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Wheat Bran Marine Bacterial Consortia

- The National Institute of Ocean Technology (NIOT) has developed an eco-friendly crude oil bioremediation mechanism technology.
- It has been developed using consortia of marine microbes wheat bran (WB) immobilized on agro-residue bacterial cells.
- In marine ecosystem, hydrocarbon clastic deep sea microbial consortium (two or more group of bacteria) plays an important role in breaking down oil in the event of a spill.
- The microbial community serves as energetic primary degraders of complex mixture of petroleum hydrocarbons into various aldehydes, ketones and acidic metabolites.
- Significance of the finding

1. It was found that complete breakdown and degradation of crude oil was achievable using wheat bran marine bacterial consortia.
2. The NIOT study found that immobilised bacterial cells had better oil degrading capacity than the free bacterial cells.
3. They could remove 84 per cent of the oils within 10 days.
4. Whereas the free bacterial cells degraded a maximum of 60 per cent of the crude oil at optimised conditions.

Framework for Regulatory Sandbox

- The International Financial Services Centres Authority (IFSCA) has introduced a Framework for Regulatory Sandbox to tap into innovative FinTech solutions.
- The Regulatory Sandbox shall operate within the IFSC located at GIFT City.
- Under this Sandbox framework, entities operating in the capital market, banking, and insurance and financial services space shall be granted facilities to experiment with innovative FinTech solutions.
- Under the Sandbox experiments can be carried out in a live environment with a limited set of real customers for a limited time frame.
- These features shall be fortified with necessary safeguards for investor protection and risk mitigation.

- As an additional steps towards creating an innovation-centric ecosystem in the IFSC, IFSCA has proposed the creation of an “Innovation Sandbox”
- The Innovation Sandbox will be managed and facilitated by the Market Infrastructure Institutions (MIIs) operating within the IFSC.

IFSCA

- Union government has established International Financial Services Centres Authority to regulate all financial services in International Financial Services Centres (IFSCs).
- IFSCA has an objective to develop a world class FinTech hub at the IFSC located at GIFT City in Gandhinagar (Gujarat, India).
- The IFSCA will consist of nine members, appointed by the central government.

1. This Include Chairperson, a member each from the RBI, SEBI, the Insurance Regulatory and Development Authority of India (IRDAI), and the Pension Fund Regulatory and Development Authority (PFRDA)
2. Two members from the Ministry of Finance.
3. Two other members will be appointed on the recommendation of a Selection Committee.

- All members of the IFSC Authority will have a term of three years, subject to reappointment
- IFSCA’s ‘FinTech’ initiatives includes financial products and financial services across the spectrum of banking, insurance, securities and fund management.

Frontier Technologies Cloud Innovation Centre

- Recently NITI Aayog has announced the establishment of a Frontier Technologies Cloud Innovation Centre (CIC) with Amazon Web Services, AWS.
- This aims to address societal challenges through digital innovation, which is first of its kind in India.
- This CIC is part of the AWS CIC Global Programme which provides an opportunity for government agencies, non-profits and educational institutions, for

1. Come together on pressing challenges,
2. Apply design thinking,
3. Test new ideas,
4. Access the technology expertise of AWS.

- The NITI Aayog Frontier Technologies CIC will be a great enabler to budding innovators and start-ups and help in leveraging emerging technologies such as AI, IOT and robotics, block chain.

SCO Start-up Forum

- SCO will launch its first ever Startup Forum on 27th October 2020 ahead of the SCO trade ministers meeting.
- The forum will lay the foundation for multilateral cooperation and engagement among the Shanghai Cooperation Organisation (SCO) Member States to develop and hone their start up ecosystems, collectively.
- The Forum shall identify areas of cooperation by launching multiple entrepreneurial activities like

1. Start-up showcases through a dedicated virtual platform,
2. Mobilizing capital for start-ups,
3. Sharing of best practices,
4. Procuring social innovations etc.

Chinese Pink Dolphins

- Indo-Pacific humpback dolphin is a species of humpback dolphin inhabiting coastal waters of the eastern Indian and western Pacific Oceans.
- This species is often referred to as the Chinese white/pink dolphin in China (including Macao), Hong Kong, Taiwan and Singapore as a common name.
- IUCN Status of the animal is vulnerable.
- According to recent observations Chinese pink dolphins are making a comeback in the Pearl river estuary, one of the most heavily industrialised areas on Earth
- Pink dolphins have seen a decline in their numbers in the past 15 years by 70-80 per cent.

Pearl River

- The Pearl River estuary includes Hong Kong, Macau as well as the mainland Chinese cities of Shenzhen, Guangzhou and Dongguan.
- About 22 million people live in the area.
- The estuary is one of the busiest shipping lanes in the world.

CPCB Air Quality Index

- Central Pollution Control Board (CPCB) has released the Air Quality Index bulletin recently.
- According to the report

1. Half the 54 cities, in six north Indian states, monitored by the Central Pollution Control Board (CPCB), reported ‘poor’ or ‘very poor’ air.
2. The 54 cities were spread across Delhi, Punjab, Haryana, Rajasthan, Uttar Pradesh (UP) and Chandigarh.
3. Only four cities in these states had a ‘poor’ Air Quality Index (AQI) October 1, 2020,
4. The number in the ‘poor’ or ‘very poor’ categories had increased to 27 by October 15.
5. The particulate matter had increased substantially in over 20 cities in the last 15 days.

- Reasons for increased pollution includes

1. Unfavourable weather conditions like a dip in temperature,
2. Low wind speed and ventilation index which don’t allow pollutants to disperse.
3. Local factors like vehicular emissions, dust, and industrial emissions.

Source: PIB, AIR News, Down To Earth

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