bounded by the east-west trending Atherkhet Fault, the northwest-southeast trending Kopili Fault and a north-south trending lineament.
- The Siang Fracture, Yemla Fault, Namula Thrust and Canyon Thrust are spread across the northeast and are active along with Main Himalayan Thrust, Main Boundary Thrust, Main Central Thrust and several subsidiary faults.
- The northeast is demarcated as Seismic Zone V, which indicates a zone with high vulnerability.
- Seismic Zone III is Moderate Damage Risk Zone several megacities like Chennai, Mumbai, Kolkata and Bhubaneswar lie in this zone.
- The Indian plate is moving northeast toward the Eurasian plate in the Himalayan region, their oblique collision and release of stress and strain accumulated in the local tectonic or fault environments lead to earthquakes.

7. a

Model Insurance Villages

- Insurance Regulatory & Development Authority of India (IRDAI) has come out with the concept of model insurance villages.
- The idea behind the model village concept is to make available covers at affordable or subsidised cost.
- The concept may be implemented in a minimum of 500 villages in different districts of the country in the first year and increased to 1,000 villages in the subsequent two years.
- The choice of villages is to be made carefully, considering the various relevant aspects and parameters in order to implement the concept successfully for a period of three to five years.
- The efforts in selected villages need to be continued for a minimum of 3 to 5 years so as to make insurance benefits visible to the community.
- It aims to demonstrate the concept and efficacy of insurance as risk management tool and to make farmers and rural population aware of benefits of insurance.
- The special focused efforts need to be made to cover the entire population in the village and their property.
- The coverage will include farms/crops, farm machineries, vehicles, different village level services, manufacturing enterprises and other specific insurance needs of the particular village through targeted efforts.
- The model villages are expected to tackle losses due to natural calamities like floods and earthquakes as there is no catastrophe insurance in the country now.

8. c

Casirivimab and Imdevimab Antibody Cocktail

- Central Drugs Standards Control Organisation has provided an emergency use authorisation (EUA) for casirivimab and imdevimab for the treatment of mild to moderate Covid-19 in India.
- The antibody cocktail (Casirivimab and Imdevimab) is seen useful for high-risk patients before their condition worsens.

- Casirivimab and imdevimab significantly shortened the duration of symptoms by four days during the clinical trials.
- Monoclonal antibodies are laboratory-made proteins that mimic the immune system's ability to fight off harmful pathogens such as viruses.
- They are designed to block the virus' attachment and entry into human cells.
- It should be refrigerated unopened vials at 2°C to 8°C (36°F to 46°F) in the individual original carton to protect from light.

9. c

State of Working India 2021

- Recently, the Azim Premji University has released a report titled 'State of Working India 2021: One Year of Covid-19'.
- The report highlighted that salaried employees fell back on self-employment and daily wage work.
- It reveals that workers came back to more precarious and informal forms of employment after the 2020 lockdown.
- The report shows that nearly half of formal salaried workers moved to informal work, either as self-employed (30%), casual wage (10%) or informal salaried (9%) workers.
- Agriculture and trade emerged as the fall back sectors, while education, health and professional services sectors saw the highest outflow.
- The report stated that around 18 per cent of education sector workers have now moved to agriculture.
- The agriculture sector absorbed 10-20 per cent of workers from other sectors.
- The general category workers and Hindus were more likely moved into self-employment, while the marginalised caste workers and Muslims fell back upon daily wage work.
- It found that while "men (were) more likely to move into informal employment, women (were) more likely to move out of the workforce."

- The report revealed that 230 million additional individuals fell below the national minimum wage poverty line.

10. d

Regular procedure for drug approval

- Vaccines and medicines, and even diagnostic tests and medical devices, require the approval of a regulatory authority before they can be administered.
- In India, the regulatory authority is the Central Drugs Standard Control Organisation (CDSCO).
- For vaccines and medicines, approval is granted after an assessment of their safety and effectiveness, based on data from trials.
- In the US, the Food and Drug Administration (FDA) grants EUA only after it has been determined that the “known and potential benefits outweigh the known and potential risks of the vaccine” (or medicine).
- This means that a EUA application can be considered only after sufficient efficacy data from phase 3 trials had been generated.
- A EUA cannot be granted solely on the basis of data from phase 1 or phase 2 trials.
- Experts and activists say India’s drug regulations do not have provisions for a EUA, and the process for receiving one is not clearly defined or consistent.
- Despite this, CDSCO has been granting emergency or restricted emergency approvals to Covid-19 drugs during this pandemic for remdesivir and favipiravir.

Central Drugs Standards Control Organisation (CDSCO)

- It is the Central Drug Authority for discharging functions assigned to the Central Government under the Drugs and Cosmetics Act.
- It has six zonal offices, four sub-zonal offices, 13 port offices and seven laboratories under its control.
- The major functions of CDSCO are:
 - Regulatory control over the import of drugs,
 - Approval of new drugs and clinical trials,

- Meetings of Drugs Consultative Committee (DCC) and Drugs Technical Advisory Board (DTAB),
- Approval of certain licenses as Central License Approving Authority.

08-05-2021

1) Consider the following statements with respect to ID-Art App

- The app incorporates Braille into visual art and thus making modern art more accessible for blind and low-vision communities around the world.
- It was launched by the Ministry of Culture in cooperation with Ministry of Social Justice and Empowerment.

Which of the statement(s) given above is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

2) International researchers have developed a new method to extract metals directly from the parent ore deep inside earth. In the new technique, electrodes are drilled into an ore body and an electric current is applied. Then the electrically charged metal ions, such as copper, gets transported through the rock.

In the above method, which of the following principles are used?

- Electrodialysis
- Electrofiltration
- Electromigration
- Electrodeionization

3) M.G. Gaikwad commission, often seen in the news recently, is associated with?

- Criminal Justice Reform System
- Reservation to Maratha Community
- Study of COVID impact to captive animals

d. Assessment of increasing Methane gas in India

d. Neither 1 nor 2

4) With respect to the 102nd Amendment Act, 2018, consider the following statements:

1. It inserted a new article 338B in the constitution which provides for National Commission for Backward Classes (NCBC).
2. It inserted a new article 342-A which empowers the President to notify the list of socially and educationally backward classes of that state / union territory.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

5) Which one of the following best describes the term "Rogue Planet"?

- a. A Planet orbiting two stars
- b. A Planet that does not orbit a star
- c. A Planet that has unpredictable orbits
- d. A Planet that disturbs the orbit of its neighbour in a star system

6) Which of the following statement(s) is/are incorrect with respect to Lumpy Skin Disease (LSD)

1. The LSD is caused by infection of cattle or water buffalo with the poxvirus Lumpy skin disease virus (LSDV).
2. It spreads through mosquitoes, flies and ticks and also through saliva and contaminated water and food.

Select the correct answer using the codes given below:

- a. 1 only
- b. 2 only
- c. Both 1 and 2

7) Consider the following statements with respect to Foam Path

1. It is an aviation safety practice of spreading a layer of fire suppression foam on an airport runway prior to an emergency landing.
2. Directorate General of Civil Aviation highly recommends foaming the runway in its Airport service manual.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

8) Consider the following statements with respect to Broadbalk Experiment

1. It aims to study the optimum nutrition requirements to improve crop yield.
2. It test the effects of different organic and inorganic fertilisers on soil fertility.
3. The experiment result states that effects of soil-borne pests and diseases are minimised in case the field gets a two-year break.

Which of the statement(s) given above is/are correct?

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

9) Dahla Dam is constructed across which one of the following Rivers?

- a. Chenab River, India
- b. Indus River, Pakistan
- c. Arghandab Dam, Afghanistan
- d. Shweli River, Myanmar

10) Which of the following statement(s) is/ are correct with respect to *Thane Creek*?

1. Thane creek has been formed due to seismic faults lying below it which runs from Uran to Thane.
2. Flamingo Sanctuary in Thane creek and its surrounding areas are declared Eco-Sensitive Zones (ESZ)

Select the correct answer using the codes given below:

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answers

1. d

- The **Interpol** has recently launched a mobile phone application (app) "**ID-Art**"

ID-Art App

- The app will help identify stolen cultural property, reduce smuggling and increase the possibility of recovering stolen works and artefacts.
- It enables users — from law enforcement agencies to the general public — to get mobile access to the Interpol database of stolen works of art, create an inventory of private art collections and report cultural sites that are potentially at risk, said the Interpol.
- It is available for both Android and Apple devices.
- The app's users can immediately cross-check if an object is among the over 52,000 items registered as stolen in the Interpol's "Stolen Works of Art" database.

2. c

- A team of international researchers has recently developed a new method to extract metals directly from the parent ore deep inside earth.

- In the new technique, electrodes are drilled into an ore body and an electric current is applied.
- This can transport the electrically charged metal ions, such as copper, through the rock via a process called **electromigration**.

Electromigration

- It is the transport of material caused by the gradual movement of the ions in a conductor due to the momentum transfer between conducting electrons and diffusing metal atoms.

3. b

- A five-judge Constitution Bench of the Supreme Court has unanimously declared a Maharashtra law which provides reservation benefits to the Maratha community, taking the quota limit in the State in excess of 50%, as **unconstitutional**.

Background

- In November 2018, the Maharashtra legislature unanimously passed the Bill giving 16% reservation to the Maratha community in jobs and education by according them the status of Socially and Economically Backward Class (SEBC).
- It was granted based on the report of M.G. Gaikwad commission submitted in 2018.
- The report concluded that the community had lost its self-esteem, which could be remedied by giving them reservation under the Socially and Economically Backward Classes category.

4. c

- A five-judge Constitution Bench of the Supreme Court has unanimously declared a Maharashtra law which provides reservation benefits to the Maratha community, taking the quota limit in the State in excess of 50%, as unconstitutional.
- The Supreme Court also declared that only President can take decisions in declaring the Socially and Economically Backward Community.
- The 102nd Constitution Amendment Act had introduced Articles 338B and 342A in the Constitution.

- Article 338B gives constitutional status to the National Backward Classes Commission.
- Article 342A empowers the President to specify the socially and educationally backward communities in a State.

5. b

Rogue Planet

- A rogue planet (also termed an interstellar, nomad, free-floating, unbound, orphan, wandering, starless, or sunless planet) is a planetary-mass object that does not orbit a star directly.
- These interstellar nomads or starless planets were first sighted in 1998.
- OTS 44 with over 11 times Jupiter's mass was the first rogue planet to be discovered.
- It is 554 light years away.

6. d

Lumpy Skin Disease (LSD)

- The LSD is caused by infection of cattle or water buffalo with the poxvirus Lumpy skin disease virus (LSDV).
- The virus is one of three closely related species within the genus capripoxvirus, the other two species being Sheeppox virus and Goatpox virus.
- It appears as nodules of two to five centimetre diameter all over the body, particularly around the head, neck, limbs, udder (mammary gland of female cattle) and genitals.
- The lumps gradually open up like large and deep wounds.
- Other clinical signs include general malaise, ocular and nasal discharge, fever, and sudden decrease in milk production.
- According to the Food and Agriculture Organization (FAO) the mortality rate is less than 10%.
- Control and prevention of lumpy skin disease relies on four tactics - movement control (quarantine), vaccination, slaughter campaigns and management strategies.

- There is no treatment for the virus, so prevention by vaccination is the most effective means of control.

7. a

Foam Path

- Following a crash-landing, liquids leaking from the aircraft, which are not yet burning, start evaporating, thereby resulting in forming an air-vapour mixture that is flammable or even highly explosive.
- In such cases, extinguishing foam is used preventively and the liquid is covered with a foam carpet as a vapour barrier.
- Airport fire brigades create a foam carpet in order to secure an emergency landing if the landing gear of an aircraft is not extended or is unstable.
- This is done in order to suppress sparking and burning of any aircraft metals due to friction with the runway surface.
- Although originally it was thought that foam paths would prevent fires, the practice is now discouraged.
- The International Civil Aviation Organization does not recommend foaming the runway in its Airport Services Manual, stating that the effectiveness of runway foaming is not fully substantiated by the real evidence of operational incident studies.

8. d

Broadbalk Experiment

- The research was started by agricultural scientist John Bennet Lawes and chemist Joseph Henry Gilbert under the Rothamsted Research institution in the autumn of 1843, when the first crop of wheat was sown on a field named Broadbalk.
- Hertfordshire County of southern England has been under continuous scientific experiments for the past 178 years, making it the world's oldest and longest running study.
- Every year since then, researchers from the institute have sown winter wheat on all or some parts of the field to compare crop yields, when grown using inorganic fertilisers with those when grown using organic or farmyard manure (FYM).



- A patch that receives no fertiliser or manure inputs is also maintained for control treatment.
- After 175 years of study, the scientists have come up with some interesting observations.
- 1. They have found that yields from the section where wheat was grown with a two-year break, were higher (2 tonnes per ha) than from sections where wheat was grown continuously.
- 2. Research showed that the use of organic manure had increased the soil organic matter content on some plots.
- 3. Soil has the ability to act as a sink for methane, CH₄ is oxidised in the soil when nitrogen was applied as against soil receiving FYM or that with neither fertiliser nor manure.
- 4. There is little benefit for farmers using fertiliser with such high levels of nitrogen.
- 5. Since most of the nitrogen gets converted to nitrate, any residue not retained in soil may convert to nitrous oxide, a greenhouse gas that leaks when water drains through the soil.
- 6. Amount of organic carbon (C) in topsoil (0-23 centimetres) in FYM-treated plots was more than double of that in fertiliser-treated plots.
- 7. Soil nitrogen concentration remained almost constant in the unfertilised plot (nil) and the plot given phosphorus-potassium since the start of the experiment.

9. c

Dahla Dam

- It is built on Arghandab Dam, is located in the Shah Wali Kot District of Kandahar Province in Afghanistan.
- Constructed in 1952, it is said to be the second largest dam in Afghanistan.
- It provides irrigation to farmers via a network of canals as well as drinking water for the provincial capital, is now under Taliban control.
- Tarbela Dam in Pakistan is constructed on the Indus River, while the controversial Kalabagh dam is also being constructed on Indus river.
- The Pakal Dul Dam is under construction on the Marusadar River, a tributary of the Chenab

River, in Kishtwar district of the Indian Jammu and Kashmir.

10. c

Thane Creek

- It is an inlet in the shoreline of the Arabian Sea that isolates the city of Mumbai from the Indian mainland.
- The creek is divided into two parts: the Ghodbunder-Thane stretch and the Thane - Trombay (Uran) stretch.
- Flamingo Sanctuary in Thane is the second marine sanctuary of Maharashtra after Malvan sanctuary, and lies along the western bank of the Thane Creek.
- It is recognized as an "Important Bird Area" by the Bombay Natural History Society.
- Recently, the Ministry of Environment, Forest and Climate Change (MoEFCC) has notified an Eco Sensitive Zone (ESZ) around the Thane Creek Flamingo Sanctuary (TCFS, Maharashtra).
- The ESZ is meant to act as a buffer for protected areas and reduces developmental pressures around a wildlife sanctuary or national park.

Eco Sensitive Zone

- Eco-Sensitive Zones (ESZs) or Ecologically Fragile Areas are areas within 10 kms around Protected Areas, National Parks and Wildlife Sanctuaries.
- In case of places with sensitive corridors, connectivity and ecologically important patches, crucial for landscape linkage, even areas beyond 10 km width can be included in the eco-sensitive zone.
- ESZs are notified by the Ministry of Environment, Forest and Climate Change (MoEFCC), under Environment Protection Act, 1986.



10-05-2021

1) With respect to Arctic Science Ministerial (ASM), consider the following statements:

1. It is a global platform for discussing research and cooperation in the Arctic region.
2. ASM3, jointly organized by Japan and India, is the first Ministerial meeting being held in Asia.
3. The theme for the 3rd Arctic Science Ministerial (ASM3) is 'Knowledge for a Sustainable Arctic'.

Which of the statements given above are correct?

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

2) With respect to Arctic Council, consider the following statements:

1. It is an intergovernmental forum promoting cooperation among the Arctic States on common Arctic issues explicitly excludes military security.
2. India is the only country that enjoys Observer status in the Arctic Council since 2013.
3. The Chairmanship of the Arctic Council rotates every two years among the Arctic States only.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 3 only
- c. 1 and 3 only
- d. None of the above

3) With respect to 2-deoxy-D-glucose (2-DG), sometimes seen in the news recently, consider the following statements:

1. It is an anti-COVID drug developed by Central Council for Research in Ayurvedic Sciences (CCRAS).
2. The drug comes in powder form in sachet, which is taken orally by dissolving it in water.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

4) Which one of the following statements is incorrect regarding Gopal Krishna Gokhale?

- a. He was a mentor to both Mahatma Gandhi and Mahadev Govind Ranade
- b. He established the Servants of India Society at Pune, Maharashtra in 1905
- c. He launched the English weekly newspaper Hitavada in 1911
- d. He played a leading role in bringing about Morley-Minto Reforms, the beginning of constitutional reforms in India

5) Hakki Pikki is a tribal community inhabited in which of the following states?

- a. Goa
- b. Manipur
- c. Karnataka
- d. Lakshadweep Islands

6) Which of the following statement(s) is/ are correct with respect to Long March 5B Rocket

1. It is a heavy weight launch vehicle developed by Roscosmos State Corporation for Space Activities (ROSCOSMOS) by Russia.
2. It is the launch vehicle designed to use exclusively non-hypergolic liquid propellants.



Select the correct answer using the codes given below:

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

7) Consider the following statements with respect to *Sovereign Credit Rating*

1. It shows the level of risk associated with lending to a particular country since it is applied to all bonds issued by the government.
2. It consider various factors such as the political environment, economic status, and its creditworthiness to assign an appropriate credit rating.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

8) *Global Methane Assessment* is released by which of the following environmental organisations?

- a. Green Peace International
- b. Food and Agriculture Organization
- c. United Nations Development Programme
- d. Climate and Clean Air Coalition

9) Which of the following organisations have constituted *Regulations Review Authority (RRA 2.0)*?

- a. National Green Tribunal
- b. Reserve Bank of India
- c. Central Pollution Control Board
- d. Central Pollution Control Board

10) Which of the following statement(s) is/ are correct with respect to *Non-Steroidal Anti-Inflammatory Drugs (NSAIDs)*?

1. It is uses as a common treatments for acute pain and rheumatological diseases such as rheumatoid arthritis and osteoarthritis.
2. It blocks the production of certain body chemicals that cause inflammation.
3. It may lead to higher rates of death or severe disease in patients who are hospitalised with Covid-19.

Select the correct answer using the codes given below:

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

Answers

1. b

- India is participating in the 3rd Arctic Science Ministerial (ASM3) - the global platform for discussing research and cooperation in the Arctic region (8-9 May, 2021).
- Dr Harsh Vardhan, who participated in the event also proposed that India may be given an opportunity to host the next or future ASM.
- The first two meetings—ASM1 and ASM2—were held in the USA in 2016 and Germany in 2018, respectively.

3rd Arctic Science Ministerial (ASM3)

- ASM3, jointly organised by **Iceland and Japan**, is the first Ministerial meeting being held in Asia.
- The meeting is designed to provide opportunities to various stakeholders, including academia, indigenous communities, governments and policymakers, to enhance collective understanding of the Arctic region.
- The theme for this year is '**Knowledge for a Sustainable Arctic**'.



2. c

Arctic Council

- It is the leading intergovernmental forum promoting cooperation, coordination and interaction among the Arctic States, Arctic Indigenous peoples and other Arctic inhabitants on common Arctic issues, in particular on issues of sustainable development and environmental protection in the Arctic.
- It was formally established in 1996.

The Ottawa Declaration defines the following states as Members of the Arctic Council:

1. Sweden
 2. Canada
 3. Finland
 4. Iceland
 5. Norway
 6. The United States
 7. The Russian Federation
 8. The Kingdom of Denmark
- Observer status in the Arctic Council is open to non-Arctic states.
 - Since 2013, India enjoys 'Observer' status in the Arctic Council with twelve other countries (Japan, China, France, Germany, UK, Italy, Switzerland, Poland, Spain, Netherlands, Singapore, and South Korea).
 - The Chairmanship of the Arctic Council rotates every two years among the Arctic States.
 - The Arctic Council's mandate, as articulated in the Ottawa Declaration, **explicitly excludes military security**.

3. b

- *Drugs Controller General of India (DCGI) has recently approved an anti-COVID drug developed by DRDO for emergency use.*

2-deoxy-D-glucose (2-DG)

- It is an anti-COVID-19 therapeutic application developed by Institute of Nuclear Medicine and Allied Sciences (INMAS), a lab of Defence Research and Development Organisation

(DRDO), in collaboration with Dr Reddy's Laboratories (DRL), Hyderabad.

- Clinical trial results have shown that this molecule helps in faster recovery of hospitalised patients and reduces supplemental oxygen dependence.
- The drug will be of immense benefit to the people suffering from COVID-19.
- The **drug comes in powder form** in sachet, which is taken orally by dissolving it in water.
- It accumulates in the virus infected cells and prevents virus growth by stopping viral synthesis and energy production.
- Its selective accumulation in virally infected cells makes this drug unique.

4. a

- Gopal Krishna Gokhale joined the Indian National Congress (INC) in 1889, **motivated by his mentor, social reformer M G Ranade**.

5. c

Hakki Pikki Tribes

- It literally means bird hunters in Kannada.
- They are a nomadic tribe of hunter-gatherers that once roamed the forests of the country.
- In the 1970's, once stringent wildlife protection laws were passed, the government rehabilitated the tribe to urban areas in Karnataka.

6. b

Long March 5B Rocket

- China launched the Long March 5B' rocket and prototype spacecraft in 2020 .
- It aims to operate a permanent space station and send astronauts to the Moon.
- It was considered as China's successful step to operate a permanent space station and send astronauts to the Moon.
- Long March 5B' Rocket was launched from the Wenchang launch site in the southern island of Hainan.
- It is expected to transport astronauts to a space station that China plans to complete by

2022 and eventually to the Moon, It will have capacity for a crew of six.

- Recently debris from a Chinese rocket Sunday made an uncontrolled re-entry into the Earth's atmosphere and disintegrated over the Indian Ocean, with remnants falling at a location to the west of Maldives.
- The debris came from the upper stage of a Long March 5B rocket that had been launched for putting into orbit a core module of the new Tianhe space station, which is expected to become operational in 2022.

Non-Hypergolic Liquid Propellants

- Liquid propellants can consist of a single chemical (a monopropellant) or a mix of two chemicals, called bipropellants.
- Bipropellants can further be divided into two categories; hypergolic propellants, which ignite when the fuel and oxidizer make contact, and non-hypergolic propellants which require an ignition source.
- A hypergolic propellant combination used in a rocket engine is one whose components spontaneously ignite when they come into contact with each other.

7. c

Sovereign Credit Rating

- Sovereign Credit Rating is an assessment of a country's creditworthiness.
- The three influential rating agencies include Moody's Services, Fitch Ratings, and Standard & Poor's.
- These ratings are important for countries that want to access funds in the international bond market.
- A credit rating agency will evaluate a country's economic and political environment at the request of the government and assign a rating stretching from AAA grade to grade D.
- A country with high credit ratings can access funds easily from the international bond market and also secure foreign direct investment.
- A low sovereign credit rating means that a country faces a high risk of default and may

have experienced difficulties in paying back debts.

- Determinants of Sovereign Credit Ratings are as follows
- **Per capita income** - It estimates the income earned per person in a specific area.
- It is calculated by taking the total income earned by individuals in a given area divided by the number of people residing in that area.
- A high per capita income increases the potential tax base of the government, which subsequently increases the government's ability to repay its debts.
- **GDP growth** - It refers to the percentage growth in the GDP of a country from one quarter to another as the economy navigates a business cycle.
- Strong GDP growth means that a country will be able to meet its debt obligations since the growth in GDP results in higher tax revenues for the government.
- **Rate of inflation** - Sovereign debts are susceptible to changes in the rate of inflation, and an increase in inflation will affect a country's ability to finance its debt.
- A high inflation rate points to structural problems in a country's finances, and it is likely to cause political instability as the public becomes dissatisfied with the increasing inflation.
- **External debt** - Some countries rely heavily on external debts to finance their development and infrastructure projects.
- Increasing debt levels translate to a higher risk of default, which may affect its ability to access funding from international lenders.
- **Economic development** - The credit rating agencies consider the level of development when determining the sovereign credit rating of a country.
- **History of defaults** - A country that defaulted on its debt obligations in the past is considered to have a high sovereign credit risk by rating agencies.
- It means that countries with a record of defaults receive low ratings, making them less

attractive to investors looking for low-risk investments.

8. d

Global Methane Assessment

- Recently, a report, titled Global Methane Assessment: Benefits and Costs of Mitigating Methane Emissions suggested that the world needs to dramatically cut methane emissions to avoid the worst of climate change.
- The report was released by the Climate and Clean Air Coalition and the United Nations Environment Programme (UNEP).
- Report highlights are as follows
 1. Human-caused methane emissions are increasing faster currently than at any other time since record keeping began in the 1980s.
 2. Carbon dioxide levels have dropped during the Covid-19 pandemic. However, methane in the atmosphere reached record levels last year.
 3. This is a cause of concern as it was responsible for about 30% of warming since pre-industrial times.
 4. Human-caused methane emissions must be cut by 45% to avoid the worst effects of climate change.
 5. Such a cut would prevent a rise in global warming by up to 0.3 degrees Celsius by 2045.
 6. It would also prevent 260,000 premature deaths, 775,000 asthma-related hospital visits annually, as well as 25 million tonnes of crop losses.
 7. However, cutting methane emissions can rapidly reduce the rate of warming in the near-term as the gas broke down quickly.

Methane

- Methane is gas that is found in small quantities in Earth's atmosphere.
- Methane is the simplest hydrocarbon, consisting of one carbon atom and four hydrogen atoms (CH₄).
- Methane is a powerful greenhouse gas, it's flammable and is used as a fuel worldwide.
- Methane is produced by the breakdown or decay of organic material and can be

introduced into the atmosphere by following ways

1. **Natural processes** - Such as the decay of plant material in wetlands, the seepage of gas
2. from underground deposits or the digestion of food by cattle
3. **Human activities** - Such as oil and gas production, rice farming or waste management.
- Methane is 84 times more potent than carbon and doesn't last as long in the atmosphere before it breaks down.
- This makes it a critical target for reducing global warming more quickly while simultaneously working to reduce other greenhouse gases.
- It is responsible for creating ground-level ozone, a dangerous air pollutant.

9. b

Regulations Review Authority (RRA 2.0)

- Reserve Bank of India (RBI) has constituted an Advisory Group to assist the second Regulations Review Authority (RRA 2.0).
- The RBI has set up the RRA 2.0, initially for a period of one year from 1st May, 2021, with a view to streamline regulations and reduce the compliance burden of regulated entities.
- In 1999, the RBI had set up a Regulations Review Authority (RRA) for reviewing the regulations, circulars, reporting systems, based on the feedback from the public, banks, and financial institutions.
- RRA 2.0 will focus on streamlining regulatory instructions, reducing compliance burden of the regulated entities by simplifying procedures and reducing reporting requirements, wherever possible.
- It will also obtain feedback from regulated entities.
- Regulated entities include commercial banks, urban co-operative banks, Non-Banking Financial Companies.

10. a

Non-Steroidal Anti-Inflammatory Drugs (NSAIDs)

- Prostaglandins are a family of chemicals that are produced by the cells of the body and have several important functions.
- They promote inflammation that is necessary for healing, but also results in pain, and fever.
- The NSAIDs block the cyclooxygenase (COX) enzymes and reduce prostaglandins throughout the body.
- The NSAID family of anti-inflammatory drugs includes those widely used by the general public like ibuprofen, an active substance in common drugs, such as Nurofen or Advil or ketoprofen.
- They are good at treating pain caused by slow tissue damage, such as arthritis pain.
- They also work well fighting back pain, menstrual cramps and headaches.
- They work like corticosteroids (also called steroids), without many of the side effects of steroids.
- Recently, a new observational study of more than 72,000 people in the UK published that the use of non-steroidal anti-inflammatory drugs (NSAIDs) does not lead to higher rates of death or severe disease in patients who are hospitalised with Covid-19.
- In patients with rheumatological disease, the use of NSAIDs did not increase mortality.
- It also found that those who took NSAIDs were no more likely to be admitted to critical care, need invasive or non-invasive ventilation, or require oxygen.

11-05-2021

1) **“Connected Commerce: Creating a Roadmap for a Digitally Inclusive Bharat”** is a report that identifies challenges in accelerating digital financial inclusion in India and provides recommendations for making digital services accessible to all its citizens. The report was released recently by which of the following organizations?

- NITI Aayog
- Reserve Bank of India
- 15th Finance Commission

d. Department for Promotion of Industry and Internal Trade

2) Consider the following statements with respect to *Tarang Sanchar Portal*

1. It is a portal for information sharing on emf signals to public and to allay the misconceptions and fear of health issues due to emf emissions from mobile towers.
2. It has been developed in Public Private Partnership (PPP) mode by the Department of Telecommunications with Industry.

Which of the statement(s) given above is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

3) Consider the following statements with respect to *Jal Jeevan Mission (JJM)*

1. It is a flagship programme of the Union Government, which aims to provide tap water connection to every rural household of the country by 2024.
2. Puducherry is the first State/UT to provide assured tap water supply to every rural home under Jal Jeevan Mission.

Which of the statement(s) given above is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

4) Consider the following statements with respect to *International Commission on Non-Ionizing Radiation Protection (ICNIRP)*

1. It aims to protect people and the environment against adverse effects of

Non-Ionizing Radiation (NIR) by developing science based exposure guidelines.

2. ICNIRP is an independent non-profit organization registered in Munich, Germany.
3. It is recognized as an official collaborating non-state actor by the World Health Organization (WHO) and the International Labour Organization (ILO).

Which of the statements given above are correct?

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

5) Consider the following statements with respect to *National Horticulture Board (NHB)*

1. It was established on the basis of recommendations of the Group on Perishable Agricultural Commodities, headed by Dr M. S. Swaminathan.
2. It is an autonomous organization under the administrative control of Ministry of Agriculture and Farmers Welfare.
3. The main objective of the NHB is to improve integrated development of Horticulture industry and to help in sustaining the production and processing of fruits and vegetables.

Which of the statement(s) given above is/are correct?

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

6) Which of the following statement(s) is/are incorrect with respect to *C - reactive protein (CRP) Test*

1. It is a blood test and it tells about inflammation level in the body during

any ailment and indicates about the infection level.

2. It is a type of diagnostic test which helps to detect the presence of SARS-CoV 2 in humans.

Select the correct answer using the codes given below:

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

7) Consider the following statements with respect to *Post Devolution Revenue Deficit (PDRD) Grants*

1. It is provided by the Union government to the States under Article 275 of the Constitution.
2. The eligibility of States to receive this grant will be decided by Finance Commission.
3. The grant will be calculated based on the gap between assessment of revenue and expenditure of the State.

Which of the statement(s) given above is/are correct?

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

8) Which of the following organizations have released *Conflict and Conservation Report*?

- a. UN- Environment Program (UNEP)
- b. World Wide Fund for Nature (WWF)
- c. International Union for Conservation of Nature (IUCN)
- d. Wild Life Conservation Society (WCS)

9) Paediatric Task Force is constituted by which one of the following states?

- a. Tamil Nadu
- b. Gujarat
- c. Kerala
- d. Maharashtra

10) Which of the following statement(s) is/ are correct with respect to NASA's Artemis mission?

- 1. It aims to send humans to Mars for exploring "Life on Mars".
- 2. It will deploy the Star ship lander and launch vehicle for this mission built by Space X organization.

Select the correct answer using the codes given below:

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answers

1. a

- **NITI Aayog and Mastercard** has recently released a report titled 'Connected Commerce: Creating a Roadmap for a Digitally Inclusive Bharat'.
- The report identifies challenges in accelerating digital financial inclusion in India and provides recommendations for making digital services accessible to its 1.3 billion citizens.

Key recommendations of the report

- Strengthening the payment infrastructure to promote a level playing field for NBFCs and banks.
- Digitizing registration and compliance processes and diversifying credit sources to enable growth opportunities for MSMEs.
- Building information sharing systems, including a 'fraud repository', and ensuring that online digital commerce platforms carry

warnings to alert consumers to the risk of frauds.

- Enabling agricultural NBFCs to access low-cost capital and deploy a 'phygital' (physical + digital) model for achieving better long-term digital outcomes. Digitizing land records will also provide a major boost to the sector.
- To make city transit seamlessly accessible to all with minimal crowding and queues, leveraging existing smartphones and contactless cards, and aim for an inclusive, interoperable, and fully open system such as that of the London 'Tube'.

2. c

- The Department of Telecommunications (DoT), Ministry of Communications has recently clarified that **there is no relationship between the second wave of coronavirus and the testing of the 5G mobile towers.**
- Several misleading messages are being circulated on various social media platforms claiming the second wave of coronavirus has been caused by the testing of the 5G mobile towers.
- Any apprehension about any mobile tower emitting radio waves beyond the safe limit prescribed by the department can visit Tarang Sanchar portal and verify emf emissions.

Tarang Sanchar Portal

- It has been developed in Public Private Partnership (PPP) mode. Department of Telecommunications initiative with Industry.
- This Portal envisages to disseminate the information to the public regarding Electro Magnetic Fields (EMF) signals and to allay the misconceptions and fear of health issues due to EMF emissions from mobile towers.
- Public, at large will be now able to check the current status of the mobile tower located anywhere in the country and the EMF signal compliance status of the same.

3. a

- **Puducherry** has recently become 'Har Ghar Jal' Union Territory (UT) by ensuring that every rural home in the Union Territory gets a household tap connection.



- With this, the UT becomes the **fourth State/UT after Goa, Telangana and Andaman & Nicobar Islands** to provide assured tap water supply to every rural home under Union Government's flagship programme, Jal Jeevan Mission.

Jal Jeevan Mission (JJM)

- It is a flagship programme of the Union Government, which aims to provide tap water connection to every rural household of the country by 2024.

4. d

- Department of Telecommunications (DoT) has recently informed that it has prescribed norms for exposure limit for the Radio Frequency Field (i.e. Base Station Emissions) which are 10 times more stringent than the safe limits prescribed by International Commission on
- Non-Ionizing Radiation Protection (ICNIRP) and recommended by the WHO.

International Commission on Non-Ionizing Radiation Protection (ICNIRP)

- It is an international commission specialized in non-ionizing radiation protection.
- It aims to protect people and the environment against adverse effects of non-ionizing radiation (NIR).
- To this end, ICNIRP develops and disseminates science-based advice on limiting exposure to non-ionizing radiation.
- Its activities include determining exposure limits for electromagnetic fields used by devices such as cellular phones.
- It is an association registered in Munich, Germany, as a non-profit organization with a scientific mission (Statutes).
- It is formally recognized as an official collaborating non-state actor by the World Health Organization (WHO) and the International Labour Organization (ILO).

5. d

- *National Horticulture Board has cleared a record 1278 subsidy applications for integrated development of hi-tech commercial horticulture in the country including promotion of post-harvest and cold chain*

infrastructure during the last one year which were pending since long.

National Horticulture Board (NHB)

- It was set up by Government of India in April 1984 on the basis of recommendations of the "Group on Perishable Agricultural Commodities", headed by Dr M. S. Swaminathan.
- It was established as an autonomous organization under the administrative control of Ministry of Agriculture and Farmers welfare.
- It was registered under Societies Registration Act 1860, thereafter, re-registered under the Haryana Registration and Regulation of Societies Act, 2012, with its headquarters at Gurugram and 29 field offices located all over the country.
- The main objective of the NHB is to improve integrated development of Horticulture industry and to help in coordinating, sustaining the production and processing of **fruits and vegetables**.

6. b

C-reactive protein (CRP) Test

- C-reactive protein (CRP) test, is mainly conducted for patients who are hospitalised for Covid virus treatment.
- Large number of doctors are recommending the same test even to those Covid positive patients who are in home isolation with moderate to mild symptoms.
- CRP is not a diagnostic test but it has prognostic value, it can be done for any ailment.
- The higher value of CRP level than the normal level indicates that the infection is increasing.
- CRP tests is a marker which shows the level of C-reactive protein, which is made by the liver, in the blood.
- Doctors are conducting it mandatorily for the patients with critical conditions who are in hospital care, because it is one of the indicators showing the body's reaction to the ongoing treatment.

- If a patient in home isolation sees that his/her oxygen level is fluctuating between 93 to 97 quite often then the CRP is recommended to know the inflammation level in the body.

7. d

Post Devolution Revenue Deficit (PDRD) Grants

- The grants are released as per the recommendations of the Finance Commission in monthly instalments to meet the gap in Revenue Accounts of the States post-devolution (of the divisible tax pool of the Centre).
- The 15th Finance Commission has recommended post devolution revenue deficit grants amounting to about Rs. 3 trillion over the five-year period ending FY26.
- The number of states qualifying for the revenue deficit grants decreases from 17 in FY22, the first year of the award period to 6 in FY26, the last year.
- Over the five-year period, Andhra Pradesh, Assam, Haryana, Himachal Pradesh, Karnataka, Kerala, Manipur, Meghalaya, Mizoram, Nagaland, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttarakhand and West Bengal are recommended to be provided with the deficit grants.
- The Ministry of Finance has accepted the recommendation.

Article 275 of the Constitution

- It provides for the payment of such sums as Parliament may by law provide as grants-in aid to such States as Parliament may determine to be in need of assistance.
- The grants are paid out of the Consolidated Fund of India in each year, and different sums may be fixed for different States.
- These grants are to be of the nature of capital and recurring sums as may be necessary.
- These aim to enable that State to meet the costs of such schemes of development as may be undertaken by it with the approval of the Government of India for the purpose of promoting the welfare of the Scheduled Tribes in that State or raising the level of administration of the Scheduled Areas there in

to that of the administration of the rest of the areas of that State.

- Grants are primarily intended to correct Inter-State disparities in financial resources and to coordinate the maintenance and expansion of the welfare schemes of the State Governments on a uniform national level.

8. c

Conflict and Conservation Report

- It is released by International Union for Conservation of nature (IUCN) release a report titles.
- It focuses on the complex relationships between nature and armed conflict.
- Objective of the report is to help bring the importance of nature conservation into mainstream political and economic decision making.
- Major threats posed by the conflict are as follows
 1. Direct killing of wildlife for food
 2. Degradation of ecosystems
 3. Disruption of conservation efforts
- Key highlights of the report are as follows
 1. Armed conflicts were particularly prevalent in some of the world's more biodiverse regions
 2. Conflicts were less frequent within the boundaries of natural reserves and other protected areas
 3. Degradation of nature was associated with increased risk of conflict

9. d

Paediatric Task Force

- Recently, the Maharashtra government has constituted a nine-member committee called Paediatric Task Force.
- The task force has been set up under the chairmanship of Dr Suhas Prabhu in an attempt to brace for the next wave.
- The special paediatric task force will be responsible for procuring medicines for children, paediatric ventilators and building Covid-19 care centres for children.



- It aims to develop a comprehensive plan for treating children affected with Covid-19.
- It will set up more sick new born care units (SNCUs), more ventilators suited for infants and prepare a separate line of medication for them.
- It has recommended setting up fever clinics with paediatricians or trained staff to screen children with Covid symptoms.

10. b

NASA's Artemis mission

- The Artemis Program is a United States-led international human spaceflight program launched in 2017 to return humans to the Moon, specifically at the lunar South Pole region, in the mid-2020s.
- It was originally going to happen in 2024, but delays changed that.
- The Artemis programme was initiated by the administration of former President Donald Trump.

SpaceX's Starship

- The Starship is a spacecraft and super-heavy booster rocket designed by SpaceX.
- The spacecraft is meant to act as a reusable transportation system for crew and cargo to the Earth's orbit, Moon and Mars.
- The SpaceX has described Starship as "the world's most powerful launch vehicle" with an ability to carry over 100 metric tonnes to the Earth's orbit.
- The Starship has been under development since 2012 and is a part of Space X's central mission to make interplanetary travel accessible and affordable.
- The Starship system is expected to replace SpaceX's partially reusable Falcon rockets that are currently operational.
- The Starship can deliver satellites further and at lower marginal costs than Falcon vehicles.
- It can ferry both cargo and crew to the International Space Station (ISS).
- It is expected to help carry large amounts of cargo to the Moon, for human spaceflight development and research.

- It is expected to enter Mars's atmosphere at a speed of 7.5 km per second and will be designed to withstand multiple entries.

12-05-2021

1) Consider the following statements with respect to Technology Development Board (TDB)

1. It is an executive body established through an executive resolution in 1996 under the Department of Science of Technology.
2. It is the first organization of its kind within the government framework with the sole objective of commercializing the indigenous research.
3. It provides equity capital or loans to industrial concerns and financial assistance to research and development institutions.

Which of the statement(s) given above is/are correct?

- a. 2 only
- b. 3 only
- c. 2 and 3 only
- d. None of the above

2) Great Nicobar Development Plan, sometimes seen in the news recently, was envisaged by which of the following organizations?

- a. NITI Aayog
- b. Ministry of Tribal Affairs
- c. Ministry of Housing and Urban Affairs
- d. Ministry of Environment, Forest and Climate Change

3) Consider the following statements with respect to Galathea National Park

1. It is located on the island of Great Nicobar in the Andaman & Nicobar Islands.



2. It is an iconic nesting site in India of the enigmatic Giant Leatherback, the world's largest marine turtle.
3. The park is home to the indigenous Shompen community.

Which of the statements given above are correct?

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

4) National Scheduled Castes Finance and Development Corporation (NSFDC) and National Backward Classes Finance and Development Corporation (NBCFDC) are Public Sector Undertakings (PSUs) under which of the following?

- a. NITI Aayog
- b. Ministry of Finance
- c. Central Finance Commission
- d. Ministry of Social Justice and Empowerment

5) Consider the following statements with respect to *Sustaining Arctic Observing Network (SAON)*

1. It was initiated by the International Arctic Science Committee (IASC) and the Arctic Council's Arctic Monitoring and Assessment Programme (AMAP) in 2007.
2. The Chair and Vice Chair of the Sustaining Arctic Observing Network (SAON) will be appointed by the Arctic Council.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

6) Which of the following statement(s) is/ are correct with respect to *Social Stock Exchange (SSE)*

1. It aims to help social and voluntary organisations which work for social causes to raise capital as equity or debt or a unit of mutual fund.
2. It works under Securities and Exchange Board of India (SEBI).
3. Only Not for Profit Organisation (NPO) will be eligible to tap the SSE in India.

Select the correct answer using the codes given below:

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

7) Consider the following statements with respect to *Uranium Mineral*

1. It is listed under minor mineral, the rulemaking powers on uranium have been delegated to the States through Mines & Minerals (Development and Regulation) Act.
2. Significant quantity of Uranium reserves were available in parts of Andhra Pradesh and Telangana between Seshachalam forest and Sresailam.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

8) *World Sodium Benchmarks for Different Food categories* is established by which of the following organisations?

- a. Ministry of Health and Family Welfare (MoHFW)
- b. World Health Organisation (WHO)
- c. Food and Agriculture organization (FAO)

d. Food Safety and Standards Authority of India (FSSAI)

9) Dietary Approaches to stop Hypertension (DASH) was first promoted by which of the following organisations?

- a. Ministry of Health and Family Welfare (MoHFW)
- b. World Health Organisation (WHO)
- c. United Nations Development Program (UNDP)
- d. US- National Institutes of Health (US-NIH)

10) Which of the following statement(s) is/ are correct with respect to *Small Galaxies*

- 1. High-energy light from small galaxies may have had a crucial role in the early evolution of the Universe.
- 2. POX 186 is a dwarf galaxy that is still forming, it is located in the constellation Virgo which is believed to play a role in evolution of universe.

Select the correct answer using the codes given below:

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answers

1. c

Technology Development Board (TDB)

- The Government of India constituted the Technology Development Board (TDB) in September 1996, under the **Technology Development Board Act, 1995**, as a statutory body under Ministry of Science & Technology.
- It was established to promote development and commercialization of indigenous technology and adaptation of imported technology for wider application.

- The TDB is the first organization of its kind within the government framework with the sole objective of commercializing the fruit of indigenous research.
- The Board plays a pro-active role by encouraging enterprises to take up technology oriented products.
- The board provides equity capital or loans to industrial concerns and financial assistance to research and development institutions.
- The loan carries a simple interest rate of 5% per annum.

Source for Finance

- The Fund has been receiving grants from the Government of India out of the cess collections from the industrial concerns under the provisions of the Research and Development Cess Act, 1986, as amended in 1995.
- Any income from investment of the amount of the Fund and the recoveries made of the amounts disbursed from the Fund are credited for building up the Fund.
- The finance Act, 1999, enabled full deductions to the donations made to the fund for income tax purposes.

2. a

- *The Environment Appraisal Committee that had earlier flagged concerns over the NITI Aayog's Great Nicobar Plan, has now recommended it for grant of terms of reference.*

NITI Aayog's Great Nicobar Plan

- NITI Aayog's proposed project includes an international container trans-shipment terminal, a greenfield international airport, a power plant and a township complex to be built over coastal systems and tropical forests
- The project is estimated to cost Rs.75,000 crore.
- It will be implemented by the Andaman and Nicobar Island Integrated Development Corporation (ANIIDCO) as the nodal agency.
- ANIIDCO, the Port Blair project proponent, is a government undertaking involved in activities such as tourism, trading and

infrastructure development for tourism and fisheries.

3. d

- *The Environment Appraisal Committee that had earlier flagged concerns over the NITI Aayog's Great Nicobar Plan, has now recommended it for grant of terms of reference.*
- *The Standing Committee of the National Board for Wildlife (NBWL) has denotified the entire Galathea Bay Wildlife Sanctuary in January, 2021, to allow for the port there.*

Galathea Bay

- It is an iconic nesting site in India of the enigmatic Giant Leatherback, the world's largest marine turtle.
- India's National Marine Turtle Action Plan had listed Galathea Bay as one of the 'Important Coastal and Marine Biodiversity Areas' and 'Important Marine Turtle Habitats' in the country.
- It is included in Coastal Regulation Zone (CRZ)-I, the zone with maximum protection.
- Another Environment Ministry expert committee approved a "zero extent" Ecologically Sensitive Zone (ESZ) for the Galathea National Park.
- Galathea Bay is a UNESCO World Heritage Site that houses many forest types, has one of the world's best preserved tropical rainforests.
- It is home to the Nicobar wild pig, Nicobar tree shrew, the Great Nicobar crested serpent eagle, the Great Nicobar crane, the Nicobar cat snake, Nicobar paradise flycatcher and the Nicobar megapode.
- The park is also home to the indigenous Shompen community.

4. d

- National Scheduled Castes Finance and Development Corporation (NSFDC) and National Backward Classes Finance and Development Corporation (NBCFDC) are providing relief to Covid – 19 patients and needy people affected due to lockdown imposed during the second wave of Covid-19 Pandemic, as part of their Joint CSR initiative.

- They started food distribution programme and distribution of Medical Equipments to treat Covid-19 patients.
- National Scheduled Castes Finance and Development Corporation (NSFDC) and National Backward Classes Finance and Development Corporation (NBCFDC) are Public Sector Undertakings (PSUs) under Ministry of Social Justice and Empowerment, GOI.

5. a

Sustaining Arctic Observing Network (SAON)

- It is a joint activity of International Arctic Science Committee (IASC) and the Arctic Council.
- It was established with the purpose to support and strengthen the development of multinational engagement for sustained and coordinated pan-Arctic observing and data sharing systems.
- SAON was initiated by IASC and the Arctic Council's Arctic Monitoring and Assessment Programme (AMAP) in 2007.
- The SAON is now governed by a SAON Board, with the Arctic Council appointing the Chair and IASC appointing the Vice-Chair.
- The biennial Arctic Observing Summit is held in conjunction with the Arctic Science Summit Week (ASSW) and through SAON both IASC and the Arctic Council are contributing to the program.

6. b

Social Stock Exchange (SSE)

- Social enterprise can be defined as a non-loss; non-dividend paying company created and designed to address a social problem.
- It provides new and cheaper sources of financing for social welfare projects, while showcasing India's independence from foreign aid.
- SSE already exists in countries such as Singapore, UK, and Canada among others.
- These countries allow firms operating in sectors such as health, environment and transportation to raise risk capital.

- Recently a technical group on social stock exchanges (SSEs), constituted by SEBI has recommended that political and religious organisations, trade organisations as well as corporate foundations should not be allowed to raise funds through SSEs.
- Corporate foundations, political or religious organizations/ activities, professional or trade associations, infrastructure and housing companies (except affordable housing) will not be permitted on SSE.
- These recommendations were issued by the committee setup under the chairmanship of Harsh Bhanwala, former chairman of NABARD.
- The technical group report said both For Profit Enterprise (FPE) and Not for Profit Organisation (NPO) will be eligible to tap the SSE if they are able to show their primary goals are social intent and impact.
- The panel has recommended different modes of fund raising for NPOs and FPEs.
- For NPOs it has recommended fundraising through “equity, zero coupon zero principal bond, development impact bonds, social impact fund with 100 per cent grants-in-grants out provision, and donations by investors through mutual funds”.
- For FPEs it has recommended fundraising through equity, debt, development impact bonds, and social venture funds.

7. b

Uranium

- Uranium is a silvery-gray metallic radioactive chemical element, It is only naturally formed in supernova explosions.
- Uranium, thorium, and potassium are the main elements contributing to natural terrestrial radioactivity.
- In India, Uranium deposits occur in the Dharwar rocks.
- It occurs along the Singbhum Copper belt (Jharkhand); Udaipur, Alwar and Jhunjhunu districts of Rajasthan, Durg district of Chhattisgarh, Bhandara district of Maharashtra and Kullu district of Himachal Pradesh.

- Significant quantity of reserves were recently discovered in parts of Andhra Pradesh and Telangana between Seshachalam forest and Sresailam (Southern edge of Andhra to Southern edge of Telangana).
- Largest source of uranium comprise the monazite sands.
- Monazite sands occur on east and west coasts and in some places in Bihar, but the largest concentration of monazite sand is on the Kerala coast.
- Some uranium is found in the copper mines of Udaipur in Rajasthan.

Mines & Minerals (Development and Regulation) Act, 1957

- Parliament has passed ‘The Mines & Minerals (Development and Regulation) Act, 1957’.
- However, with respect to minor minerals, the rulemaking powers have been delegated to the States through this act.
- Since Uranium is a major mineral, it is managed by the Union Government under provisions of Mines and Minerals (Development and Regulation) Act, 1957.
- The policy and legislation relating to Major minerals are managed by the Ministry of Mines but Uranium being an atomic mineral is managed by the Department of Atomic Energy (DAE).

8. b

World Sodium Benchmarks for Different Food categories

- WHO established the World Sodium Benchmarks for Different Food categories.
- It recommends daily intake of salt or sodium in 5 gm but most people around the world consume more than double this amount.
- Sodium is necessary to maintain normal cell metabolism healthy plasma and improves the health of the nervous systems
- It is found naturally in a range of foods like meat and dairy, however it is present in very high amounts in processed foods, like snacks bread or condiments

- Excess dietary sodium intake increase blood pressure and consequently increase the risk of cardiovascular disease.
- It is estimated that 2.5million deaths could have prevented globally if salt consumption is cut down to recommended levels.

9. d

Dietary Approaches to stop Hypertension (DASH)

- The DASH diet (Dietary Approaches to Stop Hypertension) is a dietary pattern promoted by the U.S.-based National Heart, Lung, and Blood Institute a part of the National Institutes of Health (NIH), to prevent and control hypertension.
- The DASH diet is rich in fruits, vegetables, whole grains, and low-fat dairy foods.
- It includes meat, fish, poultry, nuts, and beans, and is limited in sugar-sweetened foods and beverages, red meat, and added fats. In addition to its effect on blood pressure, it is designed to be a well-balanced approach to eating for the general public.
- DASH is recommended by the United States Department of Agriculture (USDA) as a healthy eating plan.
- The DASH diet is one of three healthy diets recommended in the 2015-2020 US Dietary Guidelines, which also include the Mediterranean diet or a vegetarian diet.
- The DASH diet reduced systolic blood pressure by 6 mm Hg and diastolic blood pressure by 3 mm Hg in patients with high normal blood pressure (formerly called "pre-hypertension").
- The diet is also advised to diabetic or obese individuals.

10. c

Small Galaxies

- A new study shows that high energy light from small galaxies may have played a key role in the early evolution of the universe
- After the big bang when the universe was formed it was in an ionized state.

- As the universe expanded and started cooling down it changed to a neutral state when the protons and electrons combined into atoms
- However scientists have observed that the universe is back in an ionized state.
- Astronomers have proposed that the energy for re-ionization must have been contributed by the small galaxies themselves.
- The researches have observed the first ever galaxy named pox 186 in a blow away state i.e hydrogen clouds have been removed allowing high energy light to escape.
- Pox 186, the galaxy is so small that it can be fit within the Milky Way,
- The astronomers doubt that its small size, together with its huge population of star amounting to a hundred thousand times the mass of the Sun enabled the blow-away.
- The scientists suspects that the blow away was caused by many supernovas or dying stars exploding in a short period of time.
- The findings confirm that a blow away possible furthering the idea that small galaxies were primarily responsible for the re-ionization of the universe and giving more insight into how the universe became what it is today.

13-05-2021

1) With respect to *Oxycare System*, sometimes seen in the news recently, consider the following statements:

1. It is a SpO₂ based Oxygen Supply System which regulates the oxygen being administered to patients based on the sensed SpO₂ levels.
2. The system was developed by the Defence Research and Development Organization (DRDO).

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2



2) With respect to *Mucormycosis*, consider the following statements:

1. It is a serious but rare bacterial infection caused by a group of molds called mucormycetes.
2. The bacteria that causes mucormycosis are present throughout the environment and are more common in soil than in air.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

3) Which of the following are the benefits/outcomes of *National Programme on Advanced Chemistry Cell Battery Storage*?

- a. Facilitates demand creation for battery storage in India
- b. Greater emphasis upon domestic value-capture and therefore reduce import dependence
- c. Impetus to Research & Development to achieve higher specific energy density and cycles in Advanced Chemistry Cell (ACC) battery
- d. All of the above

4) Consider the following statements with respect to *World Food Prize, 2021*

1. It is a biennial annual award created in 1986 with sponsorship by General Foods Corporation.
2. It aims to recognize the achievements of individuals who have advanced human development by improving the quality, quantity or availability of food in the world.
3. It is open for any individual without regard to race, religion, nationality or political beliefs.

Which of the statement(s) given above is/are incorrect?

- a. 1 only

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

5) Consider the following statements with respect to *Shuvuuia deserti*

1. It is a large wading bird common near the wetlands of Galapagos Islands.
2. It is a nocturnal animal having excellent night vision and superb hearing.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

6) Which of the following statement(s) is/ are correct with respect to *Foreign Contribution (Regulation) Amendment Act (FCRA)*

1. It seeks to prohibit public servants from receiving any foreign funding.
2. Under the act NGO's can open bank accounts in any nationalised bank anywhere in India for receiving foreign funds.

Select the correct answer using the codes given below:

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

7) Consider the following statements with respect to *High Resolution Computed Tomography (HRCT) Scan*

1. Unlike normal X-rays it can show the soft tissues, blood vessels, and bones in various parts of the body.
2. It can even show possible blood clots in the lungs and provide information about the heart.



Which of the statement(s) given above is/are incorrect?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

8) What is the conservation status of *Western Hoolock Gibbon* under IUCN Red list?

- a. Near threatened
- b. Endangered
- c. Critically Endangered
- d. Extinct In the Wild

9) Which of the following statement(s) is/ are correct with respect to *Asteroid Bennu*

1. It is a B-type asteroid, implying that it contains significant amounts of carbon and various other minerals.
2. OSIRIS REX Mission is NASA's first mission meant to return a sample from Asteroid Bennu.

Select the correct answer using the codes given below:

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

10) Which of the following statement(s) is/ are incorrect with respect to *Millisecond Pulsar*

1. These have very low energy radiation and has a rotational period smaller than about 0.5 milliseconds.
2. These have been detected in radio, X-ray, and gamma ray parts of the electromagnetic spectrum.

Select the correct answer using the codes given below:

- a. 1 only

Answers

1. c

- PM CARES Fund has recently accorded sanction for procurement of 1,50,000 units of 'Oxycare' system.
- Under this sanction, 1,00,000 manual and 50,000 automatic Oxycare systems along with non-rebreather masks are being procured.

Oxycare System

- Oxycare is a SpO₂ based Oxygen Supply System which regulates the oxygen being administered to patients based on the sensed SpO₂ levels.
- This system was developed by Defence Bio-Engineering & Electro Medical Laboratory (DEBEL), Bengaluru of DRDO for soldiers posted at extreme high-altitude areas.
- The Oxycare system delivers supplemental oxygen based on the SpO₂ levels and prevents the person from sinking into a state of hypoxia which can be fatal.
- The system is indigenously developed for operation in field conditions and is robust.
- It can be effectively used to treat COVID-19 patients.

2. d

- A sudden increase in demand has been observed in some states for **Amphotericin B**.
- Amphotericin B is a drug actively prescribed by the physicians to patients suffering from Mucormycosis, a post COVID complication.

Mucormycosis

- Mucormycosis is also called Black Fungus or Zygomycosis and is a serious but rare **fungal infection**.
- It is caused by a group of molds called **mucormycetes**.
- Mucormycetes, the group of fungi that cause mucormycosis, are present throughout the

environment, particularly in soil and in association with decaying organic matter, such as leaves, compost piles, and animal dung.

- They are more common in soil than in air, and in summer and fall than in winter or spring.
- It usually occurs in people who have health problems or take medicines that lower the body's ability to fight germs and sickness.
- It occurs through inhalation, inoculation, or ingestion of spores from the environment.
- Mucormycosis does not spread between people or between people and animals.
- It may lead to loss of vision and brain damage that may lead to death of infected patient.

3. d

- The Cabinet, chaired by Prime Minister Shri Narendra Modi, has recently approved the proposal of Department of Heavy Industry for implementation of the Production Linked Incentive (PLI) Scheme '**National Programme on Advanced Chemistry Cell (ACC) Battery Storage**' for achieving manufacturing capacity of 50 Giga Watt Hour (GWh) of ACC and 5 GWh of "Niche" ACC with an outlay of Rs.18,100 crore.

The outcomes/ benefits expected from the scheme are as follows:

- Setup a cumulative 50 GWh of ACC manufacturing facilities in India under the Programme.
- Direct investment of around Rs.45,000 crore in ACC Battery storage manufacturing projects.
- Facilitate demand creation for battery storage in India.
- Facilitate Make-In-India: Greater emphasis upon domestic value-capture and therefore reduction in import dependence.
- Net savings of Indian Rs. 2,00,000 crore to Rs.2,50,000 crore on account of oil import bill reduction during the period of this Programme due to EV adoption as ACCs manufactured under the Programme is expected to accelerate EV adoption.
- The manufacturing of ACCs will facilitate demand for EVs, which are proven to be

significantly less polluting. As India pursues an ambitious renewable energy agenda, the ACC program will be a key contributing factor to reduce India's Green House Gas (GHG) emissions which will be in line with India's commitment to combat climate change.

- Import substitution of around Rs.20,000 crore every year.
- Impetus to Research & Development to achieve higher specific energy density and cycles in ACC.
- Promote newer and niche cell technologies.

4. a

- *Dr Shakuntala Haraksingh Thilsted, a global nutrition expert of Indian descent has won the prestigious **2021 World Food Prize** for her groundbreaking research in developing holistic, nutrition-sensitive approaches to aquaculture and food systems.*

World Food Prize

- It is the foremost international honor recognizing the achievements of individuals who have advanced human development by improving the quality, quantity or availability of food in the world.
- The World Food Prize was created in 1986 with sponsorship by General Foods Corporation.
- It is presented by the World Food Prize Foundation (USA), which has over 80 companies, individuals, etc. as donors.
- It is also known as the "Nobel Prize for Food and Agriculture".
- It is an **annual** award that recognizes contributions in any field involved in the world food supply including plant, animal and soil science; food science and technology; nutrition, rural development, etc.
- It is open for any individual without regard to race, religion, nationality or political beliefs.
- In addition to the cash award of \$2,50,000, the laureate receives a sculpture designed by the noted artist and designer, Saul Bass.
- The Prize is presented each October on or around UN World Food Day (16th October).



- Dr. Norman E. Borlaug, winner of the Nobel Peace Prize in 1970 for his work in global agriculture, conceived the Prize. He is also known as the Father of the Green Revolution.
- Dr. M.S. Swaminathan, the father of India's green revolution, was the first recipient of this award in 1987.

5. b

Shuvuuia deserti

- Shuvuuia was a pheasant-sized, two-legged Cretaceous Period dinosaur weighing about as much as a small house cat.
- Lacking the strong jaws and sharp teeth of many carnivorous dinosaurs, it had a remarkably bird-like and lightly built skull and many tiny teeth.
- It lived in desert habitats about 70 million years ago, in what is today Mongolia and northern China.
- It employed excellent night vision and superb hearing to thrive as a menacing pint-sized nocturnal predator.
- Shuvuuia is unique among predatory dinosaurs with a hyper-elongated lagena, almost identical in relative size to a barn owl's.
- The barn owl, a proficient nocturnal predator even in pitch-black conditions, has the proportionally longest lagena of any living bird.
- Shuvuuia had a very wide scleral ring, indicating an extra-large pupil size that made its eye a specialized light-capture device.
- Nocturnality was uncommon among dinosaurs, aside from a group called alvarezsaurs to which Shuvuuia belonged.
- Alvarezsaurs had nocturnal vision very early in their lineage, but super-hearing took more time to evolve.

6. a

Foreign Contribution (Regulation) Amendment Act

- The amendments to the Foreign Contribution Regulation Act (FCRA) enacted in 2020 made it compulsory for NGOs to open a bank account in Delhi.

- It proposes to reduce the use of foreign funds to meet administrative costs by NGOs from the existing 50 per cent to 20 per cent.
- It seeks to "prohibit any transfer of foreign contribution to any association/person".
- It proposes to make Aadhaar cards a mandatory identification document for all office-bearers, directors and other key functionaries of NGOs or associations eligible to receive foreign donations.
- It seeks to allow for the central government to hold a summary inquiry to direct bodies with FCRA approval to "not utilise the unutilised foreign contribution or receive the remaining portion of foreign contribution".
- And to limit the use of foreign funds for administrative purposes. This would impact research and advocacy organisations which use the funding to meet their administrative costs.
- Recent Amendments to FCRA has crippled the work of many organisations that are unable to receive foreign funds.
- Many NGOs are affected by the new regulations as they are hampering charitable work during the pandemic.

7. d

High Resolution Computed Tomography (HRCT) Scan

- High-resolution computed tomography (HRCT) is a type of computed tomography (CT) with specific techniques to enhance image resolution.
- It is used in the diagnosis of various health problems, though most commonly for lung disease, by assessing the lung parenchyma.
- Computed Tomography, or CT, refers to a computerized x-ray imaging procedure in which a narrow beam of x-rays is aimed at a patient and quickly rotated around the body, producing signals that are processed by the machine's computer to generate cross-sectional images or "slices" of the body.
- The biggest difference between CT and MRI scans is that, MRIs (magnetic resonance imaging) use radio waves and CT (computed tomography) scans use X-rays.

- HRCT or CT scan of the chest becoming a common procedure to detect Covid-19 infection and degree of damage to the lung.
- CT scan exposes individuals to unnecessary radiation, which may increase the risk of cancer later in life for young people.
- A chest CT can be useful in evaluating patients with moderate or severe disease, to identify complications like thromboembolism or pneumomediastinum.

8. b

Hoolock Gibbons

- Hoolock gibbons are small apes and the only apes present in India.
- Centre for Cellular and Molecular Biology (CCMB) has debunked the popular notion that there are two species of gibbons in India.
- The confusion arose earlier as these small apes present in the northeast have populations with different physical features though they are of the same species.
- CCMB scientists said the gibbon species present in the country is Hoolock Hoolock.
- The other species, Hoolock leuconedys, is not present in India.
- Physically different two populations of Hoolock gibbons are found in Arunachal Pradesh.
- Those found in Mishmi Hills of eastern Arunachal Pradesh were thought to be a species from Myanmar.
- Recent genetic analysis shows that Hoolock gibbons in India belong to only one species, the Western Hoolock gibbons.
- This helps design conservation programmes by inter-breeding the two populations and maintain their genetic diversity.

Western hoolock gibbon

- It inhabits in all the states of the north-east, restricted between the south of the Brahmaputra river and east of the Dibang river.
- And outside India, it is found in eastern Bangladesh and north-west Myanmar.

- It is listed as Endangered under the International Union for Conservation of Nature (IUCN) Red List.
- It is listed on Schedule 1 of the Indian (Wildlife) Protection Act 1972.

9. c

Asteroid Bennu

- The Asteroids are rocky objects that orbit the Sun, much smaller than planets.
- Bennu is an asteroid about as tall as the Empire State Building, located about 200 million miles away from the Earth.
- It is believed to have been born in the Main Asteroid belt between Mars and Jupiter.
- The asteroid is coming closer to Earth because of gravitational tugs from other celestial objects and the slight push asteroids get when they release absorbed sunlight.
- It is considered to be an ancient asteroid that has not gone through a lot of composition-altering change through billions of years.
- It implies that below its surface lie chemicals and rocks from the birth of the solar system.
- The asteroid reflects about four per cent of the light that hits it, which is very low when compared with a planet like Venus, which reflects about 65 per cent of the light that hits it.
- Around 20-40 percent of Bennu's interior is empty space and scientists believe that it was formed in the first 10 million years of the solar system's creation, implying that it is roughly 4.5 billion years old.
- Recently, the NASA's OSIRIS-Rex spacecraft will depart asteroid Bennu, and start its two-year long journey back to Earth.
- In October 2020, the spacecraft briefly touched asteroid Bennu, from where it collected samples of dust and pebbles.

10. a

Millisecond Pulsar

- A pulsar is a neutron star that emits beams of radiation that sweep through Earth's line of sight, like a black hole it is an endpoint to stellar evolution.



- The "pulses" of high-energy radiation we see from a pulsar are due to a misalignment of the neutron star's rotation axis and its magnetic axis.
- A millisecond pulsar (MSP) is a pulsar with a rotational period smaller than about 10 milliseconds.
- The leading theory for the origin of millisecond pulsars is that they are old, rapidly rotating neutron stars that have been spun up or "recycled" through accretion of matter from a companion star in a close binary system.
- For this reason, millisecond pulsars are sometimes called recycled pulsars.
- Millisecond pulsars are thought to be related to low-mass X-ray binary systems.
- It is thought that the X-rays in these systems are emitted by the accretion disk of a neutron star produced by the outer layers of a companion star that has overflowed its Roche lobe.
- Millisecond pulsars, which can be timed with high precision, have a stability comparable to atomic-clock-based time standards when averaged over decades.
- This also makes them very sensitive probes of their environments.

14-05-2021

1) Consider the following statements with respect to SWAMIH Investment Fund

1. It is an alternative investment fund to provide priority debt financing for the completion of stalled housing projects.
2. SBICAP Ventures, an arm of SBI Capital Markets, is entrusted by the government to manage this fund.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

2) With respect to Community Transmission, sometimes seen in the news recently, consider the following statements:

1. Community Transmission is said to be happened when new cases of COVID-19 in the last 14 days can't be traced to those who have an international travel history or when cases can't be linked to specific cluster.
2. The community transmission tag will be designated to a country by the World Health Organization (WHO).

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

3) With respect to State Legislative Councils (SLCs), consider the following statements:

1. The members of the SLCs are elected in accordance with the system of proportional representation by means of a single transferable vote.
2. The bonafides or propriety of the governor's nomination to the SLCs are in any case cannot be challenged in the courts.
3. The scheme of composition of a legislative council as laid down in the Constitution is final and the Parliament is not authorised to modify or replace the same.

Which of the statement(s) given above is/are correct?

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

4) Crystals have their atoms arranged in strictly periodic order. In Quasicrystals even though the constituents are ordered, they are

not arranged in periodic order. Which of the following is an application of quasicrystals?

- a. Lasers
- b. Watches
- c. Atomic clocks
- d. Non-stick frying pans

5) Consider the following statements with respect to *Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) Scheme*

- 1. It is a central sector scheme, launched by the Ministry of Agriculture, for small and marginal farmers who owns less than 2 hectares of land.
- 2. The scheme guarantees direct income support of Rs.6,000 for farmers to help them meet farm inputs and other costs during the crop season.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

6) Which of the following statement(s) is/are *incorrect* with respect to *Liquid Medical Oxygen*

- 1. It restores tissue oxygen tension by increasing the oxygen availability.
- 2. Drug Prices Control Order, 2013 has placed LMO under the National List of Essential Medicines (NLEM).

Select the correct answer using the codes given below:

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

7) Consider the following statements with respect to *Commodity Super Cycle*

- 1. It is a sustained period of abnormally strong demand growth that producers struggle to match, sparking an increase in prices.
- 2. They usually occur for a very brief amount of time due to market uncertainties.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

8) *Global Variant of Concern* is declared by which of the following Organizations?

- a. US Centres for Disease Control and Prevention (CDC)
- b. Oxford Vaccine Group (OCG)
- c. Indian Council of Medical Research (ICMR)
- d. World Health Organization (WHO)

9) *Tocilizumab* is used effectively to treat which of the following human ailment?

- a. Malaria & Dengue
- b. Bile stone formation
- c. Rheumatoid arthritis
- d. Cardio vascular Inflammation

10) Which of the following statement(s) is/ are correct with respect to *Socially and Educationally Backward Classes (SEBC)*

- 1. Centre alone is empowered to identify SEBC for claiming reservation benefits.
- 2. States could only make suggestions to the President for inclusion, exclusion or modification of castes and communities to be included in the List.

Select the correct answer using the codes given below:

- a. 1 only

- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answers

1. c

- Union Minister for Finance & Corporate Affairs Smt. Nirmala Sitharaman has recently handed over possession to homebuyers virtually as Government of India's Special Window for Affordable & Mid-Income Housing (SWAMIH) completes its first residential project.
- The residential project - Rivali Park, located in suburban Mumbai, was the first housing project in India to have received funding under the SWAMIH Fund.

SWAMIH Fund

- In order to give relief to homebuyers of stalled projects, a Special Window for Completion of Affordable and Mid-Income Housing (SWAMIH) investment fund was launched by Smt. Sitharaman in November 2019.
- The fund will provide last mile funding to the stressed affordable and middle-income housing projects in the country.
- The fund has been formed to complete construction of stalled, brownfield, RERA registered residential developments that are in the affordable housing / mid-income category, are networth positive and requires last mile funding to complete construction.
- It has a target corpus of INR 12,500cr with a greenshoe option of INR 12,500cr.
- The funding for stalled projects includes projects that have been declared as Non-Performing Assets (NPAs) or are pending proceedings before the National Company Law Tribunal under the Insolvency and Bankruptcy Code.
- **SBICAP Ventures**, an arm of SBI Capital Markets, is entrusted by the government to manage this Alternative Investment Fund (AIF).

2. a

- In spite of adding the highest number of cases in the world every day, India continues to label itself as a country with no community transmission (CT), the weekly report of the World Health Organisation (WHO) said recently.
- Instead it is opting for the lower, less serious classification called '**Cluster of Cases**'.
- Countries such as the United States, Brazil, United Kingdom, France — and a perusal of the list of over 190 countries suggest the majority — have all labelled themselves as being in 'community transmission'.
- India, since the beginning of the pandemic has never marked itself as being in community transition.

Community Transmission

- Community Transmission is said to be happened when new cases in the last 14 days can't be traced to those who have an international travel history, when cases can't be linked to specific cluster.
- The WHO guidelines further suggest four subcategories within the broader definition of Community Transmission.
- **States and countries are expected to classify themselves appropriately and point to the kind of public health measures in place.**

3. c

- The Election Commission has recently announced the deferment of elections in Andhra Pradesh and Telangana till the pandemic situation significantly improves and conditions become conducive to hold elections.
- The term of office of 03 members of Andhra Pradesh Legislative Council and 06 members of Telangana Legislative Council elected by the members of respective Legislative Assemblies (MLAs) are expiring.
- As per the provisions of Section 16 of the Representation of the People Act, 1951, the seats of State Legislative Council which are going to be vacant on expiration of the term of the members, are required to be filled up by holding biennial election before the said expiration of the term.



State Legislative Councils (SLCs)

Composition of Council

- Unlike the members of the legislative assembly, the members of the legislative council are **indirectly elected**.
- The maximum strength of the council is fixed at one-third of the total strength of the assembly and the minimum strength is fixed at 40.
- It means that the size of the council depends on the size of the assembly of the concerned state.
- This is done to ensure the predominance of the directly elected House (assembly) in the legislative affairs of the state.
- Though the Constitution has fixed the maximum and the minimum limits, the actual strength of a Council is fixed by Parliament.

Manner of Election

Of the total number of members of a State Legislative Council (SLCs),

- 1/3 are elected by the members of local bodies in the state like municipalities, district boards, etc.,
 - 1/12 are elected by graduates of three years standing and residing within the state,
 - 1/12 are elected by teachers of three years standing in the state, not lower in standard than secondary school,
 - 1/3 are elected by the members of the legislative assembly of the state from amongst persons who are not members of the assembly, and
 - the remainder are nominated by the governor from amongst persons who have a special knowledge or practical experience of literature, science, art, cooperative movement and social service.
- Thus, 5/6 of the total number of members of a legislative council are indirectly elected and 1/6 are nominated by the governor.
 - The members are elected in accordance with the system of proportional representation by means of a single transferable vote.

- The bonafides or propriety of the governor's nomination in any case cannot be challenged in the courts.
- This scheme of composition of a legislative council as laid down in the Constitution is tentative and not final.
- The Parliament is authorized to modify or replace the same.
- However, it has not enacted any such law so far.

4. d

- Non-Stick frying pans use alloys that are quasicrystal for their coatings due to their **having low friction, high hardness and low surface reactivity**.

5. b

- *Prime Minister Narendra Modi has recently released the 8th installment of Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) scheme, giving over Rs 20,000 crore to about 9.5 crore farmer beneficiaries.*

Pradhan Mantri Kisan Samman Nidhi

- It is a central sector scheme that guarantees direct income support of Rs.6,000 for farmers to help them meet farm inputs and other costs during the crop season.
- The amount will be given in three instalments of Rs.2000 each.
- The cash transfer is **not linked to the land size** and hence it becomes an income supplement to landowning households.
- However, it has left the landless tenants out of its scope.
- **PM Kisan Maan Dhan Yojana** is a central sector and pension scheme for only small and marginal farmers who own less than 2 hectares of land. (while PM-KISAN is for all farmers)

6. d

Liquid Medical Oxygen

- It is high purity oxygen suitable for use in the human body, it is used for medical treatments.
- This oxygen provides a basis for virtually all modern anaesthetic techniques, restores tissue

oxygen tension by increasing the oxygen availability, aids cardiovascular stability, etc.

- The World Health Organisation includes this on their List of Essential Medicines.

7. a

Commodity Super Cycle

- A commodity is a basic good used in commerce that is interchangeable with other goods of the same type.
- Commodities are most often used as inputs in the production of other goods or services.
- Commodity super cycles are decade-long periods in which commodities trade above their long-term price trend.
- Some market analysts are seeing signs that a new super cycle is beginning in 2021 pointing to a weakening dollar and supportive central banks and fiscal stimulus geared towards infrastructure spending as well as renewable energy.
- Steel, the most commonly used input in the construction sector and industries, is at all-time highs, as most metals including base and precious metals prices have increased a lot in the last one year.
- Sugar, corn, coffee, soybean oil, palm oil have risen sharply in the US commodities market, the effect of which is being seen in the domestic market, too.
- The new commodity super cycle is resulting from:
 1. Recovery in global demand (led by recovery in China and the US).
 2. Supply-side constraints.
 3. Loose monetary policy of global central banks.

8. d

Global Variant of Concern

- The WHO says that a variant of interest (VOI) becomes a variant of concern (VOC) if it has been demonstrated to be associated with increase in transmissibility or detrimental change in COVID-19 epidemiology.
- The increase in virulence or change in clinical disease presentation or a decrease in effectiveness of public health and social

measures or available diagnostics, vaccines, therapeutics are also considered.

- A variant may be classified as a VOC by the WHO in consultation with the WHO SARS-CoV-2 Virus Evolution Working Group.
- A VOC is defined as a variant for which there is:
 1. Evidence of an increase in transmissibility;
 2. More severe disease (e.g. increased hospitalizations or deaths);
 3. Significant reduction in neutralization by antibodies generated during previous infection or vaccination; and
 4. Reduced effectiveness of treatments or vaccines, or diagnostic detection failures.
- Recently, the World Health Organization (WHO) has classified a coronavirus variant which was first identified in India as a “global variant of concern”.
- The variant called B.1.617 was classified as a variant under investigation (VUI) by authorities in the UK.
- The B.1.617 variant of SARS-CoV-2 carries two mutations, E484Q and L452R.
- The two mutations are found in the virus’s spike protein.
- The spike protein helps the virus to bind itself to the human cell’s receptors and gain entry into a host cell.
- It can increase the binding power of spike proteins with ACE2 receptors on human cells, making it more transmissible.

9. c

Tocilizumab

- It is a biological therapy and can be prescribed for rheumatoid arthritis, juvenile idiopathic arthritis (JIA) or giant cell arteritis.
- It is a recombinant humanized monoclonal antibody IL-6 receptor inhibitor used to treat inflammatory and autoimmune conditions.
- Tocilizumab has a long duration of action as it is generally given every 4 weeks and has a wide therapeutic index.

- Tocilizumab binds soluble and membrane bound IL-6 receptors, preventing IL-6 mediated inflammation.
- Due to its property to fight auto immune disease Tocilizumab is used in the Treatment of Coronavirus Induced Diseases.

Interleukin 6 (IL-6)

- It is a pro-inflammatory cytokine produced by cells including T-cells, B-cells, lymphocytes, monocytes, fibroblasts.
- It rapidly induces C-reactive protein, serum amyloid A, fibrinogen, haptoglobin, and α -1-antichymotrypsin while inhibiting production of fibronectin, albumin, and transferrin.
- It induces antibody production, induces cytotoxic T-cell differentiation and inhibits regulatory T-cell differentiation.

10. c

Socially and Educationally Backward Classes (SEBC)

- The Supreme Court said that the Centre alone is empowered to identify Socially and Educationally Backward Classes (SEBC) and include them in the Central List for claiming reservation benefits.
- The President (that is the Central government) alone, to the exclusion of all other authorities, is empowered to identify SEBCs and include them in a list to be published under Article 342A (1), which shall be deemed to include SEBCs in relation to each State and Union Territory for the purposes of the Constitution.
- States could only make suggestions to the President or the statutory commissions concerned for inclusion, exclusion or modification of castes and communities to be included in the List.
- The Central List is to be the “only list” for the SEBC.
- Once published, under Article 342A (1), the list can only be amended through a law enacted by Parliament, by virtue of Article 342A (2).

15-05-2021

1) Consider the following statements with respect to *Red-eared Slider Turtle*

- 1. It is an invasive species native to the United States of America (USA) and Northern Mexico.**
- 2. Due to its small size, easy maintenance, and relatively low cost, they are widely kept as pets.**

Which of the statement(s) given above is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

2) Of the species given below, which of the following are protected under Schedule I of the Wildlife (Protection) Act, 1972?

- 1. Green Turtle**
- 2. Hawksbill Turtle**
- 3. Olive ridley Turtle**
- 4. Leatherback Turtle**
- 5. Loggerhead Turtle**

Select the correct answer using the codes given below:

- 2 and 3 only
- 3, 4 and 5 only
- 2, 3, 4 and 5 only
- 1, 2, 3, 4 and 5

3) Consider the following statements with respect to *SATHI Scheme*

- 1. The Scheme establishes science and technology infrastructure facility, which can be readily accessible, to serve the demands of industry, start-ups and academia.**
- 2. The scheme was launched by the Department of Science and Technology.**



Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

4) Consider the following statements:

1. According to the 2011 Census, Odisha's tribal population comprises 23% of total tribal population in India.
2. Of the 62 tribal groups residing in Odisha, 13 are recognised as PVTGs.
3. Saharia, Maram Naga and Raing are the well-known Particularly Vulnerable Tribal Groups (PVTGs) of Odisha.

Which of the statement(s) given above is/are correct?

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

5) With respect to *Elephants in India*, consider the following statements:

1. According to the Elephant Census, 2017, Karnataka has the highest number of elephants, followed by Assam and Kerala.
2. Accident due to trains claims the highest number of elephant deaths during 2012-13.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

6) Which of the following statement(s) is/ are correct with respect to *Sovereign Gold Bond (SGB) Scheme*

1. It is issued as Government of India Stock under the Government Securities (GS) Act, 2006 by the Reserve Bank of India.
2. A fixed rate of 2.5% per annum is applicable on the scheme, payable semi-annually.

Select the correct answer using the codes given below:

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

7) Oxygen Park using *Beema Bamboo* has been established in which of the following states?

- a. West Bengal
- b. Kerala
- c. Tamil Nadu
- d. Meghalaya

8) Consider the following statements with respective to *Iron Dome Air Defence Systems*

1. It is used for countering rockets as well as aircraft, helicopters and unmanned aerial vehicles.
2. It is a short-range, ground-to-air, air defence system.
3. It is manufactured by Almaz-Antey air defence system in Russia.

Which of the statements given above are correct?

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

9) **Migration and Development Briefs released by which of the following organizations?**

- NITI Aayog
- World Bank
- BRICS Employment Working Group (EWG)
- UN-Development Program (UNDP)

10) **Which of the following statement(s) is/are incorrect with respect to Prompt Corrective Action**

- It aims to check the problem of Non-Performing Assets (NPAs) in the Indian banking sector.
- Under this banks with weak financial metrics are directly put under watch by the Department of Economic Affairs under Ministry of Finance.
- When PCA is applied on a banks, it is not allowed to renew or access costly deposits or take steps to increase their fee-based income.

Select the correct answer using the codes given below:

- 1 only
- 1 and 3 only
- 2 only
- 2 and 3 only

Answers

1. c

- A cute American turtle, popular as a pet, is threatening to invade the natural water bodies across the Northeast which is home to 21 of the 29 vulnerable native Indian species of freshwater turtles and tortoises.

Red-eared slider

- The red-eared slider (*Trachemys scripta elegans*) derives its name from red stripes around the part where its ears would be and from its ability to slide quickly off any surface into the water.

- Native to the U.S. and northern Mexico, this turtle is an extremely popular pet due to its small size, easy maintenance, and relatively low cost.
- But on the flip side, they grow fast and virtually leaves nothing for the native species to eat.
- Since they are omnivores, they pose a threat to both native aquatic animals and plants.
- It is regarded as the most invasive species of turtles in the world.
- People who keep it as pets released them in natural water bodies after they outgrow an aquarium, tank or pool at home.
- Also, the red-eared slider is traded legally in India and the government should come up with regulations against keeping invasive as pets.
- Preventing this invasive species from Northeast India is crucial because the **Northeast is home to more than 72% of the turtle and tortoise species in the country**, all of them are very rare.
- According to the Marine Turtle Action Plan (2021-2026), the Indian coastal waters supports five species of sea turtles found worldwide.

2. d

They are:

- Olive ridley (*Lepidochelys olivacea*)
- Green (*Chelonia mydas*)
- Hawksbill (*Eretmochelys imbricata*)
- Leatherback (*Dermochelys coriacea*)
- Loggerhead (*Caretta caretta*)

- These five species of sea turtles that occur in Indian coastal waters are protected under Schedule I of the Wildlife (Protection) Act, 1972.

3. c

- Several centers are being set up by the Department of Science and Technology to house **major analytical instruments** to provide common services of high-end analytical testing, thus avoiding duplication and reduced dependency on foreign sources.

- Three such centers set up at IIT Kharagpur, IIT Delhi and BHU Varanasi, are being operated with a transparent, open access policy.
- These centers were initiated under SATHI scheme.

Sophisticated Analytical & Technical Help Institutes (SATHI) Scheme

- The Department of Science and Technology (DST) is initiating of setting up a shared, professionally managed, Science and Technology infrastructure facility, which can be readily be accessible to academia, start-ups, manufacturing units, industries and R&D Labs.
- Such S&T infrastructure will be known as Sophisticated Analytical & Technical Help Institute (SATHI).
- These Centres will be equipped with major analytical instrument and advanced manufacturing facility, **which is usually not available at Institutes / Organizations.**
- The aim is to provide professionally managed services with efficiency, accessibility and transparency of highest order under one roof to service the demands of industry, start-ups and academia.
- DST is planned to set up five SATHI Centers every year for the next four years.
- This will also foster a strong culture of collaboration between institutions and across disciplines to take advantage of developments, innovations and expertise in diverse areas.

4. a

- With the second wave of COVID-19 sweeping across the rural heartland of Odisha, infections are being reported among the Particularly Vulnerable Tribal Groups (PVTGs).
- As many as 21 tribals across eight different PVTGs in the State have so far tested positive, including the Bonda tribes, known for its secluded lifestyle.

Tribes in Odisha

- Odisha has among the largest and most diverse tribal populations in the country.

- Of the 62 tribal groups residing in Odisha, 13 are recognised as PVTGs.
- According to the 2011 Census, Odisha's share of the country's total tribal population was 9%.
- Tribals constitute 22.85% of State's population.
- The PVTGs of Odisha are Bonda, Birhor, Chuktia Bhunjia, Didayi, Dongaria Kandha, Hill Kharia, Juang, Kutia Kondh, Lanjia Saora, Lodha, Mankirdia, Paudi Bhuyan and Saora.
- PVTGs are identified on the basis of stagnant or diminishing populations, subsistence level of economy associated with pre-agricultural stages of hunting, food gathering and shifting cultivation, and relative physical isolation.

The only PVTGs of various states:

1. Tripura – Raing
2. Rajasthan – Saharia
3. Manipur - Maram Naga

5. c

- A total of 186 elephants were killed after being hit by trains across India between 2009-10 and 2020-21, according to the Ministry of Environment, Forest and Climate Change (MoEFCC).
- According to the data furnished by the Project Elephant Division of the Ministry, **Assam accounted for the highest number of elephant casualties on railway tracks (62)**, followed by West Bengal (57), and Odisha (27). Uttar Pradesh saw just one death.
- **Trains claimed the highest number of pachyderms in 2012-13**, when 27 elephants were killed in 10 States.

Elephants in India

- According to the census report, released by the Union Ministry of Environment, Forests and Climate Change (MoEFCC) in 2017, the population estimation of Asian elephant in India is around 27,312.
- The population estimation of Asian elephants in 2017 census is lower than from the last census estimate in 2012.

- Karnataka has the highest number of elephants (6,049), followed by Assam (5,719) and Kerala (3,054).

6. c

Sovereign Gold Bond (SGB) Scheme

- The Sovereign Gold Bond (SGB) scheme was launched in November 2015 with an objective to reduce the demand for physical gold and shift a part of the domestic savings - used for the purchase of gold - into financial savings.
- These are issued by the RBI on behalf of the Government of India.
- Bonds are sold through Commercial banks, Stock Holding Corporation of India Limited (SHCIL), designated post offices (as may be notified) and recognised stock exchanges viz., National Stock Exchange of India Limited and Bombay Stock Exchange, either directly or through agents.
- The bonds are restricted for sale to resident individuals, Hindu Undivided Families (HUFs), trusts, universities and charitable institutions.
- The price of the gold bonds is calculated based on the spot price of gold as provided by the Mumbai-based India Bullion and Jewellers Association (IBJA).
- Gold bonds can be purchased in the multiples of one unit, up to certain thresholds for different investors.
- The upper limit for retail (individual) investors and HUFs is 4 kilograms (4,000 units) each per financial year.
- For trusts and similar entities, an upper limit of 20 kilograms per financial year is applicable.
- Minimum permissible investment is 1 gram of gold, the gold bonds come with a maturity period of eight years, with an option to exit the investment after the first five years.
- The interest on Gold Bonds shall be taxable as per the provision of Income Tax Act, 1961.
- Bonds can be used as collateral for loans, the capital gains tax arising on redemption of SGB to an individual has been exempted.
- Redemption is the act of an issuer repurchasing a bond at or before maturity.

- Capital gain is the profit earned on the sale of an asset like stocks, bonds or real estate.
- It results in when the selling price of an asset exceeds its purchase price.

7. c

Beema Bamboo

- Beema or Bheema Bamboo is a superior clone, selected from *Bambusa balcooa*, a higher biomass yielding bamboo species.
- This bamboo clone has been developed by the conventional breeding method.
- This species is considered to be one of the fastest-growing plants. It grows one-and-a-half feet per day under tropical conditions.
- It is said to be the best 'carbon sink' to mitigate carbon dioxide emissions.
- The Tamil Nadu Agricultural University (TNAU) has designed an 'oxygen park' within its premises at Coimbatore with Beema Bamboo.

Bambusa balcooa

- *Bambusa balcooa* is a very large, thick-walled, clumping bamboo, growing up to a height of 25 metres, and a thickness of 150 millimetres.
- The length and strength of *Bambusa balcooa* make it a useful material for the construction industry.
- It is a drought-resistant species with low rainfall requirements and can reach yields upwards of 100 metric tons per hectare.

8. a

Iron Dome Air Defence Systems

- It is a short-range, ground-to-air, air defence system.
- In 2007, Israel announced that its state-run Rafael Advance Systems would come up with a new air defence system to protect its cities and people.
- It was developed with Israel Aerospace Industries and deployed in 2011.
- It includes a radar and Tamir interceptor missiles that track and neutralise any rockets or missiles aimed at Israeli targets.

- It is used for countering rockets, artillery & mortars (C-RAM) as well as aircraft, helicopters and unmanned aerial vehicles.
- It can protect deployed and manoeuvring forces, as well as the Forward Operating Base (FOB) and urban areas, against a wide range of indirect and aerial threats.

9. b

Migration and Development Brief

- Recently, the World Bank has released the Migration and Development Brief which provides information regarding remittances received by various countries
- The report said India's remittances fell by just 0.2 per cent in 2020, with much of the decline due to a 17 per cent drop in remittances from the United Arab Emirates.
- India received over USD 83 billion in remittances in 2020 which is a drop of just 0.2 per cent from the previous year.
- Remittances outflow from India in 2020 was USD7 billion, against USD 7.5 billion in 2019

10. c

Prompt Corrective Action

- PCA is a framework under which banks with weak financial metrics are put under watch by the RBI.
- The RBI introduced the PCA framework in 2002 as a structured early-intervention mechanism for banks that become undercapitalised due to poor asset quality, or vulnerable due to loss of profitability.
- The framework was reviewed in 2017 based on the recommendations of the working group of the Financial Stability and Development Council on Resolution Regimes for Financial Institutions in India and the Financial Sector Legislative Reforms Commission.
- The PCA is invoked when certain risk thresholds are breached. There are three risk thresholds which are based on certain levels of asset quality, profitability, capital and the like.
- There are two type of restrictions, mandatory and discretionary. Restrictions on dividend, branch expansion, directors compensation, are

mandatory while discretionary restrictions could include curbs on lending and deposit.

- Banks will also have to launch a special drive to reduce the stock of NPAs and contain generation of fresh NPAs.
- They will also not be allowed to enter into new lines of business.
- RBI will also impose restrictions on the bank on borrowings from interbank market.

17-05-2021

1) With respect to Judicial Impact Assessment (JIA) in India, consider the following statements:

1. It is a methodology to calculate the workload change that the judiciary has to bear due to procedural or substantive legislation changes.
2. The need for Judicial Impact Assessment in India was first considered in the Salem Advocates Bar Association Vs Union of India case in 2005.
3. Judicial Impact Assessment (JIA) is a unique Indian innovation in the field of Judiciary procedures.

Which of the statements given above are correct?

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

2) Which of the following is the correct colour identification of Oxygen Cylinders intended for medical use in India?

- a. Black coloured body with white neck
- b. White coloured body with black neck
- c. Brown coloured body with grey neck
- d. Grey coloured body with white neck



3) Consider the following statements with respect to *Mission COVID Suraksha*

1. Under the mission, health insurance will be provided to vulnerable sections to meet out of pocket expenditure due to COVID infections.
2. The mission was led by the Life Insurance Corporation of India (LIC) with cooperation from the Ministry of Finance.

Which of the statement(s) given above is/are incorrect?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

4) *NAIMISHA, 2021*, sometimes seen in the news recently, is associated with which of the following ministries?

- a. Ministry of Culture
- b. Ministry of Education
- c. Ministry of Tribal Affairs
- d. Ministry of Women and Child Development

5) Consider the following statements with respect to *e-Sanjeevani OPD*

1. It is a flagship telemedicine platform developed by the Centre for Development of Advanced Computing (C-DAC), under the aegis of Ministry of Health and Family Welfare.
2. It facilitates free online medical consultation to all citizens of India, as well as provides for online prescription of medicines.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

6) Which of the following statement(s) is/are incorrect with respect to *Cloud Bursts*

1. Rainfall rate equal to or greater than 100 mm (3.97 inches) per hour is a cloudburst.
2. It happens when saturated clouds are unable to produce rain because of the upward movement of very warm current of air.

Select the correct answer using the codes given below:

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

7) Consider the following statements with respect to *Housing Finance Companies (HFCs)*

1. It is regulated by the National Housing Bank, under the direct supervision of the RBI.
2. Its financial assets in the business of providing finance for housing constitute not less than 60% of its total assets.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

8) Consider the following statements with respect to *Tea Cultivation*

1. Tea plantation requires 150-300 cm annual rainfall which should be well distributed throughout the year.
2. Sri Lanka is largest producer of green tea in the world while India is the largest black tea producer in the world.
3. The most suitable soil for tea cultivation is slightly acidic porous sub-soil which permits a free percolation of water.

Which of the statement(s) given above is/are correct?

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

9) Amphotericin B is effectively used to treat which of the following infections?

- a. Molluscum contagiosum (Viral Infection)
- b. Mucormycosis (Fungal Infection)
- c. Shingles (Viral Infection)
- d. Scabies (Parasite Infection)

10) Which of the following statement(s) is/ are correct with respect to FLEUDA Test

- 1. It uses the gene-editing tool Crispr-Cas9 to target and identify genomic sequences of the novel coronavirus.
- 2. It is costlier and takes longer time to produce results than RT-PCR tests.

Select the correct answer using the codes given below:

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answers

1. a

Judicial Impact Assessment

- It is a methodology of calculating the workload change that the judiciary has to bear due to procedural or substantive law changes and then calculating the expected indicative costs for the same change.
- The USA undertakes the Judicial impact assessment exercise, although the developments are not shared except the results.

Background

- The Supreme Court of India, for the first time, in Salem Advocates Bar Association (II) Vs Union of India case (2005), considered the question of the need for “Judicial Impact Assessment” in our country.
- The Supreme Court of India also directed the Central Government to examine the issue of Judicial Impact Assessment as done in USA.
- The Government of India, based on the direction of the Supreme Court, constituted a Task Force with Justice M. Jagannadha Rao as the chairman in 2008 to study the feasibility of Judicial Impact Assessment (JIA) in India.

2. a

- Any cylinder with any compressed gas shall ensure that the cylinder is painted with appropriate identification colours specified in IS:3933 for medical cylinders.
- According to the standards, Oxygen cylinders, intended for medical use, should be painted **Black throughout its body and white at the neck of the cylinder.**

3. c

Mission COVID Suraksha

- It is an Indian COVID-19 Vaccine Development Mission with end-to-end focus from preclinical development through clinical development and manufacturing and regulatory facilitation.
- The mission was led by Department of Biotechnology and implemented by a dedicated Mission Implementation Unit at Biotechnology Industry Research Assistance Council (BIRAC).
- The existing activities under National Bio Pharma Mission (NBM) and Ind-CEPI Mission will provide complementary strengths to this Mission.
- It will help accelerate development of approximately 5-6 vaccine candidates and ensure that these are brought closer to licensure and introduction in market for consideration of regulatory authorities.

Department of Biotechnology (DBT)

- It works under the Ministry of Science & Technology.
- It promotes the use and application of biotechnology in the areas of agriculture, healthcare, animal sciences, environment and industry.
- It is focused on attaining new heights in biotechnology research, shaping biotechnology into a premier precision tool of the future for creation of wealth and ensuring social justice – especially for the welfare of the poor.

Biotechnology Industry Research Assistance Council (BIRAC)

- It is a not-for-profit Section 8, Schedule B, Public Sector Enterprise, set up by Department of Biotechnology (DBT), Government of India
- It was established as an Interface Agency to strengthen and empower the emerging Biotech enterprise to undertake strategic research and innovation, addressing nationally relevant product development needs.

4. a

NAIMISHA 2021

- It is an online summer programme created by the National Gallery of Modern Art (NGMA), New Delhi.
- Through the event, NGMA is creating a virtual museum space.
- This unique art fiesta will provide a platform to create and engage with the arts.
- The events are expected to spark imagination, creativity and interest in visual and other related arts.

5. c

- *In order to mitigate the criticality of inadequate availability of specialised medical manpower, veteran defence doctors have come forward answering the call of the nation to provide free online consultation services on the e-Sanjeevani platform.*

e-Sanjeevani OPD

- It is a Govt of India flagship telemedicine platform, developed by the C-DAC, Mohali under the aegis of MoHFW, Govt of India.

- It facilitates free online medical consultation to all citizens of India, as well as provides for online prescription of medicines.

Centre for Development of Advanced Computing (C-DAC)

- It is the premier R&D organization of the Ministry of Electronics and Information Technology (MeitY) for carrying out R&D in IT & E (Information Technologies and Electronics) and associated areas.

6. d

Cloud Bursts

- A cloudburst is an extreme amount of precipitation, sometimes with hail and thunder, which normally lasts no longer than a few minutes but is capable of creating flood conditions.
- Rainfall rate equal to or greater than 100 mm (3.97 inches) per hour is a cloudburst.
- The associated convective cloud can extend up to a height of 15 km above the ground.
- During a cloudburst, more than 20 mm of rain may fall in a few minutes.
- If rainfall of about 10 cm or above per hour is recorded over a place that is roughly 10 km x 10 km in area, it is classified as a cloudburst event.
- And by this definition, 5 cm of rainfall in half an hour would also be classified as a cloudburst, that's an anomaly for Indian conditions.
- Cloudbursts do happen in plains as well, but there is a greater probability of them occurring in mountainous zones; it has to do with the terrain.
- Forecasts on cloud bursts for a very small area can be done through the use of Doppler radars.
- Through them, it is possible to forecast the possibility of cloudbursts about six hours in advance, sometimes even 12-14 hours in advance.

7. c

Housing Finance Companies (HFCs)

- It is a form of non-banking financial company which is engaged in the principal business of

financing of acquisition or construction of houses.

- Any non-banking finance company can operate as a housing finance company, subject to the fulfilment of basic requirements as specified in the Companies Act, 1956.
- Under the Revised Framework, a HFC has been defined to mean a non-banking financial company engaged in the housing finance business and which fulfils the following conditions:
 - Its financial assets (in the business of providing finance for housing) constitute not less than 60% of its total assets; and
 - Out of the total assets (netted off by intangible assets), not less than 50% should be by way of housing financing for individuals.
- While there is a large gap between banks and HFCs when it comes to passing the benefit of a repo rate cut to existing borrowers, large HFCs compete with banks and offer similar rates to new customers.
- As HFC rates are benchmarked to PLR, they increase the discount on PLR for new customers.
- While both HFCs and banks offer the facility of switching to rates being offered to new customers after payment of conversion charge, a reduction in their PLR/MCLR would directly benefit borrowers.

8. c

Tea Cultivation

- Tea is a tropical and sub-tropical plant and grows well in hot and humid climate.
- The ideal temperature for its growth is 20°-30°C and temperatures above 35°C and below 10°C are harmful for the bush.
- The most suitable soil for tea cultivation is slightly acidic soil (without calcium) with porous sub-soil which permits a free percolation of water.
- Tea is a shade-loving plant and develops more vigorously when planted along with shady trees.
- There is a very close relation between climate, the yield and the quality of tea.

- A recent study has found that climate change would impact the very taste of tea, Increasing rain will change the “subtle flavours of the tea leaf and potentially reduce its health benefits”.
- Kenya is the largest producer of black tea in the world while China produces the maximum green tea.

9. b

Amphotericin B

- It is fungistatic or fungicidal depending on the concentration obtained in body fluids and the susceptibility of the fungus.
- The antibiotic is without effect on bacteria, rickettsiae, and viruses.
- The drug acts by binding to sterols (ergosterol) in the cell membrane of susceptible fungi.
- It shows a high order of in vitro activity against many species of fungi.
- It is a polyene antifungal antibiotic produced by *Streptomyces nodosus*, with antifungal activity.

10. a

FLEUDA Test

- Feluda is an acronym for FNCAS9 Editor Linked Uniform Detection, a paper strip test that detects the coronavirus in an hour.
- It is expected to help to fulfil an urgent need of the rapid testing in India.
- It is the first such indigenous test kit to be developed in India based on Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR) technology by CSIR-IGIB.
- The Feluda test will cost less than Rs.500 compared to Rs. 4500 for the real-time PCR test which is currently being used for Covid-19 diagnosis in India.
- This test does not rely on expensive real-time PCR machines for RNA isolation, DNA conversion, and amplification which are already in limited supply in the country.

CRISPR-Cas9

- CRISPR is a gene editing technology, which replicates natural defence mechanisms in



bacteria to fight virus attacks, using a special protein called Cas9.

- CRISPR-Cas9 technology behaves like a cut-and-paste mechanism on DNA strands that contain genetic information.
- The specific location of the genetic codes that need to be changed, or edited, is identified on the DNA strand, and then, using the Cas9 protein, which acts like a pair of scissors, that location is cut off from the strand.
- A DNA strand, when broken, has a natural tendency to repair itself.
- Scientists intervene during this auto-repair process, supplying the desired sequence of genetic codes that binds itself with the broken DNA strand.

18-05-2021

1) Consider the following statements with respective to *Types of Lending Rates*

1. In the event of inflation, central banks increase repo rate as this acts as a disincentive for banks to borrow from the central bank.
2. When deposit rates rise, it indicates the banks are likely to hike MCLR and lending rates are set to go up.

Which of the statement(s) given above is/are incorrect?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

2) Consider the following statements with respective to *Zeolites*

1. Zeolites are microporous, three dimensional crystalline solid of aluminium silicate.
2. Zeolites are either formed naturally or can be synthesized.
3. An oxygen concentrator uses Zeolites to adsorb atmospheric nitrogen and then vents out the nitrogen.

Which of the statement(s) given above is/are correct?

- a. 1 & 2 only
- b. 1 & 3 only
- c. 2 & 3 only
- d. All of the above

3) Consider the following statements with respective to *Common Crane*

1. It is a winter visitor to the arid plains of Western India, primarily Gujarat and Rajasthan.
2. It is listed as Endangered under IUCN Red List of Threatened Species.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

4) Which of the following statement(s) is/ are correct with respect to *Sarus Crane*

1. It is the smallest of all Crane species and state bird of Assam.
2. It is protected as Vulnerable on IUCN Red List and listed in Schedule IV of the Wildlife (Protection) Act 1972.

Select the correct answer using the codes given below:

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

5) Which of the following statement(s) is/ are correct with respect to *Astronomical object Winchcombe*

1. It is a 500-meter wide asteroid in an elliptical orbit around the sun.

2. It resembles like coal and may offer clues about the beginning of the solar system and maybe even the Earth.

Select the correct answer using the codes given below:

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answers

1. d

Types of Lending Rates

- **Marginal Cost of Lending Rate:** It came into effect in April 2016 and it is a benchmark lending rate for floating-rate loan, it is linked to the actual deposit rates.
- This is the minimum interest rate at which commercial banks can lend.
- This rate is based on four components, the marginal cost of funds, negative carry on account of cash reserve ratio, operating costs and tenor premium.
- **Prime Lending Rates:** Under it, bank loans were priced on the actual cost of funds.
- However, the PLR was subverted, resulting in an opaque system, it was used till June 2010.
- Under this system, banks were subsidising corporate loans by charging high interest rates from retail and small and medium enterprise customers.
- The Housing Finance Companies base their lending rates on Prime Lending Rates and offer a discount on it to customers.
- The cut in rates for existing customers depends on the reduction in MCLR by banks and in PLR by HFCs in response to a repo cut by RBI.
- **Repo Rate:** It is the rate at which the central bank of a country (Reserve Bank of India in case of India lends money to commercial banks in the event of any shortfall of funds. It is used by monetary authorities to control inflation.

- In the event of inflation, central banks increase repo rate as this acts as a disincentive for banks to borrow from the central bank.
- This ultimately reduces the money supply in the economy and thus helps in arresting inflation.
- The central bank takes the contrary position in the event of a fall in inflationary pressures.
- When the RBI slashes its repo rate, it expects the banks to lower their interest rates charged on loans.

2. d

Zeolites

- Zeolites are microporous, three dimensional crystalline solid of aluminium silicate.
- Zeolites have small openings of fixed size in them which allow small molecules to pass through them easily but larger molecules cannot pass through them; that is why they are sometimes called molecular sieve.
- Zeolites are very stable solid under different environmental conditions. The melting point of zeolite is very high, i.e. 1000°C.
- They are insoluble in water or other inorganic solvents and they do not undergo oxidation in the presence of air.
- Since zeolites are not reactive and are obtained from naturally occurring minerals, therefore, they do not have any harmful environmental effects; although skin contact or inhalation may have a carcinogenic effect.
- Recently DRDO imports zeolite to make oxygen for COVID-hit by using it in an oxygen concentrator to vent out nitrogen and leave oxygen gas for patients.

3. a

Common Crane

- Common Cranes stand at 4 feet tall with a wingspan of over 7 feet, and used to be the largest birds in Ireland.
- It is a bird that is part of its folklore and was a popular pet during medieval times.
- It is typically seen in Ireland during the winter, but is not sighted during the breeding season.



- The birds are in Ireland's Midlands region, but their exact location has been kept secret to protect them.
- It breeds across temperate Eurasia and migrates south across its range.
- In its normal breeding range, Common Cranes are found in wet meadows, forest clearings, wetlands, bogs, and grassy fields.
- It feeds on grains and seeds, berries, and tender shoots and roots of plants.
- It is listed as Least Concerned under IUCN Red List of Threatened Species.

4. b

Sarus Crane

- It is the tallest flying bird in the world and state bird of Uttar Pradesh.
- Demoiselle Crane is the smallest crane species and has a size of only 90 cm, while the biggest species (Sarus crane) can reach a size of up to 175 cm.
- The current range of the Indian Sarus Crane includes the plains of north-western India, the western half of Nepal's Terai Lowlands and parts of Pakistan.
- The Eastern Sarus Crane occurs in Myanmar, Laos, Vietnam and Cambodia.
- The species mostly lives and breeds in and around wetlands as well as marshy areas, small lakes and cultivated land with the presence of water, like paddy fields.

5. b

Winchcombe Meteorite

- NASA notes that the difference between a meteor, meteorite and meteoroid is nothing but where the object is.
- Meteoroids are objects in space that range in size from dust grains to small asteroids.
- When meteoroids enter the Earth's atmosphere they are called meteors.
- If a meteoroid enters the Earth's atmosphere and hits the ground, it is called a meteorite.
- A meteorite touched down in the town of Winchcombe in Gloucestershire in the UK in February 2021.

- It is a 103 gram fragment of black rock resembling coal, it dates back to the birth of the solar system nearly 4.5 billion years ago.

19-05-2021**1) Consider the following statements with respect to Overseas Citizens of India (OCI)**

1. They are people of Indian origin but hold foreign passports.
2. They are treated at par with NRIs in financial, economic and educational fields including acquisition of agricultural properties.
3. Foreign nationals can also apply for OCI in India while on Tourist and Missionary Visa.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 1 and 2 only
- c. 1 and 3 only
- d. None of the above

2) Consider the following statements with respect to SAMVEDNA

1. It is a toll-free helpline to provide psycho-social mental support for Children affected during COVID 19 Pandemic.
2. It was launched by the National Commission for Protection of Child Rights (NCPCR), Ministry of Women and Child Development.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

3) *Taiwan Strait*, which separates the coast of China from Island of Taiwan, connects which of the following?

- South China Sea and East Sea
- Yellow Sea and East China Sea
- Sea of Japan and East China Sea
- East China Sea and South China Sea

4) With respect to *India's relationship with Arctic Region*, which of the following statements is correct?

- India's engagement with the Arctic dates back to 1920 with the signing of the Marseille Treaty in France
- India has a permanent research station in the Arctic called "Maitri" in Norway since 2008
- India has also deployed a multi-sensor moored observatory called "Bharti" in the Kongsfjorden fjord since 2014
- The research in the Arctic region is being coordinated by the National Centre for Polar and Ocean Research (NCPOR) under the Ministry of Earth Sciences

5) With respect to *Skinks*, consider the following statements:

- Skinks are non-venomous and resemble snakes because of the often-inconspicuous limbs and the way they move on land.
- Subdoluseps Nilgiriensis* is a new species of skink found in Western Ghats, Kerala.
- Most skinks are diurnal and are usually secretive in their habits.

Which of the statements given above are correct?

- 1 and 2 only
- 1 and 3 only
- 2 and 3 only
- 1, 2 and 3

6) Consider the following statements with respect to *Deep Shake Earthquake Prediction*

- It is intended to provide a few seconds warning of imminent shaking once an earthquake has started.
- It uses a deep neural network, a type of AI learning, to identify patterns from past earthquakes to make predictions.

Which of the statement(s) given above is/are incorrect?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

7) Consider the following statements with respect to *Dengue*

- It is caused by *Flavivirus* which is transmitted principally by *Aedes Aegypti* mosquito.
- World Mosquito Program have used mosquitoes infected with *Wolbachia* bacteria to successfully control dengue.

Which of the statement(s) given above is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

8) Consider the following statements with respect to *Article 311*

- It puts certain restrictions on the absolute power of the President or Governor for dismissal, removal or reduction in rank of an officer.
- The protective safeguards given under Article 311 are applicable to both civil servants and defence personnel.

Which of the statement(s) given above is/are correct?

- 1 only



- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

9) Which of the following rovers have been deployed in the Tianwen-1 Mission to explore Mars?

- a. Hope Rover
- b. Zhurong Rover
- c. Viking Rover
- d. Yinghuo Rover

10) Sulawesi Caves recently found in news is known for which of the following?

- a. Active Volcanoes
- b. Sumatran Orangutan
- c. Oldest cave art
- d. Ancient rock edicts

Answers

1. a

- The Ministry of Home Affairs, through its order in March, 2021, had required the professional Overseas Citizens of India (OCIs), such as journalists, engineers and researchers, to notify the Ministry about their activities in India.

Overseas Citizen of India (OCI)

- OCIs are of Indian origin but hold foreign passports.
- India does not allow dual citizenship but provides certain benefits under Section 7B(I) of the Citizenship Act, 1955 to the OCIs.

Who is an Overseas Citizen of India?

A foreign national of the following are eligible for registration as OCI cardholder in India.

- 1. who was a citizen of India at the time of, or at any time after 26th January, 1950; or
- 2. who was eligible to become a citizen of India on 26th January, 1950; or

- 3. who belonged to a territory that became part of India after 15th August, 1947; or
- 4. who is a child or a grandchild or a great grandchild of such a citizen; or
- 5. who is a minor child of such persons mentioned above; or
- 6. who is a minor child and whose both parents are citizens of India or one of the parents is a citizen of India

- Besides, spouse of foreign origin of a citizen of India or spouse of foreign origin of an Overseas Citizen of India Cardholder and whose marriage has been registered and subsisted for a continuous period of not less than two years immediately preceding the presentation of the application is also eligible for registration as OCI cardholder.

- However, no person, who or either of whose parents or grandparents or great grandparents is or had been a citizen of Pakistan, Bangladesh or such other country as the Central Government may, by notification in the Official Gazette, specify, shall be eligible for registration as an Overseas Citizen of India Cardholder.

- **Foreign nationals cannot apply for OCI in India while on Tourist Visa, Missionary Visa and Mountaineering Visa.**

- Moreover, the foreigner has to be ordinarily resident of India to be eligible to apply for OCI registration in India.

- **Note:** 'ordinarily resident' will mean a person staying in a particular country or in India **for a continuous period of 6 months.**

Benefits of OCI

- Multiple entry, multi-purpose life long visa to visit India;
- Exemption from reporting to Police authorities for any length of stay in India; and
- Parity with NRIs in financial, economic and educational fields **except in the acquisition of agricultural or plantation properties.**



2. c

- *National Commission for Protection of Child Rights (NCPCR) is providing Tele-Counselling to children through SAMVEDNA.*

Sensitizing Action on Mental Health Vulnerability through Emotional Development and Necessary Acceptance (SAMVEDNA)

- It is a Toll-Free Helpline launched to provide psycho-social mental support for Children affected during COVID 19 Pandemic.
- SAMVEDNA tele counselling service is for psychological support to children to address their stress, anxiety, fear and other issues during the Pandemic.

Tele counselling is provided to the children under three categories:

1. Children who are in Quarantine/isolation/COVID Care centers.
 2. Children who have COVID positive parents or family members and near ones.
 3. Children who have lost their parents due to Covid-19 Pandemic.
- This Toll-free Tele-Counselling cater to the children from all over India in various regional languages.

National Commission for Protection of Child Rights (NCPCR)

- It is a statutory body established through Commissions for Protection of Child Rights (CPCR) Act, 2005, an Act of Parliament (December 2005).
- It works under the aegis of Ministry of Women and Child Development, Govt. of India.

3. d

- *China has recently accused the United States of threatening the peace and stability of the Taiwan Strait after a U.S. warship again sailed through the sensitive waterway that separates Taiwan from China.*

Taiwan Strait

- It is a 180 km wide strait separating the island of Taiwan and continental Asia.

- The strait is currently part of the **South China Sea** and connects to the **East China Sea** to the north.

4. d

- A study, **Permafrost carbon feedbacks threaten global climate goals**, was published in the journal *Proceedings of the National Academy of Sciences*.
- According to the study, **warming Arctic tundra** will make it harder for the world to curb climate change, as **thawing permafrost** and **wildfires** release
- greenhouse gases that are not fully accounted for in global emissions agreements.
- As temperatures rise and permafrost thaws, carbon dioxide and methane trapped within the long-frozen soil are released.
- The deeper the thaw, the more gas is released.
- The study warns that the situation threatens to create a feedback loop that contributes to even more warming of the atmosphere.

India's relationship with Arctic Region

- India's engagement with the Arctic dates back to 1920 with the signing of the **Svalbard Treaty in Paris**.
- Since July 2008, India has a permanent research station in the Arctic called **Himadri** at NyAlesund, Svalbard Area in Norway.
- It has also deployed a multi-sensor moored observatory called **IndARC** in the Kongsfjorden fjord since July 2014.
- The research in the Arctic region from India is coordinated, conducted, and promoted by the **National Centre for Polar and Ocean Research (NCPOR)**, Goa, under the **Ministry of Earth Sciences**, Government of India.

5. b

- *A new species of Skink was found recently in the Western Ghats, India.*

Subdoluseps Nilgiriensis

- It was named after Nilgiris, a district in Tamil Nadu where it was found.

- The reptile has a slender body of just about 7 cm and is sandy brown in colour.
- This species is only the third skink species discovered from mainland India in the last millennium.

Skinks

- They are non-venomous.
- They resemble snakes because of the often-inconspicuous limbs and the way they move on land.
- Such resemblance has led to confusion often resulting in humans killing this lowly harmless creature.
- Most skinks are diurnal and are usually secretive in their habits.
- Because of their elusiveness, not much is known about their natural and evolutionary history.
- Most of the species are placed under the data-deficient category.

6. d

Deep Shake Earthquake Prediction

- It is an earthquake early warning system that uses artificial intelligence (AI) to predict how the ground will move during a temblor to give several seconds' advance notice that the earthquake is coming.
- It uses a deep neural network, a type of AI learning, to identify patterns from past earthquakes in order to predict how the shaking from a new quake will travel.
- This could lead to faster processing and easier generalizability across different earthquake-prone regions.
- Despite the fact that DeepShake was given no information about the earthquake's location or type, it was able to warn of shaking at other seismic stations in the network between 3-13 seconds before it happened

7. c

Dengue

- Dengue is a mosquito-borne tropical disease caused by the dengue virus (Genus Flavivirus), transmitted by several species of mosquito

within the genus Aedes, principally Aedes aegypti.

- This mosquito also transmits chikungunya, yellow fever and Zika infection.
- Symptoms of dengue includes sudden high fever, severe headaches, pain behind the eyes, severe bone, joint, and muscle pain, etc.
- Diagnosis of dengue infection is done with a blood test, as of now there is no specific medicine to treat dengue infection.
- In India National Vector-Borne Disease Control Programme (NVBDCP) is the central nodal agency for prevention and control of six vector borne diseases i.e. Malaria, Dengue, Lymphatic Filariasis, Kala-azar, Japanese Encephalitis and Chikungunya in India.
- It works under the Ministry of Health and Family Welfare.
- Recently researchers from the World Mosquito Program have used mosquitoes infected with Wolbachia bacteria to successfully control dengue in Indonesia.

8. a

Article 311

- Article 311 (1) says that no government employee either of an all India service or a state government shall be dismissed or removed by an authority subordinate to the one that appointed him/her.
- Article 311 (2) says that no civil servant shall be dismissed or removed or reduced in rank except after an inquiry in which s/he has been informed of the charges and given a reasonable opportunity of being heard in respect of those charges.
- People Protected under Article 311 are the members of
 1. Civil service of the Union,
 2. All India Service, and
 3. Civil service of any State,
 4. People who hold a civil post under the Union or any State.
- The protective safeguards given under Article 311 are applicable only to civil servants, i.e.

public officers, and they are not available to defence personnel.

- According to Article 310, except for the provisions provided by the Constitution, a civil servant of the Union works at the pleasure of the President and a civil servant under a State works at the pleasure of the Governor of that State (English doctrine of Pleasure), but this power of the Government is not absolute.
- Article 311 puts certain restrictions on the absolute power of the President or Governor for dismissal, removal or reduction in rank of an officer.

9. b

Tianwen-1 Mission

- It is China's uncrewed spacecraft landed on a large plain located in the northern hemisphere of Mars, known as Utopia Planitia.
- Launched in July 2020, the mission consists of an orbiter, a lander and a golf cart-sized rover called 'Zhurong'.
- 'Zhurong' rover, which will soon be deployed to study the Martian atmosphere and geology.
- China's Yinghuo-1 mission launched in 2011, ultimately failed after the spacecraft burnt while still in the Earth's atmosphere.
- With 'Zhurong' China becomes the first country to successfully orbit, land and offload a rover during its maiden Mars mission.
- Apart from China, only the United States has been able to deploy rovers to study the surface of the Red Planet.

Rovers on Mars

- The first successful landing was made by NASA in July 1976, when the Viking 1 rover touched down on Mars.
- Shortly after that, Viking 2 arrived on the Red Planet.
- In the decades that followed, the US successfully sent the Opportunity and Spirit rovers to explore Mars.
- Most recently, in February this year, NASA's Perseverance rover landed at the Jezero Crater on the Red Planet, after which it resumed work to look for signs of past life.

10. c

Sulawesi Caves

- It is a Pleistocene-era rock paintings dating back to 45,000-20,000 years ago.
- It is located in cave sites in southern Sulawesi, on the Indonesian island of Sulawesi.
- The limestone cave walls are adorned with hand stencils of red and mulberry tint, in addition to paintings of native mammals and human-animal hybrids.
- The artwork in the area includes what is believed to be the world's oldest hand stencil created by pressing the hand on a cave wall, and spraying wet red-mulberry pigments over it.
- A nearby cave features the world's oldest depiction of an animal, a warty pig painted on the wall 45,500 years ago.
- The cave art of Sulawesi is much older than the prehistoric cave art of Europe.

20-05-2021

1) With respect to UNESCO's World Heritage Sites, consider the following statements:

- 1. Only countries that have signed the World Heritage Convention can submit nomination proposals for World Heritage Sites.**
- 2. To be included on the World Heritage List, a site must be included on the State Party's Tentative List, at least one year prior to the nomination.**
- 3. UNESCO's World Heritage sites will be selected on the basis of satisfying six cultural and four natural criteria.**

Which of the statements given above are correct?

- 1 and 2 only
- 1 and 3 only
- 2 and 3 only
- 1, 2 and 3

2) China has recently launched the *Haiyang-2D (HY-2D)* satellite through its Long March-4B rocket. Which of the following is the main objective of the satellite?

- Space debris removal Satellite System
- Establishing a Permanent Space Station
- Ocean Environment Monitoring System
- Navigation and Military Surveillance System

3) Which one of the following correctly describes the term *Happy Hypoxemia*, sometimes seen in the news recently:

- It is a condition where oxygen saturation in the blood becomes low without any visible manifestation of distress
- It is a condition during which human body experiences a sudden and potentially dangerous rise in body temperature
- It is a condition during which human body experiences a sudden and potentially dangerous drop in body temperature
- It occurs to the recovering COVID patients, where oxygen saturation suddenly surpasses the normal level and resulted in organ failure

4) Which of the following organizations has recently unveiled the *World's first 2-nanometre chip-making technology* for faster computing?

- IBM
- Apple
- Google
- Microsoft

5) Consider the following pairs:

GI Tagged Products – States

- Gholvad Sapota – Maharashtra
- Banganapalli Mango – Karnataka
- Suvarnarekha Mango – Andhra Pradesh

Which of the pair(s) given above is/are correctly matched?

- 3 only
- 1 and 2 only
- 1 and 3 only
- 1, 2 and 3

6) Consider the following statements with respect to *Global COVAX Alliance*

- It is an initiative of World Health Organization, World Trade Organization and Food and Drug Administration (FDA).
- Tamil Nadu is the first Indian state to join the global COVAX alliance because of vaccine shortage.

Which of the statement(s) given above is/are incorrect?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

7) Consider the following statements with respect to *Beyond Visual Line of Sight*

- It means operation of Unmanned Aerial Vehicles (UAVs) and drones at distances outside the normal visible range of the pilot.
- Unmanned Aircraft System Rules 2021 has permitted to operate BVLOS to expand their scope of use.

Which of the statement(s) given above is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

8) Consider the following statements with respect to *International Council of Museum (ICOM)*



1. It is a non-governmental organisation which establishes professional and ethical standards for museum activities.
2. It is the only global organisation in the museum field and India is a member of the association.

Which of the statement(s) given above is/are incorrect?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

9) Which of the following organisations is responsible for Naming tropical Cyclones formed over Bay of Bengal and Arabian Sea?

- a. World Meteorological Organization
- b. Ministry of Earth sciences
- c. Indian Institute of Tropical Meteorology
- d. Regional Specialized Meteorological Centre (RSMC)

10) Medicine from the Sky Project is announced by which of the following states?

- a. Maharashtra
- b. Andhra Pradesh
- c. Telangana
- d. Karnataka

Answers

1. a

- Six sites, including the Ganga ghats in Varanasi, temples of Kancheepuram in Tamil Nadu and the Satpura Tiger Reserve in Madhya Pradesh, have been added to India's tentative list of UNESCO world heritage sites.
- The other three sites are the Maratha military architecture in Maharashtra, the Hire Bengal megalithic site in Karnataka and Bhedaghat-Lametghat of Narmada Valley in Madhya Pradesh.

UNESCO's World Heritage Site List

Tentative Lists

- A Tentative List is an inventory of those properties which each State Party intends to consider for nomination to the World Heritage List.
- States Parties should submit Tentative Lists to the World Heritage Centre, at least one year prior to the submission of any nomination.
- Nominations to the World Heritage List will not be considered unless the nominated property has already been included on the State Party's Tentative List.
- Once inscribed on the World Heritage List, properties are removed from the Tentative Lists of States Parties.
- The Tentative Lists of States Parties are published by the World Heritage Centre at its website to ensure transparency, access to information and to facilitate harmonization of Tentative Lists at regional and thematic levels.

World Heritage List Nominations

- Only countries that have signed the World Heritage Convention, pledging to protect their natural and cultural heritage, can submit nomination proposals for properties on their territory to be considered for inclusion in UNESCO's World Heritage List.
- To be included on the World Heritage List, sites must be of **outstanding universal value** and **meet at least one out of ten selection criteria**.
- Until the end of 2004, World Heritage sites were selected on the basis of six cultural and four natural criteria.
- With the adoption of the revised Operational Guidelines, only one set of ten criteria exists.

2. c

- China has successfully launched a new **ocean-monitoring satellite** into orbit.

Haiyang-2D (HY-2D)

- The satellite was launched by a Long March-4B rocket from the Jiuquan Satellite Launch Centre in northwest China.

- The HY-2D will form a constellation with the HY-2B and HY-2C satellites.
- The constellation will build an all-weather and round-the-clock dynamic **ocean environment monitoring system** of high frequency and medium and large scale.
- The constellation will support the country's early warning and prediction of marine disasters, sustainable development and utilisation of ocean resources, effective response to global climate change as well as ocean research.

3. a

- *In the second wave of Corona infection, Happy Hypoxemia or (Happy Hypoxia) is playing a crucial role in causing deaths in the younger generation.*

Hypoxia

- It refers to a condition when the oxygen level in the blood drops below the average mark.
- Oxygen saturation for a healthy person remains above 94 per cent and it can be easily measured using an Oximeter.
- A drop in oxygen saturation can affect a range of vital organs such as the heart, lungs, brain and kidney.
- Hypoxia could happen due to the reduced capacity of the lungs to absorb and transfer oxygen received through breathing to blood vessels for supply in all parts of the body.
- It can also happen when blood vessels cannot circulate blood properly in the body due to some blockages.

Happy Hypoxia

- In the case of happy hypoxia, which is being seen among Covid-19 patients, they continue to function normally till a much later stage.
- In normal conditions, the body gives strong symptoms of hypoxia including intense headache, short breath and breathlessness.
- But doctors treating Covid-19 have noted that the patients continue to feel normal even when their oxygen levels drop to the dangerous mark.

- Their body does not show any immediate symptoms and even if their Oxygen level reach <90%, they can walk, talk.

4. a

- *IBM has recently introduced the world's first 2-nanometre chipmaking technology.*
- According to the company, the technology could be as much as 45% faster than the mainstream 7-nanometre chips in many of today's laptops and phones and up to 75% more power efficient.
- The 2-nanometre chips will be smaller and faster than today's leading edge 5-nanometre chips, which are just now showing up in premium smartphones like Apple Inc's iPhone 12 models, and the 3-nanometre chips expected to come after 5-nanometer.

5. c

- *A consignment of Dahanu Gholvad Sapota was recently shipped from Palghar district of Maharashtra to the United Kingdom.*
- Earlier this month, a consignment of 2.5 Metric Tonne of GI certified **Banganapalli & Survarnarekha mangoes** sourced from farmers in Krishna & Chittor districts of **Andhra Pradesh** was exported to South Korea.

Gholvad Sapota

- GI certification of Gholvad Sapota is held by **Maharashtra** Rajya Chikoo Utpadak Sangh and the fruit is known for its sweet and unique taste.
- It is believed that the unique taste is derived from calcium rich soil of Gholvad village.
- Sapota is grown in many states- Karnataka, Gujarat, Maharashtra, Tamil Nadu, West Bengal and Andhra Pradesh.
- Karnataka is known to be the highest grower of the fruit, followed by Maharashtra.
- It can be used in fruit salads, blended into milk or yogurt, as a smoothie or processed to make a jam out of it.

6. c

Global COVAX Alliance

- COVID-19 Vaccine Global Access is a worldwide initiative co-led by coalition for epidemic preparedness innovation (CEPI) GAVI and World Health Organization (WHO), alongside key delivery partner UNICEF.
- It coordinates international resources to enable equitable access to COVID-19 tests treatments and vaccines
- Recently Punjab cabinet decided to join the global COVAX alliance as first Indian state to do so because of vaccine shortage.

7. c

Beyond Visual Line of Sight

- It is a term relating to the operation of Unmanned Aerial Vehicles (UAVs) and drones at distances outside the normal visible range of the pilot.
- BVLOS flights typically require additional equipment and extra training and certification, and are subject to permission from aviation authorities.
- Unmanned Aircraft System Rules 2021 states that drones will not be allowed to operate BVLOS, which would limit the use of these gadgets to surveys, photography, security and various information gathering purposes.
- They are more cost-effective and efficient, as there are fewer take-off and landing phases, so the UAV will cover more ground in a single mission.
- BVLOS flights require less human intervention as some or all of the missions may be automated. They may also allow easier access to remote or hazardous areas.
- These operations carry more safety concerns due to the fact that the pilot may only be observing potential obstacles via a remote camera feed, or, in the case of automated flights, there may be no human observation at all.
- There is a risk of collisions with other aircraft, or damage to property and people, especially when flights take place in non-segregated airspace.

8. d

International Council of Museum (ICOM)

- ICOM is a membership association and a non-governmental organisation which establishes professional and ethical standards for museum activities. It was created in 1946 and is headquartered in Paris, France.
- It serves as a network of museum professionals (more than 40,000 members in over 138 countries).
- The ICOM Red Lists of Cultural Objects at Risk are practical tools to curb the illegal traffic of cultural objects.
- Red Lists present the categories of cultural objects that can be subjected to theft and traffic.
- International Museum Day was instituted in 1977 by the International Council of Museums (ICOM).

9. d

Naming Cyclones

- In 2000, the World Meteorological Organisation (WMO) agreed to start assigning names for cyclones over the North Indian Ocean basin using a list of names suggested by the countries surrounding the ocean basin.
- Initially, India expressed reservations to naming cyclones and after four years of continuous deliberations, the India Meteorological Department (IMD) initiated the naming of the North Indian Ocean storm with Cyclone Onil in September 2004.
- There are six regional specialised meteorological centres (RSMCs) and five regional Tropical Cyclone Warning Centres (TCWCs) across the globe to monitor cyclogenesis, issue advisories and name cyclones.
- IMD's RSMC in New Delhi is one among them that provide advisories to 13 countries in the north Indian Ocean basin: Bangladesh, India, Iran, Maldives, Myanmar, Oman, Pakistan, Qatar, Saudi Arabia, Sri Lanka, Thailand, United Arab Emirates and Yemen.
- RSMC, New Delhi is, therefore, responsible for naming cyclones over the Bay of Bengal and the Arabian Sea based on the suggested names from all these countries.



- Out of several criteria for naming cyclones, some very important ones are: names should be politically and culturally neutral, should not be rude and cruel and should be short, easy to pronounce.
- The maximum permissible length of the cyclone names is eight letters.

10. c

Medicine from the Sky Project

- Recently, the Telangana government has selected 16 Primary Healthcare Centres (PHCs) for pilot testing the ambitious 'Medicine from the sky', the first-of- its-kind project.
- The project involves delivery of medicines through multiple drones.
- The project is being launched following the approval granted by the Civil Aviation Ministry.
- The Ministry has granted conditional exemption to the Telangana Government from the Unmanned Aircraft System Rules 2021 for conducting experimental Beyond Visual Line of Sight (BVLOS) drone flights for delivery of vaccines.
- Telangana government, World Economic Forum and HealthNet Global are celebrating for this project.

21-05-2021

1) Consider the following statements with respect to *National Commission for Protection of Child Rights (NCPCR)*

- 1. It is a statutory body established in 2013 under the Protection of Children from Sexual Offences Act, 2012.**
- 2. The Commission shall enquire into any matter which is pending before a State Commission or any other Commission duly constituted under any law.**

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only

- c. Both 1 and 2
- d. Neither 1 nor 2

2) Consider the following statements with respect to *Weddell Sea*, sometimes seen in the news recently:

- 1. It is a marginal sea of the Arctic Ocean located between Chukchi Sea and East Siberian Sea.**
- 2. World's largest iceberg, named A-76, breaks off recently into the Weddell Sea.**

Which of the statement(s) given above is/are incorrect?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

3) Consider the following statements with respect to *Magnetospheric Multiscale (MMS) Mission*

- 1. It is a robotic space mission of National Aeronautics and Space Administration (NASA).**
- 2. It aims to study the Earth's magnetosphere, using four identical spacecraft flying in a tetrahedral formation.**

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

4) Consider the following statements:

- 1. The Dead Sea is a salt lake bordered by Jordan to the east and Israel and West bank to the west.**
- 2. Lake Baikal in southern Siberia, Russia, is the largest freshwater lake in the world.**



Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

5) Which of the following types of glass is used in labs for tubes with semiconductors?

- a. Lead glass
- b. Pyrex glass
- c. Quartz glass
- d. Soda-lime glass

6) Consider the following statements with respect to *Creation of New District*

1. The power to create new districts or alter or abolish existing districts rests only with the State governments.
2. A state can create a district only by passing a law in the state assembly.

Which of the statement(s) given above is/are incorrect?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

7) Consider the following statements with respect to *Bog Wetland*

1. They are soft, spongy wetlands that accumulate peat, a type of fossil fuel.
2. Baygall, a type of bog wetlands which are found in the eastern part of Kolkata.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2

d. Neither 1 nor 2

8) Consider the following statements with respect to *Malerkotla District*

1. It owes its foundations in the 15th century to Sufi saint Sheikh Sadrauddin Sadar-i-Jahan, also known as Haider Sheikh.
2. Gurdwara Haa da Naara Sahib was built in Malerkotla in the memory of Nawab Sher Mohammad Khan.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

9) Which of the following statement(s) is/ are correct with respect to *MLA-LADS*

1. MLAs do not receive any money under this scheme, the government transfers it directly to the respective local authorities.
2. The legislators can only recommend works in their constituencies based on a set of guidelines.
3. The funds under this scheme can be used both in both rural and urban areas of a state.

Select the correct answer using the codes given below:

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

10) *Pressure Swing Adsorption* technique used in which of the following industries?

- a. Separation of particular gases
- b. Inter- continental Ballistic Missiles
- c. Nuclear Reactors



d. Space Rocket Propulsion

Answers

1. d

- *The National Commission for Protection of Child Rights (NCPCR) has written to the Indian Council of Medical seeking guidelines for treatment of children ahead of the potential third wave of COVID-19.*

National Commission for Protection of Child Rights (NCPCR)

- NCPCR was set up in March 2007 under the **Commissions for Protection of Child Rights (CPCR) Act, 2005**, an Act of Parliament.
- It is a statutory body under the administrative control of the Ministry of Women & Child Development.
- Under the NCPCR the Child is defined as a person in the 0 to 18 years age group.
- The Commission's Mandate is to ensure that all Laws, Policies, Programmes, and Administrative Mechanisms are in consonance with the Child Rights perspective as enshrined in the Constitution of India and also the UN Convention on the Rights of the Child.
- The commission consist of a Chairperson, who is a person of eminence and has done an outstanding work for promoting the welfare of children, and six members.
- **The Commission shall not enquire into any matter which is pending before a State Commission or any other Commission** duly constituted under any law for the time being in force.

2. a

- *A huge ice block has broken off from western Antarctica into the Weddell Sea, becoming the largest iceberg in the world and earning the name A-76.*
- It is the latest in a series of large ice blocks to dislodge in a region that is acutely vulnerable to climate change, although scientists said in this case it appeared to be part of a natural polar cycle.

A-76

- It is slightly larger than the Spanish island of Majorca, A-76.
- It has been monitored by scientists since it began to separate from the Ronne Ice Shelf.
- The iceberg, measuring around 170 km long and 25 km wide, with an area of 4,320 sq km is now floating in the Weddell Sea.
- It joins previous world's largest title holder A-23A — approximately 3,880 sq. km. in size — which has remained in the same area since 1986.
- ***Icebergs form when hunks of ice break off from ice shelves or glaciers and begin to float in open water.***

Weddell Sea

- The Weddell Sea is part of the Southern Ocean and is enclosed between the Antarctic Peninsula on the west, Cape Norvegia on the east and Filchner and Ronne ice shelves to the south.
- Most of the Weddell Sea is covered in dense sea ice all year around and only the northwestern part can be visited by ships.

3. c

- *Scientists from Indian Institute of Geomagnetism (IIG) have recently developed a theory that helps understand the complicated nature of Sun-Earth interaction's happening in the magnetosphere.*
- Magnetosphere is an area of space around Earth that is controlled by the Earth's magnetic field.
- The theory solves every bit of uncertainty regarding the conflict between the observations from Magnetospheric Multiscale (MMS) Mission of NASA.

Magnetospheric Multiscale (MMS) Mission

- It is a NASA robotic space mission to study the Earth's magnetosphere, using four identical spacecraft flying in a tetrahedral formation.
- The spacecrafts were launched in 2015.

Indian Institute of Geomagnetism (IIG)

- It is an autonomous institute under the Department of Science and Technology (DST).

4. c

Dead Sea

- It is a **salt lake** bordered by Jordan to the east and Israel and the West Bank to the west.
- It lies in the Jordan Rift Valley, and its main tributary is the Jordan River.

Lake Baikal

- It is a rift lake located in southern Siberia, Russia, between Irkutsk Oblast to the northwest and the Buryat Republic to the southeast.
- Lake Baikal is the largest freshwater lake by volume in the world, containing 22 to 23% of the world's fresh surface water.

5. c

- Quartz glass has high melting temperatures of about 1700 degrees Celsius.
- This and its purity make it the choice for its use in semiconductors.

6. b

Creation of New District

- The power to create new districts or alter or abolish existing districts rests with the State governments.
- This can either be done through an executive order or by passing a law in the State Assembly.
- Many States prefer the executive route by simply issuing a notification in the official gazette.
- States argue that smaller districts lead to better administration and governance.
- The Centre has no role to play in the alteration of districts or creation of new ones. States are free to decide.
- The Home Ministry comes into the picture when a State wants to change the name of a district or a railway station.
- The State government's request is sent to other departments and agencies such as the Ministry of Earth Sciences, Intelligence Bureau,

Department of Posts, Geographical Survey of India Sciences and the Railway Ministry seeking clearance.

- A no-objection certificate may be issued after examining their replies.

7. a

Bog Wetland

- A bog or bogland is a wetland that accumulates peat, a deposit of dead plant material, often mosses, and in a majority of cases, sphagnum moss.
- The peat is a fossil fuel that is used for heating homes and businesses in northern Europe.
- Bogs also act as carbon sinks, sequestering around 200 million tons of carbon from the environment in Siberia and Scandinavia.
- The gradual accumulation of decayed plant material in a bog functions as a carbon sink.
- Bog is one of the four main types of wetlands, other names for bogs include mire, mosses, quagmire, and muskeg; alkaline mires are called fens.
- A baygall is another type of bog found in the forest of the Gulf Coast states in the United States.
- Bogs have distinctive assemblages of animal, fungal and plant species, and are of high importance for biodiversity, particularly in landscapes that are otherwise settled and farmed.

8. c

Malerkotla District

- Recently, the Punjab government has announced the formation of Malerkotla as the 23rd district of the state.
- The Malerkotla is former princely state and only Muslim-dominated town of Punjab.
- Historically, Malerkotla owes its foundations in the 15th century to Sufi saint Sheikh Sadrauddin Sadar-i-Jahan, also known as Haider Sheikh.
- After the decline of the Mughal empire, Malerkotla's rulers exercised greater independence and at the time of the invasion



of India by Ahmad Shah Abdali from Afghanistan, they aligned with him.

- Malerkotla Nawab Sher Mohammad Khan had raised his voice ('Haa Da Naara') against brutal execution of Chote Sahibzade (youngest sons of Guru Gobind Singh — Zorawar Singh and Fateh Singh by Nawab of Sirhind, Wazir Khan in 1705.
- Gurdwara Haa da Naara Sahib was built in Malerkotla to commemorate the voice raised by Sher Mohammad Khan.

Namdhari Massacre (1872)

- The British administration of Malerkotla (Punjab) was attacked by the contingents of Namdharis (a sect of Sikhs) under the leadership of Hira Singh and Lehna Singh, on 15th January, 1872.
- The British Administration ordered that the Namdhari revolutionaries should be brought to the Parade Ground and blown up with cannons.
- That ground as a symbol of martyrdom has been named now as 'Kukian Da Shaheedi Park'.

9. d

MLA-LADS

- Members of Legislative Assembly Local Area Development (MLA-LAD) Scheme is the States' version of a central government scheme - Members of Parliament Local Area Development Scheme (MPLAD).
- The objective of this scheme is to create local need based infrastructure, to create assets of public utility and to remove regional imbalances in development.
- This scheme is implemented in rural areas as well as urban areas of a state.
- Amounts per MLA varies across the states, Delhi has the highest allocation under MLALAD, and each MLA can recommend works for up to Rs. 10 crore each year.
- The guidelines for use of MLA-LAD funds differ across states.
- After the legislators give the list of developmental works, they are executed by the

district authorities as per the government's financial, technical and administrative rules.

- Recently, Rajasthan Government has approved a proposal to provide Rs. 3 crore each from the MLA Local Area Development (LAD) Fund to mobilise resources for Covid-19 Vaccination of the people in the age group of 18 to 44 years.

10. a

Pressure Swing Adsorption

- Pressure swing adsorption (PSA) is a technology used to separate some gas species from a mixture of gases under pressure.
- PSA operates at near-ambient temperatures.
- Specific adsorbent materials (e.g., zeolites, activated carbon, molecular sieves, etc.) are used as a trap, preferentially adsorbing the target gas species at high pressure.
- A real time example where PSA is applied in an oxygen concentrator, it uses Zeolites to adsorb atmospheric nitrogen and then vents out the nitrogen, this leaves oxygen gas remaining to be used for patients.
- In high pressure, the surface area of zeolites increases and thus is capable of adsorbing large quantities of nitrogen.

22-05-2021

1) Consider the following statements with respect to Bhedaghat-Lametaghat

- 1. It is an iconic site of Narmada valley in Madhya Pradesh known for its marble rocks.**
- 2. Fossils of Pre historic humans and large sized mammoth were found in this site.**

Which of the statement(s) given above is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

2) Hire Benkal in Karnataka is known for which of the following heritage structures?

- Megalithic funerary
- Ruined Fortress & Hero Stones
- Ancient Iron Foundries
- Large Step wells

3) Consider the following statements with respect to *Coelacanth Fish*

- It is a prehistoric fish species traced back to fish's evolution to terrestrial four-legged animals.
- It is found alive in the Indian Ocean and listed under critically endangered by the IUCN Red list.

Which of the statement(s) given above is/are incorrect?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

4) Which of the following statement(s) is/ are correct with respect to *National Human Rights Commission*

- It is a constitutional body and its recommendations are binding on both centre and state governments.
- President appoints the Chairman and members of NHRC on recommendation of high-powered committee headed by Prime Minister.
- It has the power to interfere in any judicial proceedings involving any allegation of violation of human rights.

Select the correct answer using the codes given below:

- 1 and 2 only
- 1 and 3 only
- 2 and 3 only
- 1, 2 and 3

5) Which of the following heritage cities is located along the banks of *Vegavathi River* in Tamilnadu?

- Tanjore
- Chidambaram
- Kanchipuram
- Kumbakonam

Answers

1. a

Bhedaghat-Lametaghat

- Bhedaghat, often referred to as the Grand Canyon of India, is a town in the Jabalpur district.
- It is known for its marble rocks and their various morphological forms on either side of the Narmada River which flows through the gorge.
- It has also been observed that the magical marble mountains assume different colours and even shapes of animals and other living forms as one moves through them.
- Several dinosaur fossils have been found in the Narmada valley, particularly in Bhedaghat-Lametghat area of Jabalpur.
- In 1828, the first Dinosaur fossil was collected from Lameta Bed by William Sleeman.
- Recently Bhedaghat-Lametaghat is added into the UNESCO tentative list of World Heritage Sites.

2. a

Hire Benkal

- Hire Benkal is a megalithic site in the state of Karnataka, India.
- It is among a few Indian megalithic sites dated 800 BCE to 200 BCE which are located near Gangavati town in Koppal district.
- It contains roughly 400 megalithic funerary monuments, dated to the transition period between Neolithic and the Iron Age periods.
- Hire Benkal is reported to be the largest necropolis among the 2000 odd megalithic

sites found in South India, mostly in Karnataka.

- Recently Hire Benakal is added into the UNESCO tentative list of World Heritage Sites.

3. d

Coelacanth Fish

- Recently, the Coelacanth Fish has been found alive in the Indian Ocean.
- It is an extremely rare species of fish, It is a prehistoric fish species dating back hundreds of millions years ago, recently discovered in
- The species lives in undersea canyons at depths between 100 and 500 metres.
- It is now listed as critically endangered by the International Union for Conservation of Nature (IUCN).
- The most striking feature of this "living fossil" is its paired lobe fins that extend away from its body like legs and move in an alternating pattern, like a trotting horse.
- Its unique characteristics include a hinged joint in the skull which allows the fish to widen its mouth for large prey.
- Its oil-filled tube, called a notochord, serves as a backbone and thick scales common only to extinct fish.

4. c

National Human Rights Commission (NHRC)

- NHRC of India is an independent statutory body established on 12 October, 1993 as per provisions of Protection of Human Rights Act, 1993, later amended in 2006.
- NHRC is a multi-member body which consists of a Chairman and seven other members. Out of the seven members, three are ex-officio member.
- The Chairperson and the members of the NHRC are appointed for 5 years or till the age of 70 years, whichever is earlier.
- They can be removed only on the charges of proved misbehavior or incapacity, if proved by an inquiry conducted by a Supreme Court Judge.

Powers of NHRC

- It can review the safeguards provided under the constitution or any law for the protection of the human rights and can recommend appropriate remedial measures.
- The Commission takes an independent stand while providing opinions for the protection of human rights within the parlance of the Constitution or in law for the time being enforced.
- It has the powers of a civil court and can grant interim relief.
- It also has the authority to recommend payment of compensation or damages.
- It can recommend to both the central and state governments to take suitable steps to prevent the violation of Human Rights.
- It submits its annual report to the President of India who causes it to be laid before each House of Parliament.
- NHRC can only make recommendations, without the power to enforce decisions.
- Government often out rightly rejects recommendation of NHRC or there is partial compliance to these recommendations.

5. c

Kanchipuram Temples

- Kanchipuram in Tamil Nadu is synonymous with spirituality, serenity, and silk.
- It is dotted with ancient temples that are architectural marvels and a visual treat.
- The city is situated on the banks of River Vegavathi, this historical city once had 1,000 temples, of which only 126 (108 Shaiva and 18 Vaishnava) now remain.
- Its rich legacy has been the endowment of the Pallava dynasty, which made the region its capital between the 6th and 7th centuries and lavished upon its architectural gems that are a fine example of Dravidian styles.
- Recently temples of Kanchipuram are added into the UNESCO tentative list of World Heritage Sites.

Vegavathi River



- Kanchipuram is a Tamil word formed by combining two words "Kanchi" and "-puram" meaning "Brahma" and "residential place" respectively and located on the banks of the Vegavathy river.
- Vegavathy River runs 26 km long with in Kanchipuram city, it originates from nearby streams and mixes in the Paalar near Thimmarajampet.
- This river should not be confused with the Vegavathi River that originates in the Pachipenta hills in Eastern Ghats. (Which is a tributary to Suvarnamukhi, and River Nagavali)

24-05-2021

1) With respect to *Deep Sea Faunal Diversity in India Report*, consider the following statements:

1. The report was published by the Ministry of Earth Sciences (MoES).
2. Of the species found in the deep sea areas, the maximum number of species has been reported from the Arabian Sea, followed by Bay of Bengal.
3. The deep-sea ecosystem is considered to be below a depth of 200 metres, where solar energy cannot support primary productivity through photosynthesis.

Which of the statements given above are correct?

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

2) Consider the following statements with respect to *National Mobile Monitoring Software (NMMS) App*

1. The App permits taking real time attendance of workers at Mahatma Gandhi NREGS worksites along with geotagged photograph.
2. The app will increase citizen oversight of the Mahatma Gandhi National Rural

Employment Guarantee Programme besides potentially enabling processing payments faster.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

3) Consider the following statements with respect to *DIPCOVAN*, sometimes seen in the news recently:

1. It is a new indigenous vaccine developed by the Defence Institute of Physiology and Allied Sciences (DIPAS), a laboratory of DRDO.
2. It is intended for the qualitative detection of IgG antibodies in human serum or plasma, targeting SARS-CoV-2 related antigens.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

4) *Mount Nyiragongo*, sometimes seen in the news recently, is located in?

- a. Italy
- b. Japan
- c. Congo
- d. Indonesia

5) Consider the following statements with respect to *Pandit Deendayal Upadhyay National Welfare Fund for the Sports persons*

1. The fund was set up in 1982 with a view to assist outstanding Sportspersons of yesteryear, living in indigent



circumstances who had brought glory to the Country in sports.

2. The Minister for Youth Affairs and Sports shall be the Chairperson of the general committee which is responsible for the management and administration of the Fund.

Which of the statement(s) given above is/are incorrect?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

6) Consider the following statements with respect to *Di-Ammonium Phosphate (DAP)*

1. It is the second most commonly used fertiliser in India after urea.
2. It is high in phosphorus that stimulates root development.
3. The farmers normally apply this fertiliser just before or at the beginning of sowing.

Which of the statements given above are correct?

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

7) Consider the following statements with respect to *Zealandia*

1. It is the smallest microcontinent in the world which is partially submerged in Indian Ocean.
2. New Zealand is the largest part of Zealandia that is above sea level, followed by New Caledonia.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only

- c. Both 1 and 2
- d. Neither 1 nor 2

8) Which of the following pairs are correctly matched with respect to *Maratha Military Architecture in Maharashtra?*

Place	Significance
1. Shivneri Maratha king	Coronation of
2. Raigad Maratha Empire	First fort of
3. Torna Shivaji	Birth Place of

Select the correct answer using the codes given below:

- a. 1 only
- b. 1 and 3 only
- c. 2 and 3 only
- d. None of the above

9) *Sulphur 2020 Vision* is prepared and published by which of the following organizations?

- a. Organisation for the Prohibition of Chemical Weapons
- b. International Maritime Organization (IMO)
- c. Ministry of Chemicals and Fertilizers
- d. United Nations Environment Programme (UNEP)

10) Which of the following organizations publishes *Protected Planet Report*?

- a. United Nations Environment Programme (UNEP)
- b. World Wide Fund for Nature (WWF)
- c. The Nature Conservancy
- d. Wildlife Conservation Society (WCS)

Answers

1. c

- *The Zoological Survey of India (ZSI), Ministry of Environment, Forest and Climate Change has recently published a book titled 'Deep Sea Faunal Diversity in India'.*
- According to the publication, India is home to 4,371 species of deep-sea fauna, including 1,032 species under the kingdom Protista and 3,339 species under the kingdom Animalia.
- India is surrounded by the Arabian Sea, the Bay of Bengal, the Andaman Sea and the Laccadive Sea (Lakshadweep Sea).
- Of the 4,371 species, the maximum of 2,766 species has been reported from deep sea areas of the Arabian Sea, followed by 1,964 species from the Bay of Bengal, 1,396 species from the Andaman Sea, and only 253 species from the Laccadive Sea.
- The deep-sea ecosystem is considered to be below a depth of 200 metres, where solar energy cannot support primary productivity through photosynthesis. This publication is the first detailed work on deep-sea organisms of the country.

Sea Mammals

- There are 31 species of sea mammals which are found in deep sea ecosystem of Indian waters, including the Critically Endangered Irrawaddy Dolphin.
- Two other species, the Indo-Pacific Finless Porpoise and the Sperm Whale, are recorded as 'Vulnerable' in the International Union for Conservation of Nature (IUCN) classification.
- The list of mammals includes Cuvier's Beaked Whale and Short-beaked Common Dolphin, which dive as deep as 8,000 metres below the Earth's surface.

Marine turtles

- Out of the seven species of marine turtles found across the world, five species have been recorded from Indian waters.
- India is known as one of the best and largest breeding grounds for sea turtles, especially for Olive Ridley and Leatherback Turtles, across the world.

2. c

- *Union Minister of Rural Development, Shri Narendra Singh Tomar has recently launched the National Mobile Monitoring Software (NMMS) app and Area officer monitoring App.*

National Mobile Monitoring Software (NMMS) App

- The App permits taking real time attendance of workers at Mahatma Gandhi NREGS worksites along with geotagged photograph.
- Thus, it will increase citizen oversight of the programme besides potentially enabling processing payments faster.

Area Officer Monitoring App

- This app facilitates them to record their findings online along with time stamped and geo-coordinate tagged photograph for all the schemes of Department of Rural Development - Mahatma Gandhi NREGS, PMAYG, PMGSY.
- This would also enable not only better record keeping of inspections by field and supervisory officials but also facilitate analysis of the findings for better programme implementation.

Geo-MGNREGA

- The successful implementation of Geo-MGNREGA, a provision for geo-tagging of assets, through well-coordinated efforts of all the Governments, has helped in refuting the charge of ghost assets being financed through the Scheme.
- It has further helped in winning the trust of citizens about the programme.

National Electronic Fund Management System (NEFMS)

- It was launched for the faster release of wages under the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS).
- Under the system, wage payment was directly credited into the bank account of Mahatma Gandhi NREGA workers by way of DBT through NeFMS.

3. b

- *Defence Institute of Physiology and Allied Sciences (DIPAS), a laboratory of Defence*

Research and Development Organisation (DRDO), has recently developed an antibody detection-based kit 'DIPCOVAN'.

DIPAS-VDx COVID-19 IgG Antibody Microwell ELISA for sero-surveillance (DIPCOVAN)

- The kit can detect both spike as well as nucleocapsid (S&N) proteins of SARS-CoV-2 virus with a high sensitivity of 97% and specificity of 99%.
- The kit has been developed in association with Vanguard Diagnostics Pvt Ltd, a development and manufacturing diagnostics company based at New Delhi.
- DIPCOVAN is intended for the qualitative detection of IgG antibodies in human serum or plasma, targeting SARS-CoV-2 related antigens.
- It offers a significantly faster turn-around-time as it requires just 75 minutes to conduct the test without any cross reactivity with other diseases.
- The kit has a shelf life of 18 months and will be very useful for understanding COVID-19 epidemiology and assessing an individual's previous SARS-CoV-2 exposure.

4. c

- **Mount Nyiragongo in Congo** has recently spewed out a river of lava.
- The volcano was last erupted in 2002.

Mount Nyiragongo

- It is one of the world's more active volcanoes but there were concerns that its activity had not been properly observed by the Goma Volcano Observatory, since the World Bank cut funding amid allegations of corruption.
- The lava in Mount Nyiragongo is particularly fluid and has the potential to move fast.
- The volcano's deadliest eruption happened in 1977, when more than 600 people died.

5. d

- The Ministry of Youth Affairs & Sports (MYAS) has recently approved an amount of Rs. 2 Lakh for Karnataka's V Tejaswini Bai, who won the Arjuna Award in 2011 under the Pandit Deendayal Upadhyay National

Welfare Fund for the Sportspersons (PDUNWFS).

Pandit Deendayal Upadhyay National Welfare Fund for the Sportspersons

- The fund was set up in March, 1982 with a view to assisting outstanding Sportspersons of yesteryear, living in indigent circumstances who had brought glory to the Country in sports.
- The scheme as revised in 2016 to provide for lump sum ex-gratia assistance to outstanding Sportspersons of yesteryears.
- Provision of pension has been done away with as there is already a Scheme of Pension for Meritorious Sportspersons.
- The Minister for Youth Affairs and Sports shall be the Chairperson of the general committee which is responsible for the management and administration of the Fund.

6. d

Di-Ammonium Phosphate (DAP)

- Recently, the central government has announced a 140% increase in the subsidy on di-ammonium phosphate (DAP), from Rs 511 to Rs 1,200 per 50-kg bag.
- It is the preferred source of Phosphorous (P) for farmers which is similar to urea, which is their preferred nitrogenous fertiliser containing 46% N.
- The inputs required to produce one ton of DAP fertilizer are approximately 1.5 to 2 tons of phosphate rock, 0.4 tons of sulfur (S) to dissolve the rock, and 0.2 tons of ammonia.
- Its relatively high nutrient content and excellent physical properties make it a popular choice in farming and other industries, it also acts as a fire retardant.
- The high nutrient content of DAP helps reduce handling, freight and application costs.
- It is an excellent source of P and nitrogen (N) for plant nutrition.
- The ammonium present in DAP is an excellent N source and will be gradually converted to nitrate by soil bacteria, resulting in a subsequent drop in pH.



7. b

Zealandia

- Zealandia is an almost entirely submerged mass of continental crust that subsided after breaking away from Gondwanaland 83–79 million years ago.
- It has been described variously as a submerged continent, a continental fragment, a microcontinent, and a continent.
- Most of the landmass (94%) remains submerged beneath the Pacific Ocean.
- New Zealand is the largest part of Zealandia that is above sea level, followed by New Caledonia.
- With a total area of approximately 4,900,000 km², Zealandia is substantially larger than any features termed microcontinents and continental fragments.
- If classified as a microcontinent, Zealandia would be the world's largest microcontinent.
- Its area is six times the area of Madagascar, the next-largest microcontinent in the world, and more than half the area of the Australian continent.
- Zealandia supports substantial inshore fisheries and contains gas fields, of which the largest known is the New Zealand Maui gas field, near Taranaki.

8. d

Maratha Military Architecture in Maharashtra

- There are 12 forts in Maharashtra dating back to the era of the 17th-century Maratha king Chhatrapati Shivaji. They are namely
1. **Shivneri** - The birthplace of Shivaji.
 2. **Raigad** - The capital fort rebuilt for the coronation of the Maratha king,
 3. **Torna** - The first fort of the Maratha empire,
 4. **Lohagad** - Most picturesque valleys and is believed to have been built in the 14th century, an example of Maratha hill fort architecture until Peshwa period.
 5. **Salher Fort** - The fort witnessed a key battle in 1672 between Marathas and Mughals.

6. **Mulher Fort** - One of three forts situated on a hill, flanked by Mora to the east and Hatgad to the west, the surrender of Mulher ended the third Maratha War.
 7. **Rangana Fort** - In Kolhapur, bordering Sindhudurg, Aurangzeb tried to conquer it along with Bhudargad and Samangad in his Deccan campaign, did not succeed.
 8. **Ankai Tankai Forts** - In Nashil district, Ankai and Tankai are separate forts on adjacent hills, with a common fortification wall.
 9. **Kasa Fort** - Popularly known as Padmadurg, built on a rocky island off coast of Murud, and provided a base for naval military operations.
 10. **Sindhudurg Fort** - Built by Chhatrapati Shivaji Maharaj in 1668, this sea fort is considered a masterpiece in military defence.
 11. **Alibag Fort** - Popularly known as Kulaba Fort, it was chosen as one of the forts to be modelled as a naval base by Chhatrapati Shivaji.
 12. **Suvarnadurg** - Built on an island, it was repaired and strengthened by Shivaji Maharaj in 1660.
 13. **Khanderi Fort** - Built in 1679, it was the site of many battles between Shivaji Maharaj's forces and the navy of the Siddhis.
- Recently these sites are added to tentative list of UNESCO World Heritage Sites.
 - The theme for the serial nomination of these forts is 'Maratha Military Architecture in Maharashtra and Guerrilla Warfare'.

9. b

Sulphur 2020 Vision

- Sulphur dioxide (SO₂), a colourless, bad-smelling, toxic gas, is part of a larger group of chemicals referred to as sulphur oxides (SO_x).
- These gases, especially SO₂, are emitted by the burning of fossil fuels coal, oil, and diesel or other materials that contain sulphur.
- International Maritime Organization's (IMO's) Sulphur 2020 vision estimates that the capping standards for sulphur content in ships fuel will lead to a 77% drop in overall sulphur oxide emissions from ships.

- It will lead to an annual reduction of 8.5 million tonnes of SOx.
- On January 1, 2020, the IMO, a UN body, started the enforcement of a rule banning sulphur-heavy fuel.
- Since sulphur-light fuel can be very expensive, it allowed ships to install exhaust scrubbers that use high-volume, high-speed, water spray to absorb pollutants from the exhaust.
- There are two types of scrubber open-loop ones that dumps the scrubber wastewater into the sea/at the port and closed loop ones that treat the wastewater before dumping.
- The time of adopting the new norms, it was hoped that more ships will get fitted with closed-loop scrubber systems.
- While the ban on sulphur-rich fuel has driven up fitting of scrubbers 250 ships in 2015 versus 4,300 ships in 2021 data from early last year showed the scrubbers were overwhelmingly open-loop.
- Both kinds of scrubbers have led to the dumping of 10 gigatons of scrubber wastewater containing dangerous pollutants and toxic chemicals, including carcinogenic hydrocarbons.
- Since 2010, protected areas covering almost 21 million km² have been added to the global network.
- Since 2010, 82% of countries and territories have increased their share of protected area and coverage of other effective area-based conservation measures (OECM).
- OECM are areas that are achieving the effective in-situ conservation of biodiversity outside of protected areas.
- It recommends to scale up conservation even in countries without large areas of intact biodiversity.

25-05-2021

1) With respect to *One Health*, sometimes seen in the news recently, consider the following statements:

1. It is a high-level expert panel formed by the World Health Organization (WHO).
2. It will study the emergence and spread of zoonotic diseases and advises global agencies on how future outbreaks, especially due to zoonotic diseases, can be averted.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

2) The GI tagged products such as *Jardalu mango*, *Katarni Rice* and *Magahi Paan* belongs to which of the following states?

- a. Bihar
- b. Maharashtra
- c. Uttar Pradesh
- d. Madhya Pradesh

3) *Maldhari*, sometimes seen in the news recently, is a nomadic pastoralist community belongs to which of the following regions?

10. a

Protected Planet Report

- It is a biennial publication by UNEP (United Nations Environment Programme) and IUCN (International Union for Conservation of Nature).
- It assess the state of protected and conserved areas around the world.
- 2020 edition provides the final report on the status of Aichi Biodiversity Target.
- Aichi Biodiversity Targets (ABTs) is part of Strategic Plan for Biodiversity 2011-2020, adopted during the tenth meeting of the Conference of the Parties (COP10) in 2010 in Nagoya, Japan.
- Target 11: By 2020, at least 17% of terrestrial inland water, and 10% of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved.



- a. Phumdis of Manipur
- b. Banni Grasslands of Gujarat
- c. Chauris of Himalayan foothills
- d. Shola grasslands of Western Ghats

4) With respect to *Lunar Eclipse*, consider the following statements:

1. Lunar eclipse occurs on a full moon day when the Earth comes in between the Sun and the Moon and when all the three objects are aligned.
2. A total lunar eclipse will occur when the whole Moon comes under the umbral shadow of the Earth
3. The partial lunar eclipse occurs when only a part of the Moon comes under the umbral shadow of the Earth.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 and 3 only
- c. 1, 2 and 3
- d. None of the above

5) India has recently launched the first phase of *MCA21 Version 3.0*. It is an e-governance initiative of which of the following ministries?

- a. Ministry of Finance
- b. Ministry of Home Affairs
- c. Ministry of Corporate Affairs
- d. Ministry of Housing and Urban Affairs

6) Consider the following statements with respect to *Renewable Energy Country Attractiveness Index (RECAI)*

1. It is a biannual index which lists the top 40 countries by renewable energy investment and deployment attractiveness.
2. India has been ranked as the most attractive destination for solar PV investment and deployment.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

7) Which of the following statement(s) is/ are correct with respect to *Cis- Sutlej States*?

1. It means grouping of small states in Punjab region during 19th century British rule.
2. In present day except Malerkotla, majority of other Cis-Sutlej states lies in Pakistan.

Select the correct answer using the codes given below:

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

8) Which of the following statement(s) is/ are correct with respect to *White Fungus*

1. It can be caused by the unsterile use of oxygen cylinders or the overuse of steroids.
2. It predominantly attacks body parts such as lungs, skin, nail, brain, kidney, mouth etc.
3. It is treated with antifungals and white fungal infections may eventually require surgery.

Select the correct answer using the codes given below:

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

9) **Boa-Dhan Rice, an Iron rich variety is cultivated traditionally in which of the following states?**

- a. West Bengal
- b. Sikkim
- c. Odisha
- d. Assam

10) **Global Health Summit was organized by which of the following organizations?**

- a. European Commission (EC)
- b. World Health Organization (WHO)
- c. US - Food and Drug Administration (USFDA)
- d. Organisation for Economic Co-operation and Development (OECD)

Answers

1. c

- The World Health Organization (WHO) has recently formed a high-level expert panel '**One Health**' to study the emergence and spread of zoonotic diseases like H5N1, avian influenza, MERS, Ebola, Zika and possibly the novel coronavirus disease (COVID-19).
- The panel will advise global agencies such as the Food and Agriculture Organization of the United Nations (FAO), the World Health Organization (WHO), the World Organization for Animal Health (OIE) and the United Nations Environment Programme (UNEP) on how future outbreaks, especially due to zoonotic diseases, can be averted.
- It will also develop a surveillance framework and global action plan for the same.

Zoonotic diseases

- It is a pathogenic infections that transmit from animals to humans.
- Three of every four infectious diseases are caused by zoonosis.
- Scientists across the world suspect COVID-19 is also a zoonosis.

2. a

- In a major boost to export of GI certified products, season's first consignment of **Shahi Litchi** from Bihar was recently exported to United Kingdom by air route.

Shahi Litchi

- India is the second largest producer of litchi (Litchi chin) in the world, after China.
- The translucent, flavoured aril or edible flesh of the litchi is popular as a table fruit in India, while in China and Japan it is preferred in dried or canned form.
- Bihar tops in terms of production of litchi.
- Because of short-shelf life of litchi, there is need to explore exports opportunities for the processed and value-added products.
- It was the fourth agricultural products to get GI certification from Bihar in 2018, after **Jardalu mango, Katarni Rice** and **Magahi Paan**.
- GI registration for **Shahi Litchi** is held with the Muzaffarpur-based Litchi Growers Association of Bihar.
- Muzaffarpur, Vaishali, Samastipur, Champaran, Begusarai districts and adjoining areas of Bihar have favorable climate for growing Shahi Litchi.

3. b

- The **National Green Tribunal (NGT)** has recently ordered all encroachments to be removed from Gujarat's **Banni grasslands** within six months and directed a joint committee to prepare an action plan in a month.
- The region's nomadic pastoralist community, the **Maldharis**, whose livelihoods are depend on this protected shrub-savanna has welcomed the move.
- The court also said the **Maldharis** will continue to hold the right to conserve the community forests in the area, granted to them as per the provisions in Section 3 of Forest Rights Act, 2006.

Maldharis

- They are nomadic pastoralists of Banni Grasslands.
- They breed Banni Buffaloes, a species endemic to the region.
- This buffalo breed survives by feeding on the grassland.
- The buffaloes are adaptive to Kutch's hot weather condition and yields 12-18 litres milk a day.

Banni grassland

- It spread over 2,618 km and account for almost 45% of the pastures in Gujarat.
- It comprises 48 hamlets / villages organised into 19 panchayats, with a population of about 40,000.
- Two ecosystems, wetlands and grasslands, are juxtaposed in Banni.
- The area is rich in flora and fauna, with 192 species of plants, 262 species of birds, several species of mammals, reptiles and amphibians.
- Banni grasslands, traditionally, were managed following a system of rotational grazing.
- In 1955, the court notified that the grassland will be a reserve forest.
- In 2019, the NGT ordered to demarcate the boundaries of the Banni grassland and restricted non-forest activities.

4. c

- According to Indian Meteorological Department (IMD), a total eclipse of the Moon will occur on May 26, 2021.
- The next lunar eclipse will be visible from India on November 19, 2021.
- It will be a partial lunar eclipse.

Lunar Eclipse

- Lunar eclipse occurs on a full moon day when the Earth comes in between the Sun and the Moon and when all the three objects are aligned.
- A total lunar eclipse will occur when the whole Moon comes under the umbral shadow of the Earth.

- The partial lunar eclipse occurs when only a part of the Moon comes under the umbral shadow of the Earth.

5. c

- India has recently launched the first phase of Ministry of Corporate Affairs' (MCA) MCA21 Version 3.0 (V3.0) comprising of revamped website, new email services for MCA Officers and two new modules, namely, e. Book and e. Consultation during a virtual event recently.

MCA21 V3.0

- This in its entirety will not only improve the existing services and modules, but will also create new functionalities like e-adjudication, compliance management system, advanced helpdesk, feedback services, user dashboards, self-reporting tools and revamped master data services.

The e-consultation module will facilitate:

- virtual public consultation of proposed amendments and new legislations to be introduced by MCA from time to time.
- leverage Artificial intelligence for compiling, grouping and categorizing comments/inputs received from stakeholders and create analytical reports for quick policy decision making.
- new email service for officers of MCA will provide them with advanced features and capabilities for organised and managed communication with internal as well as external stakeholders.

MCA-21

- It is an e-governance initiative of the Ministry of Company Affairs (MCA) that was launched in 2006.
- MCA21 has been part of Mission Mode projects of the Government of India.
- It allows firms to electronically file their financial results and advance filing of corporate accounts to calculate national accounts.

6. c

Renewable Energy Country Attractiveness Index (RECAI)



- Recently, the London-based Ernst & Young (EY) has released the 57th edition of the Renewable Energy Country Attractiveness Index (RECAI).
- It looks at individual categories such as solar PV, concentrated solar power, onshore wind, offshore wind, biomass, geothermal, and hydro.
- The 57th edition estimated that future development to achieve net zero will require a further investment of \$5.2 trillion and highlighted the role of institutional investors in financing the energy transition.
- The United States remained the most attractive market, followed by China for overall renewables.
- The index has once again ranked India as the most attractive destination for solar PV investment and deployment.
- India scored 62.7 in solar attractiveness, with the sector expected to grow significantly and with generation from solar PV set to surpass coal before 2040.
- India rose one place to rank third in the overall renewables rankings.
- India's position in the RECAI has fluctuated many times, including the slip from the 2nd position in 2017 to the 4th position in 2018.
- India moved up from the 7th to the 4th position in the 56th EY RECAI as a result of installed solar PV capacity skyrocketing, reaching more than 35GW.

7. a

Cis- Sutlej States

- The Cis-Sutlej states were a group of small states in Punjab region in the 19th century, lying between the Sutlej River on the north, the Himalayas on the east, the Yamuna River and Delhi District on the south, and Sirsa District on the west.
- The states were called Cis- Sutlej by the British because they were on the British, or southern, side of the Sutlej River.
- The Cis-Sutlej states included Kaithal, Patiala, Jind, Thanesar, Malerkotla and Faridkot.

- Under the threat of absorption into Sikh Maharaja Ranjit Singh's kingdom, they appealed to the British, who established dominance over them by the Treaty of Amritsar with Ranjit Singh (1809).
- The states survived until the independence of India (1947), at which time they were organized into the Patiala and East Punjab States Union (PEPSU).
- They subsequently were absorbed into the Indian states of Punjab and Haryana.
- In 19th century, Malerkotla became one among the cis-Sutlej states.
- Malerkotla continued under the British protection and the alliance with the neighbouring Sikh states till 1947 when it became the only Muslim majority Sikh state in East Punjab.

8. a

White Fungus Infections

- It is a fungal infection where there is formation of whitish membranes or discharge caused by candida group of organisms.
- It is a fungal infection called candidiasis, it can be caused by the unsterile use of oxygen cylinders or the overuse of steroids.
- The symptoms are whitish patches in the oral cavity, white discharge, skin lesions and symptoms of pneumonia of cough, chest pain and low oxygen level.
- The Anti-fungal drugs can be used to treat patients infected with White Fungus.
- Candidiasis can be treated with fluconazole or itraconazole orally.
- The tropical applications will be required for infections in the oral cavity or genitourinary regions.
- It can be prevented by proper sanitisation of ventilators/oxygen cylinders and also, by taking accurate care of the medical types of equipment that are used on the patients.
- It is more likely to infect people with low immunity, it can also be caused if people come in contact with water or unsanitary environment containing the moulds.

- The disease isn't contagious but a person is said to be vulnerable to the infection since these moulds can be easily inhaled by a patient.
- The fungus can further spread to vital organs and cause complications.
- White fungus is curable with commonly available medicines and does not need expensive injections unlike in the case of mucormycosis.
- The people with low immunity, comorbidities, diabetes, cancer or those using steroids regularly are at a higher risk of getting infected with the white fungus.

Black Fungus

- It is caused by a group of moulds known as mucormycetes present naturally in the environment.
- It mainly affects people who are on medication for health problems that reduces their ability to fight environmental pathogens.
- It is treated with antifungals and mucormycosis may eventually require surgery.

9. d

Boa-Dhan Rice

- Iron rich 'Boa-Dhan' is grown without the use of chemical fertilizers in the Brahmaputra valley of Assam.
- It is an integral part of Assamese food.
- It is red in color due to the presence of Anthocyanin, therefore, also called 'Red Rice'.
- To boost India's rice export capacity, its first batch has been sent to America.
- The increase in its exports will increase the income of farmers residing in the drainage area of Brahmaputra.

Rice Export Promotion Forum

- The government had established a 'Rice Export Promotion Forum' under the 'Agricultural and Processed Food Products Export Development Authority'.
- It represents the rice industry, exporters and officials as well as directors of major rice producing states including West Bengal, Uttar

Pradesh, Punjab, Haryana, Telangana, Andhra Pradesh, Assam, Chhattisgarh and Odisha.

10. a

Global Health Summit

- It is organized by European Commission (EC) the executive branch of the European Union and Italy as chair of the G20
- The summit is one of the most notable global gatherings to date to address the pandemic.
- At the summit 20 countries agreed to the Rome declaration which sets out principles and guiding commitments to overcome the challenges posed by COVID-19
- These principle will help in promoting sustained financing with creation of an effective health system capabilities and capacities for universal health coverage
- Improve preparedness through early warning and coordinated response with resilience against current pandemic and future potential public health emergencies
- Key highlights of Rome Declaration are as follows
 1. It Support and enhance the existing multilateral health architecture for better preparedness prevention, detection and response.
 2. Appropriate and sustainable funding for collaborative global response efforts, especially the access to covid-19 tools (ACT) accelerator.
 3. Invest in the worldwide health and care workforce
 4. Promote the multilateral trading systems and open resilient diversifies secure efficient and reliable global supply chains related to health emergencies
 5. Increase the effectiveness of preparedness and response measures by supporting and promoting meaningful and inclusive dialogue.

26-05-2021

1) Which of the statements given below is correct with respect to the Central Bureau of Investigation (CBI)?



- It is a statutory body established by the Delhi Special Police Establishment Act, 1946
- The CBI comes under the administrative control of the Department of Internal Security of Ministry of Home Affairs
- The Director of CBI will be appointed on the recommendation of a three-member committee, headed by the President of India
- The CBI acts as the National Central Bureau of Interpol in India

2) Consider the following statements with respect to BioHub Initiative

- It is an initiative of World Health Organization (WHO) to enhance the rapid sharing of viruses and other pathogens between laboratories and partners globally.
- The first WHO BioHub Facility will be established in Spiez, Switzerland.

Which of the statement(s) given above is/are incorrect?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

3) Nilesh Shah Committee, sometimes seen in the news recently, is associated with which of the following?

- To suggest ways for promoting Investment Funds
- To study about the Asset Reconstruction Companies (ARC)
- To review the regulations of the central bank for streamlining them
- None of the above

4) Consider the following statements with respect to National Mission on use of Biomass in coal based thermal power plants

- It is a proposed mission of Ministry of Coal to address the issue of air pollution

due to farm stubble burning and to reduce carbon footprints of thermal power generation.

- It aims to increase the level of co-firing from present 5% to higher levels to have a larger share of carbon neutral power generation from the thermal power plants.

Which of the statement(s) given above is/are incorrect?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

5) With respect to African Violets, sometimes seen in the news recently, consider the following statements:

- It is an epiphyte, a plant that survives extreme habitats of desert, which produces light pink flowers during the monsoons.
- It is native to Tanzania and Kenya and have been popular in the horticultural world, often used indoors in European countries.
- Most of these species are narrow endemics and require specialised habitats to survive, thus acting as an indicator of pristine habitats.

Which of the statement(s) given above is/are correct?

- 2 only
- 1 and 3 only
- 2 and 3 only
- 1, 2 and 3

6) Consider the following statements with respect to Whiteflies

- Invasive whiteflies has been increasing due to their polyphagous nature and of prolific breeding.



2. Most of the whitefly species are native to the Caribbean islands or Central America.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

7) Consider the following statements with respect to *Tropical Cyclones*

- 1. Storms rotate counter clockwise in the northern hemisphere and clockwise in the southern hemisphere.
- 2. Large sea surface with temperature higher than 27° C and Upper divergence above the sea level system are favourable conditions for formation of tropical cyclones.

Which of the statement(s) given above is/are incorrect?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

8) Which of the following recommendations were emphasised by *Bimal Jalan Committee* to RBI?

- a. Disinvestment Policy
- b. Monetary Policy Committee
- c. Surplus Distribution Policy
- d. Capital Account Convertibility

9) Which of the following statement(s) is/ are correct with respect to *Plague*

- 1. It is a disease caused by the bacteria *Yersinia pestis*, which is found in animals, particularly rodents.

2. Bubonic plague is the 'most virulent form of plague' and can be fatal within 24 to 72 hours.

Select the correct answer using the codes given below:

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

10) Which of the following statement(s) is/ are correct with respect to *Monoclonal Antibodies*

- 1. They are artificially created antibodies that aim to aid the body's natural immune system.
- 2. They target a specific antigen a protein from the pathogen that induces immune response.

Select the correct answer using the codes given below:

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answers

1. d

- The Government of India has recently appointed Subodh Kumar Jaiswal, a Maharashtra cadre IPS officer of 1985 batch as CBI Director for two years.

Central Bureau of Investigation (CBI)

- The establishment of the CBI was recommended by the **Santhanam Committee** on Prevention of Corruption (1962-1964).
- It was set up in 1963 by a resolution of the Ministry of Home Affairs.
- Later, **it was transferred to the Ministry of Personnel** and now it enjoys the status of an attached office.

- The Special Police Establishment (which looked into vigilance cases) setup in 1941 was also merged with the CBI.
- The CBI is **not a statutory body**.
- It derives its powers from the Delhi Special Police Establishment Act, 1946.
- The CBI plays an important role in the prevention of corruption and maintaining integrity in administration.
- It also provides assistance to the Central Vigilance Commission and Lokpal.

Appointment of CBI

- The Central Government shall appoint the Director of CBI on the recommendation of a three-member committee consisting of the **Prime Minister as Chairperson**, the Leader of Opposition in the Lok Sabha and the Chief Justice of India or Judge of the Supreme Court nominated by him.
- If there is no recognized leader of opposition in the Lok Sabha, then the leader of the single largest opposition party in the Lok Sabha would be a member of that committee.
- The CBI acts as the “National Central Bureau” of Interpol in India.

2. d

- *The World Health Organization (WHO) and the Swiss Confederation has recently signed a Memorandum of Understanding to launch the **first WHO BioHub Facility** as part of the WHO BioHub System.*
- The facility established in **Spiez, Switzerland** under the WHO BioHub System will enhance the rapid sharing of viruses and other pathogens between laboratories and partners globally.
- The facility will serve as a centre for the safe receipt, sequencing, storage and preparation of biological materials for distribution to other laboratories, in order to inform risk assessments, and sustain global preparedness against these pathogens.

Background

- Currently, most pathogen sharing is done bilaterally between countries and on an ad hoc basis, which can be slow, and leave some

countries without access to the benefits and tools.

Bio Hub system

- To address the issue, the World Health Organization (WHO) has established the BioHub System in November 2020.
- It will enable Member States to share biological materials with and via the BioHub under pre-agreed conditions, including biosafety, biosecurity, and other applicable regulations.
- This will ensure timeliness and predictability in response activities.

3. a

- *The International Financial Services Centres Authority (IFSCA) in its endeavour to develop a comprehensive and consistent regulatory framework based on global best practices with a special focus on ease of doing business, has recently constituted an Expert Committee on Investment Funds.*
- *The committee will recommend to IFSCA on the road map for the funds industry in the IFSCs.*

Composition of committee

- The Committee has been constituted under the Chairmanship of Mr. Nilesh Shah, MD, Kotak Mahindra Asset Management Co. Ltd.
- The Committee comprises of leaders from the entire Fund Management ecosystem including from areas such as technology, distribution, legal, compliance, and operations.

International Financial Services Centres Authority (IFSCA)

- IFSCA has been established as a unified regulator to develop and regulate financial products, financial services and financial institutions in the International Financial Service Centres (IFSCs) in India.
- The Fund Industry has been playing an increasingly important role in intermediating between seekers of capital and investors.
- IFSC has been actively engaging with stakeholders to enhance the Global reach of GIFT-IFSC.

- The regulatory approach has been to benchmark with Global Standards and adopt a facilitative framework to provide ease of operations for seeker as well as provider of capital.

4. a

- **Ministry of Power** has recently decided to set up a *National Mission on use of Biomass in coal based thermal power plants*.

National Mission on use of Biomass in coal based thermal power plants

- It would address the issue of air pollution due to farm stubble burning and would reduce carbon footprints of thermal power generation.
- This would further support the energy transition in the country and our targets to move towards cleaner energy sources.
- The proposed National Mission on biomass will also contribute in the National Clean Air Programme (NCAP).

The mission will have the following objectives:

1. To increase the level of co-firing from present 5% to higher levels to have a larger share of carbon neutral power generation from the thermal power plants.
2. To take up R&D activity in boiler design to handle the higher amount of silica, alkalis in the biomass pellets.
3. To facilitate overcoming the constraints in supply chain of bio mass pellets and agro-residue and its transport upto to the power plants.
4. To consider regulatory issues in biomass co-firing.

5. c

- Scientists from the Indian Institute of Science Education and Research (IISER) Bhopal found the variant of the African violets in Mizoram recently.
- It is for the first time an 'African' flowering plant has been recorded scientifically in India.

African Violets

- The newly-described species, *Didymocarpus vickifunkiae* is currently known from only

three locations near the north-eastern State's border with Myanmar and is considered an endangered species.

- It is an **epiphyte** — **a plant that grows on trees** — and produces light pink flowers during the monsoons.
- Commonly known as African violets, *Didymocarpus* is a genus belonging to the plant family Gesneriaceae whose members are distributed in Asia from Western Himalayas to Sumatra.
- Most of these species are narrow endemics and require specialised habitats to survive, thus acting as an indicator of pristine habitats.
- There are 106 currently known species of this genus, of which 26 are in the northeast.
- African violets, native to Tanzania and Kenya have been popular in the horticultural world, often used indoors in European countries.
- Its discovery has underscored the floral diversity of the northeast that has a unique biogeographic placement as a part of two biodiversity hotspots — the Indo-Burma and the Eastern Himalayas.

6. c

White flies

- Whiteflies are tiny, sap-sucking insects that may become abundant in vegetable and ornamental plantings, especially during warm weather.
- They excrete sticky honeydew and cause yellowing or death of leaves.
- The first reported invasive spiralling whitefly (*Aleurodicus dispersus*) is now distributed throughout India except Jammu & Kashmir.
- Similarly, the rugose spiralling whitefly (*Aleurodicus rugioperculatus*) which was reported in Pollachi, Tamil Nadu in 2016 has now spread throughout the country including
- the islands of Andaman Nicobar and Lakshadweep.
- *Aleurodicus dispersus* and *Aleurodicus rugioperculatus* have been reported on over 320 and 40 plant species, respectively.

- The host range of all of the invasive whiteflies has been increasing due to their polyphagous nature (ability to feed on various kinds of food) and prolific breeding.
- Approximately 1.35 lakh hectares of coconut and oil palm in India are affected by the rugose spiralling whitefly.
- Whiteflies have been difficult to control by using available synthetic insecticides.
- They are currently being controlled by naturally occurring insect predators, parasitoids (natural enemies of pests, provide biological control of pests in greenhouses and crop fields) and entomopathogenic fungi (fungi that can kill insects).
- Entomopathogenic fungi specific to whiteflies are isolated, purified, grown in the lab or mass-produced and applied into the whitefly infested field in combination with the release of lab-reared potential predators and parasitoids.

7. d

Tropical Cyclones

- A tropical cyclone is an intense circular storm that originates over warm tropical oceans.
- It is characterized by low atmospheric pressure, high winds, and heavy rain.
- Unique feature of tropical cyclones is the eye, a central region of clear skies, warm temperatures, and low atmospheric pressure.
- Storms of this type are called hurricanes in the North Atlantic and eastern Pacific and typhoons in SouthEast Asia and China.
- They are called tropical cyclones in the southwest Pacific and Indian Ocean region and Willy-willies in north-western Australia.
- The conditions favourable for the formation and intensification of tropical storms are:
 1. Large sea surface with temperature higher than 27° C and Upper divergence above the sea level system.
 2. Presence of the Coriolis force and Small variations in the vertical wind speed.
 3. A pre-existing weak low- pressure area or low-level-cyclonic circulation.

8. c

Bimal Jalan Committee

- The RBI had formed a committee chaired by former Governor Bimal Jalan to review its economic capital framework and suggest the quantum of excess provision to be transferred to the government.
- The panel recommended a clear distinction between the two components of the economic capital of RBI i.e. realized equity and Revaluation balances.
- Revaluation reserves comprise of periodic marked-to-market unrealized/notional gains/losses in values of foreign currencies and gold, foreign securities and rupee securities, and a contingency fund.
- Realized equity, which is a form of a contingency fund for meeting all risks/losses primarily built up from retained earnings, It is also called the Contingent Risk Buffer (CBR).
- The Surplus Distribution Policy of RBI that was finalized is in line with the recommendations of the Bimal Jalan committee.
- The Jalan committee has given a range of 5.5-6.5% of RBI's balance sheet for Contingent Risk Buffer.
- Adhering to the recommendations, the RBI has decided to set the CBR level at 5.5% of the balance sheet.

Other Committees

- Disinvestment policy is recommended by G V Ramakrishna Committee
- Capital Account Convertibility is recommended by Tarapore Committee
- Monetary Policy Committee is recommended by Urjit Patel Committee

9. a

Plague

- In the Middle Ages (5th-15th century), plague was also known as the 'Black Death' as it was responsible for the deaths of millions of people in Europe.
- It can be transmitted to humans through infected animals and fleas.

- Researchers attributes the plague to an unusually abundant grain harvest, which caused a surplus of mice earlier in the season.
- Add to this the fact that mice have a short breeding cycle (a pair of breeding mice can give birth to a new litter every 21 days or so) and are not very choosy about food.

Types of plague

- **Bubonic plague** - This infects a person's lymphatic system (which is a part of their immune system), causing inflammation in the lymph nodes.
- If left untreated, the bubonic plague can also convert into either pneumonic or septicemic plague.
- Its symptoms include fever, chills, weakness and headaches.
- **Pneumonic plague** - According to WHO, pneumonic plague is the 'most virulent form of plague' and can be fatal within 24 to 72 hours. It occurs when the bacteria infects the lungs. It is the only type of plague that can be transmitted from human to human. Symptoms are chest pain, fever and cough. It is highly contagious and transmissible merely by coughing.
- **Septicemic plague** - This is when the bacteria enters the blood stream and multiplies there.
- If left untreated, pneumonic and bubonic plague can lead to septicemic plague.
- A person infected by septicemic plague may also notice their skin turning black.

10. c

Monoclonal Antibodies

- They are artificially created antibodies that aim to aid the body's natural immune system.
- They target a specific antigen a protein from the pathogen that induces immune response.
- Monoclonal antibodies can be created in the lab by exposing white blood cells to a particular antigen.
- To increase the quantity of antibodies produced, a single white blood cell is cloned,

which in turn is used to create identical copies of the antibodies.

- In the case of Covid-19, scientists usually work with the spike protein of the SARS-CoV-2 virus, which facilitates the entry of the virus into the host cell.
- In a healthy body, the immune system is able to create antibodies — tiny Y-shaped proteins in our blood that recognise microbial enemies and bind to them, signalling the immune system to then launch an attack on the pathogen.
- However, for people whose immune systems are unable to make sufficient amounts of these antibodies, scientists provide a helping hand—using monoclonal antibodies.
- Monoclonal antibodies are now relatively common, they are used in treating Ebola, HIV, psoriasis etc.
- Itolizumab and Tocilizumab are two important drugs used in monoclonal antibody therapy.

27-05-2021

1) Consider the following statements with respect to Ayush Clinical Case Repository (ACCR) Portal

1. The portal will serve as a platform to support both Ayush practitioners and general public.
2. The portal covers all the seven systems of Ayush including Homoeopathy and Sowa Rigpa.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

2) Mekedatu dispute, often seen in the news, is a dispute between?

- a. Karnataka & Goa
- b. Tamil Nadu & Karnataka



- c. Puducherry & Tamil Nadu
- d. Andhra Pradesh & Telangana

3) Consider the following statements with respect to *National Green Tribunal (NGT)*

1. The NGT is not bound by the procedure laid down under the Code of Civil Procedure, 1908.
2. The Tribunal's orders are binding and it has power to grant relief in the form of compensation and damages to affected persons.
3. The Chairperson of NGT shall be appointed by the Central Government in consultation with the Chief Justice of India (CJI).

Which of the statement(s) given above is/are correct?

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

4) Consider the following statements with respect to *Pension Fund Regulatory and Development Authority (PFRDA)*

1. It is a statutory authority established by an Act of Parliament.
2. It aims to promote old age income security by regulating pension funds and to protect the interests of subscribers to schemes of pension funds.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

5) In animal science, what does *Ethology* mean?

- a. It is a study of history of a species
- b. It is a study of genetics of a species
- c. It is a study of behaviour of an animal
- d. It is a study of descendants of an animal

6) Consider the following statements with respect to *Dissolved Organic Matter (DOM)*

1. It is the largest reservoir of organic carbon in the aquatic environment.
2. It can ramp up or diminish organic matter loads to waterways.
3. The agricultural lands contributes more DOM than forested lands.

Which of the statement(s) given above is/are correct?

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

7) Consider the following statements with respect to *Sudano Sahelian Zone (SSZ)*

1. It is one of the Safe Climatic Spaces (SCS) on earth where production of food crops and livestock is high.
2. This region is the wealthiest region in African continent due to abundant natural resources.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

8) *Bubble Curtain Technology* to clean water bodies is implemented first time in which of the following Indian Rivers?

- a. River Kaveri



- b. River Tungabhadra
- c. River Yamuna
- d. River Ganga

9) Katkari Tribes are predominantly found in which of the following Indian States?

- a. Maharashtra
- b. Karnataka
- c. Chhattisgarh
- d. Jharkhand

10) Which of the following statement(s) is/ are correct with respect to *Intestinal Respiration*

1. Any Mammal can be made to absorb oxygen from their intestines, with some external help.
2. Humans with severe respiratory illness can be made to absorb oxygen through their intestines.

Select the correct answer using the codes given below:

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answers

1. c

- Union Minister of state (IC) for Ayush Shri Kiren Rijiju will launch the Ayush Clinical Case Repository (ACCR) portal and the third version of Ayush Sanjivani App tomorrow in a virtual event.

Ayush Clinical Case Repository (ACCR) Portal

- This portal will facilitate posting of success stories/successfully treated cases by Ayush practitioners.
- These cases will help Ayush practitioners to know approaches adopted by their colleagues in treatment of various patients.

- Public can also go through these cases and understand the strengths of various Ayush systems in treatment of various ailments/diseases and adopt informed choices for the treatment as and when required.
- This covers all the seven systems of Ayush viz. Ayurveda, Yoga, Naturopathy, Unani, Siddha, Homoeopathy and Sowa Rigpa.
- This portal will present to the public information about clinical cases in an easy format.
- It will increase their awareness about treatment options in Ayush systems and help to make informed choices when required.
- However, ACCR discourages self-medication in the strongest terms and advises consulting a qualified practitioner for finalising appropriate treatment.

2. b

- The National Green Tribunal (NGT), Southern Zone has recently appointed a joint committee to look into allegations of unauthorised construction activity taking place in Mekedatu, where the Karnataka government had proposed to construct a dam across the Cauvery River.

Mekedatu Dispute

- Mekedatu, meaning goat's leap, is a deep gorge situated at the confluence of the rivers Cauvery and Arkavathi, about 100 km from Bengaluru, at the Kanakapura taluk in Karnataka's Ramanagara district.
- In 2013, the then Karnataka Law Minister TB Jayachandra announced the construction of a multi-purpose balancing reservoir project over the Mekedatu.
- The Rs 5,912-crore project aims to alleviate the drinking water problems of Bengaluru and Ramanagara district.
- It is also expected to generate hydro-electricity to meet the power needs of the state.

Tamil Nadu's response

- Soon after the project was announced in 2013, the then Tamil Nadu Chief Minister J Jayalalithaa wrote to then Prime Minister Manmohan Singh asking him not to grant permission or environmental clearance.

- Explaining the potential for damage to the lower riparian state of Tamil Nadu, she said that the project was in violation of the final award of the Cauvery Water Disputes Tribunal.

3. d

National Green Tribunal

- The NGT, established in 2010, as per the National Green Tribunal Act is a specialised judicial body equipped with expertise solely for the purpose of adjudicating environmental cases in the country.
- The NGT is not bound by the procedure laid down under the Code of Civil Procedure, 1908, but shall be guided by principles of natural justice.
- The principle bench is located in New Delhi.
- The Tribunal's orders are binding and it has power to grant relief in the form of compensation and damages to affected persons.
- The Tribunal's orders are enforceable as the powers vested are the same as in a civil court under the Code of Civil Procedure, 1908.
- The Tribunal is headed by the Chairperson who sits in the Principal Bench and has at least ten but not more than twenty judicial members and at least ten but not more than twenty expert members.
- The Chairperson shall be appointed by the Central Government in consultation with the Chief Justice of India.
- The Tribunal has powers to review its own decisions. If this fails, the decision can be challenged before the Supreme Court within ninety days.

4. c

Pension Fund Regulatory and Development Authority (PFRDA)

- It is the statutory authority established by an enactment of the Parliament, Pension Fund Regulatory & Development Authority Act, 2013.
- It was established to regulate, promote and ensure orderly growth of the National Pension System (NPS) and pension schemes to which this Act applies.

- The basic function of the PFRDA mentioned under the Act is to promote old age income security by establishing, developing and regulating pension funds, to protect the interests of subscribers to schemes of pension funds and for matters connected therewith or incidental thereto.

National Pension System (NPS)

- It was initially notified for central government employees and subsequently adopted by almost all State Governments for its employees.
- NPS was extended to all Indian citizens (resident/non-resident/overseas) on a voluntary basis and to corporates for its employees.

5. c

- Ethology is the scientific and objective study of animal behaviour, usually with a focus on behaviour under natural conditions, and viewing behaviour as an evolutionarily adaptive trait.
- The founders of modern ethology, Niko Tinbergen, Konrad Lorenz and Karl Von Frisch were given the Nobel Prize for their work in 1973.

6. a

Dissolved Organic Matter (DOM)

- The dissolved organic matter is the largest reservoir of organic carbon in the aquatic environment.
- It can be greatly influenced by land use, which can ramp up or diminish organic matter loads to waterways.
- The forested lands can contribute more DOM than agricultural lands, but the nutrients bound in the material can be less bio-available than those from farm fields.
- The organic matter in waterways can be viewed as a mixture of things living and dead, including plant, microbial and animal products at various stages of decomposition.
- CDOM is interchangeably known as chromophoric dissolved organic matter or coloured dissolved organic matter.

- The CDOM cover the parameter that can be measured in aquatic environments as a product of decaying material.
- CDOM is largely a subset of DOM, or dissolved organic matter.
- The decay releases organic substances, also called tannins that stain waters and can have effects on light absorption and other aspects of water quality.
- CDOM is closely related to fDOM or fluorescent dissolved organic matter, as fDOM refers to the fraction of CDOM that fluoresces.
- CDOM contributes to light absorption and may also help fuel bacterial respiration because of the large quantities of carbon, nitrogen and phosphorus that it carries
- The CDOM can have effects on all aquatic life in a water body.

7. d

Sudano Sahelian Zone (SSZ)

- Safe Climatic Space is defined as the areas where 95 per cent of global food crop production takes place due to favourable weather conditions, temperature, rainfall, etc.
- Sudano Sahelian Zone (SSZ) is one of the poorest in the world, is characterised by fluctuating rainfall and droughts, it lies outside of safe climatic space (SCS).
- The semi-arid SSZ is located between the Sharan dessert and the humid Guinean zone and stretches from the Atlantic coast to the red sea coast.
- It comprises 16 countries in Africa, is the most vulnerable to climate change.
- The associated risks have pushed food crop as well as livestock production outside safe climatic space (SCS), in turn jeopardising food security in the region, a new study has warned.

8. c

Bubble Curtain Technology

- A bubble curtain is a system that produces bubbles in a deliberate arrangement in water, it is also called pneumatic barrier.

- The technique is based on bubbles of air (gas) being let out under the water surface, commonly on the bottom.
- When the bubbles rise they act as a barrier, a curtain, breaking the propagation of waves or the spreading of particles and other contaminants.
- This technology is being used for the first time in India to stop plastic from entering the river Yamuna.
- It is a non-invasive solution to stop plastic from entering the oceans, Ships and fish can pass through the air bubbles but plastics will be stopped
- The bubble screen is created by a specially designed air tube which is placed diagonally on the bed of the canal or river.
- It brings waste to the surface channels the plastics onto the banks where it can be extracted.

9. a

Katkari Tribes

- Katkaris were historically forest dwellers, they are one of the 75 Particularly Vulnerable Tribal Groups (PVTGs).
- Katkaris are located primarily in Raigad and in parts of Palghar, Ratnagiri and Thane districts of Maharashtra as well as in some places of Gujarat.
- The name Katkari is derived from a forest-based activity, the making and bartering or sale of Catechu from the Khair tree (Acacia Katechu).
- Catechu is an extract of acacia trees used variously as a food additive, dye, etc.

10. c

Intestinal Respiration

- In vertebrates such as humans, meaning animals that have a spinal column, the intestines are connected with a large number of blood vessels that allow the absorption of digested food.
- The scientists believe that the same blood vessels could also be able to absorb oxygen,



something which a fish called the weather loach actually does.

- Like most fish, the loaches use their gills to take in oxygen from water but these fishes can also bring their head above the surface to take in a gulp of air.
- Loaches do not have lungs, and the swallowed air travels through their intestines, where the oxygen they need gets absorbed.
- Like loaches, catfish and orb-weaver spiders also breathe through their gut when the supply of oxygen in their surrounding dips.
- The research shows that like loach fishes, mammals too can be made to absorb oxygen from their intestines, with some external help.
- Anaesthetized and oxygen-deprived mice had oxygen pumped up the anus through to their intestines, a technique that helped them survive longer.
- The layers of mucous that line mammalian rectums had to be removed to be able to provide the oxygen direct access to the intestinal wall.
- Instead of pumping in gas, the scientists have used perfluorocarbons i.e. liquids that can absorb large amounts of oxygen.
- Anaesthetized mice with their linings intact were now administered perfluorocarbons enemas and placed in oxygen-deprived surroundings.
- These mice were able to retain high levels of oxygen in their blood four times longer compared with animals that did not receive such treatment.
- Recently, as per new research, a medical procedure can be developed by which humans with severe respiratory illness too can be made to absorb oxygen through their intestines.
- The method relies on delivering oxygen to the intestines from the anus.

28-05-2021

1) Consider the following statements with respect to NIDHI4COVID2.0

- 1. It will fund eligible startups & companies offering promising solutions to address or mitigates various challenges being faced due to COVID-19.**
- 2. The fund is available only for startups & companies registered in India.**
- 3. It is an initiative launched by the Department for Promotion of Industry & Internal Trade, Ministry of Commerce.**

Which of the statement(s) given above is/are incorrect?

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

2) Consider the following statements with respect to Services e-Health Assistance & Teleconsultation (SeHAT) OPD Portal

- 1. The portal provides tele-medicine services to the serving Armed Forces personnel, veterans and their families of all the three Services.**
- 2. It has been developed by CDAC Mohali and launched by the Ministry of Defence (MoD).**

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

3) Who among the following are considered as the "Trinity of Carnatic Music"?

- 1. Shyama Sastry**
- 2. Muthu Thandavar**
- 3. Thyagaraja Swamy**
- 4. Muthuswami Dikshitar**
- 5. Thirugnana Sambandar**

Select the correct answer using the codes given below:

- a. 1, 2 and 3
- b. 2, 4 and 5
- c. 1, 3 and 4
- d. 3, 4 and 5

4) Which of the following is correct with respect to *Fungus*?

- a. The study of fungi is called Autecology
- b. Lichens and Oomycetes belongs to the Fungi Kingdom
- c. Fungus is not a part of animal and plant kingdom and has been classified as a kingdom on their own
- d. Fungi are prokaryotic organisms in which cells does not contain membrane-bound organelles and an undefined nuclei

5) Consider the following statements with respect to *National Digital Health Mission (NDHM)*

- 1. It is an ambitious programme to provide network infrastructure with affordable broadband connectivity on a non-discriminatory basis to all households in the country.
- 2. The National Health Authority has been entrusted with the role of designing strategy, building infrastructure and implementation of the mission in India.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

6) Consider the following statements with respective to *Lakshadweep Development Authority*

- 1. It empowers the government to constitute Planning and Development Authorities for any identified area.
- 2. It can carry out zonation for all types of land use within the island.
- 3. It stipulates that islanders must pay a processing fee for zone changes.

Which of the statement(s) given above is/are correct?

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

7) Consider the following statements with respective to *Judicial Recusal*

- 1. It is the act of abstaining from legal proceeding due to a conflict of interest of the presiding court official or administrative officer.
- 2. Grounds for recusal includes if a judge is biased in favour of one party, or against another, or that a reasonable objective observer would think he might be.

Which of the statement(s) given above is/are incorrect?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

8) *Volatiles Investigating Polar Exploration Rover (VIPER)*, a lunar rover is developed by which of the following Space Agencies?

- a. Indian Space Research Organisation (ISRO)
- b. Japan Aerospace Exploration Agency (JAXA)
- c. European Space Agency (ESA)
- d. National Aeronautics and Space Administration (NASA)

9) Which of the following organizations are not a part of Indian SARS-CoV-2 Genome Sequencing Consortia (INSACOG) ?

- Indian Council of Medical Research (ICMR)
- World Health Organization (WHO)
- Ministry of Health & Family Welfare
- Council of Scientific & Industrial Research (CSIR)

10) Which of the following statement(s) is/ are correct with respect to Puysegur Trench

- It is a deep cleft in the floor of Indian Ocean formed by the subduction of the Indo-Australian Plate.
- The area around the Puysegur Trench is highly seismically active, with the Alpine Fault starting at the trench's northern end.

Select the correct answer using the codes given below:

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Answers

1. a

- The Department of Science and Technology has recently invited applications from startups and companies for developing new technologies and innovative products to tackle the second wave of Covid-19.

NIDHI4COVID2.0

- It is a new initiative under which the companies can apply, will fund eligible startups and companies **registered in India** offering promising solutions in the thrust areas of oxygen innovation, portable solution, relevant medical accessories, diagnostic, informatics, or any other solution that addresses/mitigate various challenges faced by country/society due to the severe impact of Covid-19.

- The initiative is a special drive of the National Science and Technology Entrepreneurship Development Board (NSTEDB), Department of Science and Technology (DST).
- It was launched to support **indigenous solutions** and innovative products to combat the crisis that the country is currently facing due to the pandemic.

2. c

- Union Defence Minister, Rajnath Singh has recently launched 'Services e-Health Assistance & Tele-consultation (SeHAT) OPD portal.

Services e-Health Assistance & Tele-consultation (SeHAT) OPD Portal

- The portal provides tele-medicine services to the serving Armed Forces personnel, veterans and their families.
- Triservice Teleconsultation Service of the Ministry of Defence (MoD) is being offered to **all entitled personnel of the three Services**.
- It aims to provide healthcare services to patients in their homes.
- Safe and structured video based clinical consultations between a doctor in a hospital and a patient in the confines of his or her home is being enabled.
- Stay Home OPD has been **developed by CDAC Mohali** and HQ IDS and is based on the lines of e Sanjeevani a similar free OPD service run by the MoHFW for all citizens.
- SeHAT is based on the eSanjeevani OPD-GO's flagship telemedicine technology developed by CDAC (Mohali).
- SeHAT is a patient to doctor system, initially for a general OPD consultation and proposed to be extended to specialist OPD consultation subsequently.

3. c

Trinity of Carnatic Music

- It refers to the outstanding trio of composer-musicians of Carnatic music in the 18th century.

- They were also called as the Three Jewels of Carnatic music.
- All three composers were born in Thiruvavur, formerly part of Thanjavur District in Tamilnadu.

The Trinity of Carnatic music are:

1. Shyama Sastry
2. Thyagaraja Swamy
3. Muthuswami Dikshitar

Tamil Trinity of Carnatic Music

They are also known as the Tamil Moovar. They were:

1. Arunachala Kavi
 2. Muthu Thandavar
 3. Marimutthu Pillai
- They lived five decades before the Tiruvavur Trinity or Trinity of Carnatic Music.
 - They introduced several innovations that led to the evolution of the Carnatic kriti (song).

Female Trinity of Carnatic Music

- They are Carnatic musicians of the 20th century, popularly referred to as the female Trinity of Carnatic music. They were:
1. D. K. Pattammal
 2. M. S. Subbalakshmi
 3. M. L. Vasanthakumari

4. c

- Fungus comes from a Latin word for Mushroom.
- The Latin word for mushroom, fungus (plural fungi), has come to stand for the whole group.
- Fungi are **eukaryotic organisms**; i.e., their cells **contain membrane-bound organelles** and **clearly defined nuclei**.
- Fungi is not a part of animal and plant kingdom and has been classified as a kingdom on their own.
- As fungi lack chlorophyll and are distinguished by unique structural and physiological features, they have been separated from plants.

- The study of fungi is known as mycology — a broad application of the Greek word for mushroom, mykes.
- Lichens, Yeast and Molds belong to Fungi Kingdom.
- There are also many fungus like organisms, including slime molds and oomycetes (water molds), which do not belong to kingdom Fungi but are often called fungi.

5. b

- *Prime Minister Narendra Modi has recently chaired a high-level meeting to review the National Digital Health Mission (NDHM).*

National Digital Health Mission (NDHM)

- It aims to develop the backbone necessary to support the integrated digital health infrastructure of the country.
- It will bridge the existing gap amongst different stakeholders of Healthcare ecosystem through digital highways.
- It aims to strengthen the accessibility and equity of health services, including continuum of care with citizen as the owner of data, in a holistic healthcare programme approach leveraging IT & associated technologies and support the existing health systems in a 'citizen-centric' approach.
- It will come under the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana.
- The National Health Authority has been entrusted with the role of designing strategy, building technological infrastructure, roll-out and implementation of the mission in India.

It comprises six key building blocks or digital systems namely

1. HealthID
2. DigiDoctor
3. Health Facility Registry
4. Personal Health Records
5. e-Pharmacy
6. Telemedicine

Background

- On 15th Aug 2020, during his Independence Day address, Hon'ble Prime Minister had announced the launch of NDHM.
- Since then, the digital modules and registries have been developed and the mission has been rolled out in six Union Territories.
- So far, nearly 11.9 lakh Health IDs have been generated and 3106 doctors and 1490 facilities have registered on the platform.

6. b

Lakshadweep Development Authority

- It empowers the government, identified as the administrator, to constitute Planning and Development Authorities under it to plan the development of any area identified as having "bad layout or obsolete development".
- The authority would be a body corporate with a government-appointed chairman, a town planning officer and three 'expert' government nominees besides two local authority representatives.
- These authorities are to prepare land use maps, carry out zonation for type of land use and indicate areas for proposed national highways, arterial roads, ring roads, major streets, railways, tramways, airports, theatres, museums etc.
- Only cantonment areas are exempted from this.
- It defines development as the carrying out of building, engineering, mining, quarrying or other operations in, on, over or under land, the cutting of a hill or any portion thereof or the making of any material change in any building or land or in the use of any building or land.
- It stipulates that islanders must pay a processing fee for zone changes.
- It implies that localities would be required to pay fees to gain approval to alter zones as per the development plan, as well as fees for permission to develop their own land.
- It establishes penalties such as imprisonment for obstructing the development plan's work or workers.

7. d

Judicial Disqualification or Recusal

- Judicial disqualification, referred to as recusal, is the act of abstaining from participation in an official action such as a legal proceeding due to a conflict of interest of the presiding court official or administrative officer.
- Grounds for Recusal includes
 1. The judge is biased in favour of one party, or against another, or that a reasonable objective observer would think he might be.
 2. Interest in the subject matter, or relationship with someone who is interested in it.
 3. Background or experience, such as the judge's prior work as a lawyer.
 4. Personal knowledge about the parties or the facts of the case.
 5. Ex parte communications with lawyers or non-lawyers
- There are no definite rules on recusals by Judges, However in taking oath of office, judges, both of the Supreme Court and of the high courts, promise to perform their duties, to deliver justice, "without fear or favour, affection or ill-will".

8. d

Volatiles Investigating Polar Exploration Rover (VIPER)

- Volatiles Investigating Polar Exploration Rover (VIPER) is a lunar rover developed by NASA.
- It is currently planned to be delivered to the surface of the Moon in November 2023.
- VIPER runs on solar power, it will be required to quickly manoeuvre around the extreme swings in light and dark at the lunar South Pole.
- The rover will be tasked with mapping the distribution and concentration of water ice.
- Once on the Moon, the rover will explore lunar craters using a specialised set of wheels and suspension system to cover a variety of inclines and soil types.
- VIPER will be carried aboard Astrobot's Griffin lander as part of NASA's Commercial Lunar Payload Services (CLPS) initiative.

- VIPER will carry four instruments on board, this includes
- 1. The Regolith and Ice Drill for Exploring New Terrains (TRIDENT)
- 2. The Mass Spectrometer Observing Lunar Operations (MSolo) instrument.
- 3. The Near Infrared Volatiles Spectrometer System (NIRVSS).
- 4. The Neutron Spectrometer System (NSS).

9. b

Indian SARS-CoV-2 Genome Sequencing Consortia (INSACOG)

- It is a national multi-agency consortium that was set up by the Indian Government in December 2020.
- Ten laboratories of CSIR, ICMR, Department of Biotechnology, and Ministry of Health & Family Welfare were combined to form the INSACOG consortium.
- 17 more labs will be added to increase the current capacity of genome sequencing.
- After the reports of a sudden outbreak of a UK variant of coronavirus came to light, the Government proposed to expand genome sequencing of SARS-CoV-2 across the country.
- INSACOG will assess the genomic variants of the coronavirus through a multi-laboratory network.
- Genome sequencing of the virus can assist scientists to understand the hotspots of the variants of coronavirus, how the virus spreads and evolves, and aid in developing potential COVID vaccines.
- The data collected from genome sequencing of the virus will further aid in studying linkages between the variants and epidemiological waves (super-spreader events, outbreaks) of the virus.

10. b

Puysegur Trench

- It is 6,300-metre (20,700 ft) deep trench, a deep cleft in the floor of the south Tasman Sea formed by the subduction of the Indo-Australian Plate under the Pacific Plate to the south of New Zealand.

- Immediately to its east lies a ridge, a northern extension of the Macquarie Ridge, which separates the Puysegur Trench from the Solander Trough.
- To the west is the expanse of the Tasman Basin, which stretches most of the distance to Australia.
- To the north of the trench lies the Fiordland Basin, which can be considered an extension of the trench.
- The Puysegur Trench mirrors the Kermadec Trench and Tonga Trench north of New Zealand.
- The Puysegur Trench stretches for over 800 kilometres south from the south westernmost point of the South Island's coast, its southernmost extent being 400 kilometres due west of the Auckland Islands. It is named after Puysegur Point.

Alpine Fault

- It is a geological fault that runs almost the entire length of New Zealand's South Island (c. 480 km) and forms the boundary between the Pacific Plate and the Indo-Australian Plate.
- The Southern Alps have been uplifted on the fault over the last 12 million years in a series of earthquakes.
- However, most of the motion on the fault is strike-slip (side to side), with the Tasman district and West Coast moving North and Canterbury and Otago moving South.

29-05-2021

1) Which of the statements given below regarding GST Council is incorrect?

- a. One-half of the total number of members of GSTC form quorum in meetings of GSTC
- b. Decision in GSTC are taken by a majority of not less than three-fourth of weighted votes cast
- c. Centre has one-third weightage of the total votes cast and all the states taken together have two-third of weightage of the total votes cast
- d. None of the above



2) Consider the following statements with respect to *National AI Portal (INDIAai)*

1. It serves as a central hub for AI related news, learning, articles, events and activities etc., in India and beyond.
2. It is a joint initiative of National e-Governance Division (NeGD), Ministry of Electronics and IT (MeitY), and NASSCOM.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

3) Consider the following statements with respect to *YUVA- Prime Minister's Scheme for Mentoring Young Authors*

1. It is an author mentorship programme to train young and budding authors' below 30 years of age.
2. It was launched by the Department of Higher Education, Ministry of Education.
3. The National Book Trust, India is the implementing agency and responsible for the phase-wise execution of the Scheme.

Which of the statement(s) given above is/are correct?

- a. 3 only
- b. 1 and 2 only
- c. 1, 2 and 3
- d. None of the above

4) *Thitu or Pag-asa Island*, sometimes seen in the news recently, is located in which of the following regions?

- a. Yellow Sea
- b. Arabian Sea
- c. South China Sea

d. Mediterranean Sea

5) Consider the following statements

1. A person to be elected to legislative council/assembly must be an elector for a assembly constituency in that state.
2. A person contesting election to Rajya Sabha from a particular state should be an elector in that particular state.

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

6) Consider the following statements with respective to *NASA-ESA Solar Orbiter Spacecraft*

1. It was selected as the first medium-class mission of ESA's Cosmic Vision 2015-2025 Programme.
2. It has captured the first solar eruption on the Sun's surface, known as coronal mass ejections (CME).
3. It is the first mission that will provide images of the sun's north and south poles.

Which of the statement(s) given above is/are correct?

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

7) Consider the following statements with respective to *17+1 Initiative*

1. It aims to expand cooperation between Central Asian Union (CAU) and the ASEAN member countries.
2. It focuses on infrastructure projects such as bridges, motorways, railway

lines and modernisation of ports in the member states.

Which of the statement(s) given above is/are incorrect?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

8) Which of the following statement(s) is/ are correct with respect to *Lightning Phenomenon*

- Lightning is an electrical discharge caused by imbalances between storm clouds and the ground, or within the clouds themselves.
- During lightning the electric potential (voltage) is highest at the point of the strike, and decreases with distance along the direction of the flow

Select the correct answer using the codes given below:

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

9) Which of the following statement(s) is/ are incorrect with respect to *Semi-conductors*

- It can be made of pure elements, such as silicon or germanium, or compounds such as gallium arsenide or cadmium selenide.
- It is formed due to ionic bonding and has eight valence electron in its outermost orbit.

Select the correct answer using the codes given below:

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

10) Which of the following statement(s) is/ are correct with respect to *Nuclear Thermal Rocket*

- It is a type of thermal rocket where the heat from a nuclear reaction replaces the chemical energy of the propellants in a chemical rocket.
- NASA and China National Space Administration (CNSA) are only space agencies that has successfully launched NTRs for their space missions.

Select the correct answer using the codes given below:

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Answers

1. d

- The 43rd GST Council has recently met under the Chairmanship of Union Finance Minister Smt. Nirmala Sitharaman through video conferencing.

GST Council

- The Goods and Services Tax (GST) is governed by the GST Council.
- Article 279 (1) of the amended Indian Constitution states that the GST Council has to be constituted by the President within 60 days of the commencement of the Article 279A.
- According to the article, GST Council will be a joint forum for the Centre and the States.
- GST Council is an apex member committee to modify, reconcile or to procure any law or regulation based on the context of goods and services tax in India.
- The GST Council dictates tax rate, tax exemption, the due date of forms, tax laws, and tax deadlines, keeping in mind special rates and provisions for some states.

It consists of the following members:

- The Union Finance Minister, (the Chairperson)

2. As a member, the Union Minister of State will be in charge of Revenue of Finance
3. The Minister in charge of finance or taxation or any other Minister nominated by each State government, as members.

Forum

- One-half of the total number of members of GSTC form quorum in meetings of GSTC.
- Decision in GSTC are taken by a majority of not less than three-fourth of weighted votes cast.
- Centre has one-third weightage of the total votes cast and all the states taken together have two-third of weightage of the total votes cast.
- All decisions taken by the GST Council has been arrived at through consensus. The option of exercising a vote has not been resorted to till date.

2. c

- *The National AI Portal has recently celebrated its first anniversary in a virtual event attended by nearly 400 participants and dignitaries.*

National Artificial Intelligence Portal

- This portal has been jointly developed by the Ministry of Electronics and Information Technology and IT Industry.
- National e-Governance Division of Ministry of Electronics and IT and NASSCOM from the IT industry will jointly run this portal.
- This portal shall work as a one stop digital platform for AI related developments in India, sharing of resources such as articles, startups, investment funds in AI, resources, companies and educational institutions related to AI in India.
- The portal will also share documents, case studies, research reports etc.
- It has section about learning and new job roles related to AI.

3. c

- *The Ministry of Education has recently launched 'YUVA- Prime Minister's Scheme for Mentoring Young Authors'.*

YUVA – Prime Minister's Scheme for Mentoring Young Authors

- It is an author mentorship programme to train young and budding authors below the age of 30.
- Those who are interested to write on themes such as national movement, unsung heroes, freedom fighters can register themselves at mygov.in.
- These books will be launched on National Youth Day (January 12, 2022).
- The winner will also get a scholarship worth Rs. 50,000 per month for a period of six months.
- The National Book Trust, India under the Ministry of Education as the Implementing Agency will ensure phase-wise execution of the Scheme.
- The books prepared under this scheme will be translated into other Indian languages.

4. c

- The Philippines has protested China's continuing illegal presence and activities near Thitu Island in the **South China Sea**.
- Thitu, known as Pag-asa in the Philippines, is the biggest of the eight reefs, shoals and islands it occupies in the Spratly archipelago.
- The Pag-asa Islands is an integral part of the Philippines over which it has sovereignty and jurisdiction.
- China has built a mini-city with runways, hangars and surface-to-air-missiles in the Subi Reef about 25 km from Thitu.

5. a

- As per article 84 of the constitution, a person is qualified to be a member of parliament provided he is a citizen of India.
- Has completed 30 years of age in case of Rajya Sabha and 25 years in case of Lok Sabha.
- Possesses such other qualifications as may be prescribed in that behalf by or under any law made by Parliament.
- The third condition above led the parliament to include other qualifications for MPs in the Representation of People Act (1951).

- These qualifications are as follows: Only an elector can be elected.
- Thus, the candidate must be registered as a voter in a parliamentary constituency and must be eligible to vote.
- If due to any reason the person loses eligibility to vote, he would lose eligibility to contest also.
- For example if a person is jailed or in lawful detention at the time of elections, he shall not be eligible for voting.
- However, if a person is in preventive custody, he can vote.
- These define if a person is able to contest for election of MP or not. It is not necessary that a person should be registered as a voter in the same constituency.
- This is applicable for both Lok Sabha and Rajya Sabha.
- A person from reserved category only can contest election if the Lok Sabha seat is reserved for these categories.
- However, an SC/ST person can contest election on an unreserved seat also.

6. d

NASA-ESA Solar Orbiter Spacecraft

- Solar Orbiter is a space mission of international collaboration between ESA (European Space Agency) and NASA.
- This is the first mission that will provide images of the sun's north and south poles using a suite of six instruments on board that will capture the spacecraft's view.
- It is a seven-year mission and will come within 26 million miles of the sun.
- It will be able to brave the heat of the sun because it has a custom titanium heat shield coated in calcium phosphate so that it can endure temperatures up to 970 degrees Fahrenheit.
- Solar Orbiter follows the Ulysses spacecraft, another collaboration between ESA and NASA that launched in 1990.
- Solar Orbiter will set about answering four top-level science questions:

1. What drives the solar wind and where does the coronal magnetic field originate from?
2. How do solar transients drive heliospheric variability?
3. How do solar eruptions produce energetic particle radiation that fills the heliosphere?
4. How does the solar dynamo work and drive connections between the Sun and the heliosphere?

7. a

17+1 Initiative

- The 17+1 initiative is a China-led format founded in 2012 in Budapest with an aim to expand cooperation between Beijing and the Central and Eastern European (CEE) member countries, with investments and trade for the development of the CEE region.
- The framework also focuses on infrastructure projects such as bridges, motorways, railway lines and modernisation of ports in the member states.
- The platform is largely seen as an extension of China's flagship Belt and Road initiative (BRI).
- China's narrative towards the 17+1 initiative is about improving its relations with the European countries that are less developed as compared to the Western European states.
- The initiative includes twelve EU member states and five Balkan states — Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Macedonia, Montenegro, Poland, Romania, Serbia, Slovakia and Slovenia.
- Recently Lithuania has quit China's 17+1 cooperation forum with central and eastern European states that includes other EU members.
- It has also urged fellow EU members to pursue "a much more effective 27+1 approach and communication with China."

8. c

Lightning Phenomenon

- Lightning is an electrical discharge caused by imbalances between storm clouds and the ground, or within the clouds themselves.

- Lightning is extremely hot i.e. a flash can heat the air around it to temperatures five times hotter than the sun's surface.
- The heat causes surrounding air to rapidly expand and vibrate, which creates the pealing thunder we hear a short time after seeing a lightning flash.
- The cloud-to-ground lightning bolts are a common phenomenon i.e. about 100 strike Earth's surface every single second.
- Lightning's extreme heat will vaporize the water inside a tree, creating steam that may blow the tree apart.
- The chances of getting directly struck by lightning highly depend on the vicinity because the tallest objects in the vicinity attract the lightning.
- The elephants would potentially have a higher chance of getting struck by lightning compared to other species because of their height.
- Since an elephant's front and hind feet are wide apart, it would appear to make it more vulnerable than a smaller animal, such as a rat.

9. d

Semi-conductors

- Semiconductors are materials which have a conductivity between conductors (generally metals) and non-conductors or insulators (such as most ceramics).
- It conducts electric current less than conductor and greater than insulator
- It has four valence electron in its outermost orbit and are formed due to covalent bonding.
- Valence and conduction bands are separated by forbidden energy gap of 1.1eV
- It has high resistance and has negative temperature coefficient.
- Insulators are formed due to ionic bonding and has eight valence electron in its outermost orbit.
- A semiconductor chip is an electric circuit with many components such as transistors and wiring formed on a semiconductor wafer.
- An electronic device comprising numerous of these components is called Integrated Circuit

(IC), and can be found in electronic devices such as computers, smartphones, appliances, gaming hardware and medical equipment.

- These devices find widespread use in almost all industries, especially in the automobile industry.
- Recently, an unusual shortage of inputs, especially semiconductor chips, has made India-based vehicle manufactures (car manufactures and premium bikes) curtail production across categories.

10. a

Nuclear Thermal Rocket

- In an NTR, a working fluid, usually liquid hydrogen, is heated to a high temperature in a nuclear reactor and then expands through a rocket nozzle to create thrust.
- The external nuclear heat source theoretically allows a higher effective exhaust velocity and is expected to double or triple payload capacity compared to chemical propellants that store energy internally.
- NTRs have been proposed as a spacecraft propulsion technology, with the earliest ground tests occurring in 1955.
- The United States maintained an NTR development program through 1973, when it was shut down to focus on Space Shuttle development.
- Although more than ten reactors of varying power output have been built and tested, as of 2021, no nuclear thermal rocket has flown.
- Nuclear Thermal Propulsion systems won't be used on earth it is not designed to produce the amount of thrust needed to leave earth's surface.
- Nuclear Thermal Propulsion systems offer greater flexibility for deep space mission they can reduce travel times to mars by up to 25% and more importantly limit a flight crew's exposure to cosmic radiation.

31-05-2021

1) With respect to D-voters, consider the following statements:



1. A D-voter is a category of voters in Northeastern states disenfranchised by the government allegedly for lacking proper citizenship credentials.
2. D-Voters are clearly defined in the Citizenship Act, 1955 and the Citizenship Rules, 2003.
3. The D voters are determined by the special tribunals under the Foreigners Act and are not allowed to cast their votes.

Which of the statement(s) given above is/are correct?

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

2) Consider the following statements with respect to *Bal Swaraj Portal*

1. It is an online tracking portal for online tracking and digital real time monitoring mechanism of children who are in need of care and protection.
2. It is a portal working under the aegis of National Commission for Protection of Child Rights (NCPCR).

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

3) *Golden Visa System*, sometimes seen in the news recently, is being implemented by which of the following countries?

- a. France
- b. Australia
- c. Saudi Arabia
- d. United Arab Emirates

4) Consider the following statements with respect to *Tianzhou-2*

1. It is a cargo spacecraft of China, which carries supplies, equipment and propellant for the future astronauts.
2. It is the second of 11 missions needed to complete China's first self-developed space station.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

5) With respect to *Appointments Committee of the Cabinet*, consider the following statements:

1. It decides all higher level appointments in the Central Secretariat, Public Enterprises, Banks and Financial Institutions.
2. The committee will be chaired by the Indian Prime Minister.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

6) Consider the following statements with respect to *Invasive Alien Species*

1. It occur in all taxonomic groups, including animals, plants, fungi and microorganisms, and can affect all types of ecosystems.
2. All alien species are not invasive species but all invasive species are aliens.
3. Islands are especially vulnerable to Invasive Alien Species because they are naturally isolated from strong competitors and predators.



Which of the statement(s) given above is/are correct?

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

7) Consider the following statements with respect to *Reclining Buddha Statue*

- 1. The reclining Buddha statue represents Buddha during his last illness, about to enter Maha Parinirvana.
- 2. The Reclining Buddha was first depicted in Mathura school of art around 30 BC.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

8) Consider the following statements with respect to *Begum Sultan Jahan*

- 1. She was the fourth female ruler of Bhopal and last Begum of Bhopal.
- 2. She was the first female Muslim Chancellor of Banaras Hindu University.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

9) Which of the following statement(s) is/ are correct with respect to *Hepatitis Disease*

- 1. Autoimmune hepatitis is a chronic type in which body's immune system attacks liver.

- 2. Hepatitis A and hepatitis E usually spread through contact with contaminated food or water.

Select the correct answer using the codes given below:

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

10) Which of the following statement(s) is/ are incorrect with respect to *Diplomatic Immunity*

- 1. It is a privilege of exemption from certain laws and taxes granted to diplomats by the country in which they are posted.
- 2. The diplomats posted in an embassy get immunity, along with his or her family members.

Select the correct answer using the codes given below:

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answers

1. a

- The last D-voter detainee at the Foreigners' Detention Centre in Assam's Silchar Central Jail was recently released after being granted bail by the high court, leaving about 170 more similarly marked people to be released from the other five.

D-Voter

- A D-voter is a category of voters in **Assam** disenfranchised by the government allegedly for lacking proper citizenship credentials.
- They have **not been defined** in the Citizenship Act, 1955 or the Citizenship Rules of 2003.

- In 1997, during intensive revision of electoral rolls, the Election Commission had ordered that the letter 'D' be written against names of those voters who failed to provide proof of their citizenship.
- The D voters are determined by the special tribunals under the Foreigners Act.
- Cases of all those were referred to the foreigners' tribunals (FT) and they have to prove their citizenship in the tribunal.
- If they fail to prove their citizenship, the FT designates them Declared Foreigners (DF) and they are sent to Detention Camps.
- The 'D' voters are not allowed to cast their votes.

2. c

- *The National Commission for Protection of Child Rights (NCPCR) has recently asked all States and Union Territories (UTs) to upload data of children who have lost either one or both parents to COVID-19 on its portal, Bal Swaraj under the COVID Care.*

Bal Swaraj

- This portal of the NCPCR has been created with a purpose for online tracking and digital real time monitoring mechanism of children who are in need of care and protection.
- The Commission has extended the use of this portal for tracking children who have lost both its parents or either of the parent during COVID-19 and provided a link under the name of "COVID-Care" for uploading of data of such children by the concerned officer/department on the portal.
- The children who have lost family support or are without any ostensible means of subsistence are children in need of care and protection under Section 2(14) of the Juvenile Justice Act, 2015 and all procedures given under the Act for such children must be followed to ensure the well-being and best interest of children.

National Commission for Protection of Child Rights (NCPCR)

- It is a statutory body and works under the aegis of Ministry of Women and Child Development, Govt. of India.

3. d

- *Actor Sanjay Dutt has recently received his golden visa from the UAE government.*

Golden Visa

- The Golden Visa system for long-term residence visas (5 and 10 years) was implemented in 2019 by the United Arab Emirates (UAE).
- It enables the foreigners to live, work and study in the UAE without the need of a national sponsor and with 100% ownership of their business.
- **Benefit** - The main benefit will be security as through the issuance of the Golden Visa; the UAE government provides an extra reason to feel secure for those looking to make the UAE their home.
- **Eligibility** - The Golden Visa is offered to investors, entrepreneurs, individuals with outstanding talents and remarkable students.
- **For 10-year visa** - Investors having no less than AED 10 million worth of public investment (as an investment fund or a company) can apply.
- However, at least 60% of the total investment must not be in the form of real estate and the invested amount must not be loaned, or in case of assets, investors must assume full ownership.
- The investor must be able to retain the investment for a minimum of 3 years as well.
- This 10-year long visa may be extended to include business partners, if each partner contributes AED 10 million.
- The long-term visa can also include the holder's spouse and children, as well as one executive director and one advisor.
- Besides entrepreneurs, individuals with specialised talent may be granted a 10-year visa following accreditations given by their respective departments and fields.
- Their visa will also be extended to their spouses and children.
- **For 5-year visa** - The norms for investors for the 5-year visa are largely similar as that of

the 10-year visa, but they must invest AED 5 million.

- Exceptional High school students who rank top in the country (a minimum grade of 95%) and students from certain universities with a GPA of 3.75 or higher upon graduation are eligible for a 5-year visa.
- Foreigners who are looking to set up their business in the UAE may also apply for 5-year visa through the Golden Business Visa scheme.

4. c

- *China has recently docked its cargo spacecraft, **Tianzhou-2**, with its space station's key module Tianhe.*
- The **Tianzhou-2**, or **Heavenly Vessel** in Chinese, with a designed life of more than 1 year, carried supplies for future astronauts including food for the Shenzhou-12 crew which will be launched next month for a three-month stay on the station, as well as two tons of propellant.
- Tianzhou-2 is the second of 11 missions needed to complete China's first self-developed space station around 2022, and follows the launch of Tianhe, the first module, in late April.
- The three-module space station will rival the International Space Station (ISS), which is backed by countries including the United States, Russia and Japan.
- China was barred from participating in the ISS by the United States.

5. c

- *The Department of Personnel and Training (DoPT) under Ministry of Personnel has recently directed that West Bengal Chief Secretary Alapan Bandyopadhyay to report to its office at North Block in Delhi.*
- The DoPT order said that the Appointments Committee of the Cabinet (ACC) has approved Mr. Bandyopadhyay's transfer to Delhi under Rule 6(I) of the IAS (cadre) Rules, 1954.
- The said rule pertains to "deputation of cadre officers."
- It says that a cadre officer may, with the concurrence of the State governments concerned and the Central government, be deputed for service under the Central

government or another State government. It however adds, "provided that in case of any disagreement, the matter shall be decided by the Central government and the State government or State governments concerned shall give effect to the decision of the Central government."

Current Practice

- Before any officer of All India Services (AIS) is called for deputation to the Centre, his or her concurrence is required.
- The Establishment Officer in DoPT invites nominations from State governments.
- Once the nomination is received, their eligibility is scrutinised by a panel and then an offer list is prepared, traditionally done with the State government on board.
- Central Ministries and offices can then choose from the list of officers on offer.
- AIS officers are recruited by the Centre and they are lent to States.
- The publication of offer list on DoPT's website was discontinued by the government in 2018 amid reports that not many State government officers were willing to come to Centre for deputation.

Cabinet Committees

The following four are the more important cabinet committees:

1. **Political Affairs Committee** - deals with all policy matters pertaining to domestic and foreign affairs
 2. **Economic Affairs Committee** - directs and coordinates the governmental activities in the economic sphere
 3. **Appointments Committee** - decides all higher level appointments in the Central Secretariat, Public Enterprises, Banks and Financial Institutions
 4. **Parliamentary Affairs Committee** - looks after the progress of government business in the Parliament
- The first three committees are chaired by the Prime Minister and the Parliamentary Affairs committee will be chaired by the Union Home Minister.



- Of all the Cabinet Committees, the most powerful is the Political Affairs Committee, often described as a “Super-Cabinet”.

6. d

Invasive Alien Species

- According to IUCN they are species that are introduced, accidentally or intentionally, outside of their natural geographic range and that become problematic and may threaten biological diversity.
- In India there are no specific policies to address the issue of IAS, though it is part of several existing biodiversity legislation and regulations.

7. a

Reclining Buddha Statue

- Parinirvana the stage of great salvation after death that can only be attained by enlightened souls.
- Mahaparinirvana of the Buddha is supposed to be a very important event that happened in Kushinagar.
- It is not simply a demise it is the great demise, after which there is no rebirth for him.
- It is a popular iconographic depiction in Buddhism, and is meant to show that all beings have the potential to be awakened and be released from the cycle of death and rebirth.
- The Reclining Buddha was first depicted in Gandhara art, which began in the period between 50 BC and 75 AD, and peaked during the Kushana period from the first to the fifth centuries AD.

8. a

Begum Sultan Jahan

- Born in 1858, Begum Sultan Jahan ascended the throne in 1901.
- She was the first female Chancellor of Aligarh Muslim University, which she had nurtured during its nascent stage.
- She was a pioneer in the field of education and even authored a book, Dars-e-Hayat, about the education and parenting of young girls.

- To encourage women and promote handicrafts, she organised an exhibition called ‘Numaish Masunuaat e Hind’ in Bhopal, where she displayed her own creations.
- Queens from other kingdoms, such as Gwalior, Jhanjhar, Sultanpur, Narsinghgarh and Gulburgah also participated and displayed their handiwork.

9. c

Hepatitis Disease

- Hepatitis is inflammation of the liver, it can be an acute (short-term) infection or a chronic (long-term) infection.
- There are different types of hepatitis, with different causes:
 1. **Viral hepatitis** is the most common type, it is caused by one of several viruses hepatitis viruses A, B, C, D, and E.
 2. **Toxic hepatitis** can be caused by certain poisons, chemicals, medicines, or supplements
 3. **Autoimmune hepatitis** is a chronic type in which your body's immune system attacks your liver, the cause is not known, but genetics and your environment may play a role.
- Hepatitis A and hepatitis E usually spread through contact with food or water that was contaminated with an infected person's stool.
- Hepatitis E can be caused by eating undercooked pork, deer, or shellfish.
- Hepatitis B, hepatitis C, and hepatitis D spread through contact with the blood of someone who has the disease.

10. d

Diplomatic Immunity

- The custom was formed so that diplomats can function without fear, threat or intimidation from the host country.
- The diplomatic immunity is granted on the basis of two conventions, popularly called the Vienna Conventions.
- India ratified the Vienna Convention on Diplomatic Relations in 2008.
- According to the Vienna Convention the diplomat cannot be arrested or detained and

his house will have the same inviolability and protection as the embassy.

- If a diplomat acts outside his business of conducting international relations, a question arises over whether his immunity still applies.

SHANKAR IAS ACADEMY