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National Crèche Scheme

- The National Crèche Scheme is a centrally sponsored scheme being implemented by the Ministry of Women and Child Development.
- The scheme was earlier named as Rajiv Gandhi National Creche Scheme.
- It aims to provide day care facilities to children (age group of 6 months to 6 years) of working mothers.
- The fund sharing pattern under National Creche Scheme amongst Centre, States/UTs & Non-Governmental Organizations/Voluntary Organizations is in the ratio of 60:30:10 for States, 80:10:10 for North Eastern States and Himalayan States and 90:0:10 for UTs.
- The salient features of the National Creche Scheme are as follows:

1. Daycare Facilities including Sleeping Facilities.
2. Early Stimulation for children below 3 years and pre-school Education for 3 to 6 years old children.
3. Supplementary Nutrition (to be locally sourced)
4. Growth Monitoring
5. Health Check-up and Immunization

- Further, the guidelines provide that :

1. Crèches shall be open for 26 days in a month and for seven and half (7-1/2) hours per day.
2. The number of children in the crèche should not be more than 25 per crèche.
3. User charges will be levied to bring in an element of community ownership.

Sepsis

- Sepsis is a life-threatening organ dysfunction caused by the body's immune system overreacting in response to an infection.
- This overactive, toxic response can lead to tissue damage, multiple organ failure and death.
- Despite the high incidence of sepsis, knowledge about sepsis prevention and early detection in Germany is significantly lower than in comparable

industrialized countries.

- Viruses, bacteria, fungi or parasites sepsis can be triggered by a variety of pathogens.
- The causes of sepsis are usually pneumonia, wound infections, urinary tract infections or infections in the abdominal cavity.
- In addition to the known seasonal influenza viruses, other viruses that are highly infectious, such as coronaviruses, Ebola and yellow fever viruses, dengue, swine flu or bird flu viruses can also cause sepsis.
- In addition to the typical signs of infection, there are several stand out symptoms that usually indicate possible sepsis — for example, a drop in blood pressure with a simultaneous rise in heart rate, fever, rapid, heavy breathing, an unusually strong feeling of illness and sudden confusion.
- Septic shock is the most severe stage and is diagnosed when blood pressure drops to dangerous levels.
- In the event of such alarm signals, emergency care should be sought immediately.

Essential Commodities Act

- Essential Commodities Act, 1955, intends to provide, in the interest of the general public, for the control of the production, supply and distribution of, and trade and commerce, in certain commodities.
- The act is regulated and administered by the Ministry of Consumer Affairs, Food and Public Distribution.
- Under the EC Act, the States and Union Territories can ensure that manufacturers enhance their production capacity so that masks and hand sanitizers are widely available to consumers.
- The invocation of EC Act has empowered the Centre as well as states to regulate the production, quality, distributions of masks and hand sanitizers.
- It will also help to smoothen the sale and availability of the above items and carry out operations against speculators.
- Consumer Affairs Ministry has also invoked the Prevention of Black Marketing and Maintenance of Supplies of Essential Commodities Act, 1980 which would carry out action against those involved in overpricing and black marketing of the products.
- Recently, the central government has notified that masks (2 ply and 3 ply surgical masks, N95 masks) and hand sanitizers as essential commodities up to June 30, 2020, under the Essential Commodities Act, 1955 (EC Act).
- The invocation of the EC Act aims to ensure that these products, key for preventing the spread of Covid-19 infection, are available to people at the

right price and of the right quality.

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 act is regulated and administered by the Ministry of Consumer Affairs, Food and Public Distribution.
- The 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).

Speeding up Generation of RBCs in the Lab

- A team of Indian researchers have invented a process through which generation of Red Blood Cells (RBCs) outside the body (in vitro) from Hematopoietic Stem Cells (HSCs) can be speeded up.
- The invented process would help to fasten the process of transfusion of RBCs in life-saving treatments for numerous conditions such as severe anemia, transplant surgery, pregnancy-related complications, and blood-related cancers.
- The blood banks, particularly in developing countries, often face a severe shortage of whole blood as well as components of blood like red blood cells.
- Various groups have been able to produce RBCs in the laboratory from HSCs. However, the process takes a long time - around 21 days.
- The umbilical cord blood contains special cells called hematopoietic stem cells that can be used to treat some types of diseases.
- Hematopoietic stem cells can mature into different types of blood cells in the body.
- The resources required to grow cells in the laboratory over such a long duration can be very expensive for the generation of RBCs on a large scale for clinical purposes.
- The process of generation of RBCs in the laboratory from HSCs can be speeded up by adding a very low concentration of a small protein molecule called `Transforming Growth Factor β1' (TGF-β1), along with a hormone called `Erythropoietin' (EPO). The whole process takes 18 days.
- Usually, the addition of only Erythropoietin (EPO) to HSCs generate RBCs in 21 days.

- Indian researchers have found that the addition of TGF-β1 with EPO has cut down the processing time by three days.
- The physical appearance and the quality of the cells formed has revealed that the RBCs formed using this procedure are normal.

Blood

- Blood is a fluid connective tissue that consists of plasma, blood cells and platelets.
- It helps to circulate oxygen and nutrients to various cells and tissues.
- Red Blood Cell – they also known as Erythrocytes, contain the iron-rich protein called hemoglobin that gives blood its red color.
- RBCs are the most copious blood cell produced in bone marrows, their main function is to transport oxygen from and to various tissues and organs.
- The White Blood Cells (WBCs) are also known as Leucocytes and are the colorless blood cells as it is devoid of hemoglobin.
- It mainly contributes to immunity and defence mechanism.

National Biopharma Mission

- The National Biopharma Mission (NBM) is an industry-academia collaborative mission for accelerating biopharmaceutical development in the country.
- It was launched in 2017 at a total cost of Rs 1500 crore and is 50% co-funded by World Bank loan.
- It is being implemented by the Biotechnology Industry Research Assistance Council (BIRAC).
- BIRAC is a Public Sector Enterprise, set up by the Department of Biotechnology (DBT).
- The oversight to the mission activities is provided by the inter-ministerial Steering Committee chaired by the Secretary-DBT (Ministry of Science & Technology).
- The Technical Advisory Group (TAG) chaired by an eminent scientist provides scientific leadership to the mission drawing upon global expertise.
- Under this Mission, the Government has launched Innovate in India (i3) programme to create an enabling ecosystem to promote entrepreneurship and indigenous manufacturing in the biopharma sector.
- It has a focus on following four verticals:

1. Development of product leads for Vaccines, Biosimilars and Medical

Devices that are relevant to the public health need by focussing on managed partnerships.
2. Upgradation of shared infrastructure facilities and establishing them as centres of product discovery/discovery validations and manufacturing.
3. Developing human capital by providing specific training.
4. Developing technology transfer offices to help enhance industry academia inter-linkages.

Bhoomi Rashi Portal

- The Bhoomi Rashi Portal is an e-Governance initiative of the Ministry of Road Transport & Highways.
- The portal intends to expedite the process of land acquisition for National Highways.
- It has fully digitized and automated the entire process of land acquisition.
- It has helped to make land acquisition error-free & more transparent with notifications at every stage being processed on a real-time basis.
- Earlier, the acquisition of land for the purpose of National Highway projects, payment of compensation to the landowners etc. was done manually by physical movement of documents.
- It had some constraints viz. delay in issuing land acquisition notification, errors in the land/ area details etc.
- The portal is integrated with the Public Financial Management System (PFMS) for depositing the compensation in the account of affected/ interested persons on a real-time basis.

Railway Development Authority

- Government approved the constitution of the Rail Development Authority (RDA) in April, 2017.
- The role/mandate of RDA inter-alia includes providing expert advice to Government to make informed decision on:-

1. Pricing of services commensurate with costs;
2. Measures for enhancement of non-fare Revenue;
3. Protection of consumer interests, by ensuring quality of service and cost optimization;
4. Promoting competition, efficiency and economy;
5. Creating positive environment for investment;
6. Providing framework for non-discriminatory open access to the Dedicated Freight Corridor (DFC) infrastructure and others in future;
7. Suggesting measures to absorb new technologies for achieving desired

efficiency and performance standards;

8. Suggesting measures for human resource development to achieve any of its stated objectives, etc.

Source: PIB, Indian Express

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