

ECONOMIC DEVELOPMENT

CONTEXT: Product Linked Incentive (PLI) Schemes contribute to increase in production, employment generation, and economic growth. Addressing a press conference in New Delhi today, Shri Rajesh Kumar Singh, Secretary, DPIIT said that due to PLI Schemes, there was a significant increase of 76% in FDI in the Manufacturing sector in FY 2021-22 (USD 21.34 billion) compared to previous FY 2020-21 (USD 12.09 billion).

What is PLI scheme?

- With the objective to boost domestic manufacturing, investments and export in the telecom and networking products Department of Telecommunications (DoT) notified the “Production Linked Incentive (PLI) Scheme” on 24th February 2021.
- The PLI Scheme will be implemented within the overall financial limits of ₹ 12,195 Crores only (Rupees Twelve Thousand One Hundred and Ninety-Five Crore only) for implementation of the Scheme over a period of 5 years.
- For MSME category, financial allocation will be ₹1000 Crores. Small Industries Development Bank of India (SIDBI) has been appointed as the Project Management Agency (PMA) for the PLI scheme.

Objective

The major objective of the scheme is to make domestic manufacturing globally competitive and to create global Champions in manufacturing. It is important to make India more compliant with World Trade Organisation (WTO) commitments and also make it non-discriminatory and neutral with respect to domestic sales and exports. The further objectives of the scheme are:

- Protect identified product areas
- Introduce non-tariff measures that make imports more expensive
- Acknowledge the relevance of exports in the overall growth strategy, with a renewed focus on the domestic market
- Promote domestic manufacturing by offering production incentives and encouraging capital investments
- Attract core knowledge competency and cutting-edge technologies
- Promote job generation and employment
- Construct district-level export hubs
- Reduce compliance burden
- Improve ease of doing business
- Cut down logistics costs
- Boost domestic manufacturing output in five years

Sectors under PLI scheme

- Mobile Manufacturing and Specified Electronic Components
- Critical Key Starting materials/Drug Intermediaries & Active Pharmaceutical Ingredients
- Manufacturing of Medical Devices
- Automobiles and Auto Components
- Pharmaceuticals Drugs
- Specialty Steel
- Telecom & Networking Products
- Electronic/Technology Products
- White Goods (ACs and LEDs)
- Food Products
- Textile Products: MMF segment and technical textiles
- High-efficiency solar PV modules
- Advanced Chemistry Cell (ACC) Battery
- Drones and Drone Components

Achievements of PLI scheme

- Significant increase of 76% in FDI in manufacturing sector due to PLI Schemes
- Value addition of 20% in mobile manufacturing within a period of 3 years
- PLI Schemes transform India's exports basket from traditional commodities to high value-added products
- 733 applications approved till date in 14 Sectors with expected investment of Rs.3.65 Lakh Crore
- PLI Scheme for Food Processing positively impacts income of Indian farmers and MSMEs
- Incentive amount of around Rs. 2,900 Crore disbursed in FY 2022-23 under PLI Schemes for 8 Sectors viz. Large-Scale Electronics Manufacturing (LSEM), IT Hardware, Bulk Drugs, Medical Devices,

Pharmaceuticals, Telecom & Networking Products, Food Processing and Drones & Drone Components.

- PLI Scheme has led to major smartphone companies shifting its suppliers to India, e.g., Foxconn, Wistron and Pegatron. As a result, top high-end phones are being manufactured in India.
- It has also resulted in a 20-fold increase in women employment and localization in IT Hardware such as Battery & Laptops.
- Import substitution of 60% has been achieved in the Telecom sector and India has become almost self-reliant in Antennae, GPON (Gigabit Passive Optical Network) & CPE (Customer Premises Equipment).
- Drones sector has seen a 7 times jump in turnover due to the PLI Scheme which consists of all MSME Startups.

Challenges Faced Under the PLI Scheme

Though the Production Linked Incentive Scheme is a great initiative for the Indian economy, the scheme has certain drawbacks and challenges. These are:

- **No Common Set of Parameters:** To comprehend the value addition by enterprises that have received or are anticipated to receive incentives under the PLI system, there is no uniform set of parameters. There are no means of comparing two separate PLI schemes at this time because different ministries each keep track of the value addition of their own programs.
- **The goal for Businesses for Incentives too High:** Ministries and departments that work with businesses in their industry also confront a number of unique problems. For instance, the threshold for enterprises to qualify for incentives can occasionally be excessively high.
- **Domestic Businesses Relied on One or Two Supply Chains:** Among the fourteen companies approved in the previous fiscal year, only three to four were able to meet the incremental sales goals necessary to be eligible for the PLI scheme. Most domestic enterprises, unlike multinational corporations, were dependent on one or two distribution networks.

Way forward

- In order to address challenges associated with demand, the investment must go beyond the PLI scheme.
- It is important to address the key issues in parallel to schemes i.e., unemployment, skill development, and so on.
- According to the Centre for Monitoring Indian Economy (CMIE), India's unemployment rate in October 2022 increased to 7.8 percent from 6.4 percent in the previous month.
- It is important to create a set of parameters to understand the effectiveness of the companies.
- Incentives must be given to all industries, not only manufacturing, and must take into account all relevant factors.

Conclusion

Manufacturing is playing a critical role in guiding the nation's progress toward becoming "Atmanirbhar Bharat." The sector's percentage of the GDP has been range-bound for the past few years, circling around 17%. However, a number of initiatives related to "Atmanirbhar Bharat" are laying the groundwork for strengthening the country's manufacturing capacities and raising the sector's share of the GDP. Global supply chain disruptions caused by the pandemic paved the opportunity for future reforms, resulting in the introduction of policy initiatives like the Production Linked Incentive (PLI) scheme to reduce trade dependency.

SCIENCE AND TECHNOLOGY/INTERNAL SECURITY

In Context: The United Nations Educational, Scientific and Cultural Organization (UNESCO) is organising an international conference in Paris, France to address the ethical implications of neurotech devices that collect brain-wave data. This conference aims to establish a global ethical framework to ensure individual freedom of thought, privacy, and protection of human rights. With the growing potential of neurotechnology to address neurological problems, concerns have been raised regarding its impact on personal identity and privacy.

What is Neurotechnology?

- Neurotechnology is defined as the assembly of methods and instruments that enable a direct connection of technical components with the nervous system. These technical components are electrodes, computers, or intelligent prostheses.
- They are meant to record signals from the brain and "translate" them into technical control commands, or to manipulate brain activity by applying electrical or optical stimuli.
- From bioelectronic medicine that improves the quality of life to brain imaging that revolutionizes our conception of human consciousness, this technology has helped us to address many challenges.
- Neurotechnology encompasses all technologies developed to understand the brain, visualise its processes and even control, repair or improve its functions.

Ethical Concerns Related to Neurotechnology

- Privacy Issues: The use of neurotechnology can potentially reveal highly personal and sensitive information about an individual's thoughts, emotions, and mental states.
- Combined with artificial intelligence, its resulting potential can easily become a threat to notions of human dignity, freedom of thought, autonomy, (mental) privacy and well-being.
- Cognitive Enhancement and Inequality: Neurotechnologies aimed at enhancing cognitive abilities raise concerns about fairness and equality.
- If these technologies become available only to a privileged few or exacerbate existing social inequalities, it could lead to an unfair advantage for certain individuals or groups, creating a "cognitive divide" in society.
- Psychological and Emotional Impact: The ability to manipulate or access brain activity raises ethical concerns regarding the psychological and emotional impact on individuals.
- For example, deep brain stimulation or neurofeedback techniques may have unintended consequences or side effects on an individual's mental well-being, personal identity, or autonomy.

Deep Brain Stimulation (DBS)

- It is a neurosurgical procedure that involves the implantation of a medical device called a neurostimulator, which delivers electrical impulses to specific regions of the brain.
- DBS works by altering the electrical signals in targeted brain regions, effectively "resetting" or normalising the neural activity
- DBS is primarily used to treat neurological conditions such as Parkinson's disease, essential tremor, dystonia, and some cases of epilepsy and obsessive-compulsive disorder (OCD).
- Parkinson's disease is a chronic, degenerative neurological disorder that affects the central nervous system.

How can the Ethical Concerns Surrounding Neurotechnology be Resolved?

- Informed Consent: Ensuring that patients have a comprehensive understanding of the risks, benefits, and potential outcomes of neurological interventions is crucial.
- Healthcare providers should engage in transparent and thorough discussions with patients, providing them with the information necessary to make informed decisions about their treatment options.
- Ethical Review Boards: Establishing independent and multidisciplinary ethical review boards can help evaluate the ethical implications of neurology research and interventions.
- These boards should consist of healthcare professionals, ethicists, legal experts, and patient advocates who can assess the potential benefits, risks, and ethical implications of proposed interventions.
- Maintaining Privacy and Confidentiality: Safeguarding patient privacy and confidentiality is of utmost importance in neurology.
- With the advancement of technologies like brain-computer interfaces and deep brain stimulation, it is crucial to implement robust privacy protocols and ensure that patients' sensitive information is protected.
- Equity and Access: Ethical concerns can arise when access to neurological treatments and interventions is limited by factors such as cost, geographic location, or social disparities.
- Efforts should be made to promote equity and ensure that these interventions are accessible to all individuals who can benefit from them, regardless of socioeconomic status.

About UNESCO

UNESCO is a specialised agency of the United Nations (UN). It seeks to build peace through international cooperation in Education, the Sciences and Culture. Its Headquarter is in Paris, France.

Members:

- The Organization has 193 Members and 12 Associate Members.
- UNESCO has announced that the United States intends to rejoin the organisation and settle over USD 600 million in outstanding dues
- Membership of the United Nations carries with it the right to membership of UNESCO.
- States that are not members of the United Nations may be admitted to UNESCO, upon recommendation of the Executive Board, by a two-thirds majority vote of the General Conference.

Objectives:

- **Attaining quality education for all and lifelong learning**
- **Mobilising science knowledge and policy for sustainable development**
- **Addressing emerging social and ethical challenges**
- **Fostering cultural diversity, intercultural dialogue and a culture of peace**
- **Building inclusive knowledge societies through information and communication**

- Focuses on global priority areas - “Africa” and “Gender Equality”.

PRELIM FACTS

1. **Global Slavery Index 2023**

Context: A new report, ‘The Global Slavery Index 2023’, by the Walk Free Foundation, highlights the increasing prevalence of modern slavery worldwide, with the number of people living in such conditions reaching **50 million**—an alarming **25% rise in the past five years**.

Key Details:

About Global Slavery Index 2023:

- It is the fifth edition of the Global Slavery Index and is based on the 2022 estimates.
- The index presents a global picture of modern slavery.
- It is constructed by Walk Free Foundation, a human rights organisation and is based on data provided by the Global Estimates of Modern Slavery, which, in turn, is produced by the International Labour Organization (ILO), Walk Free, and International Organization for Migration (IOM).

Country-wise findings:

- It ranks **160 countries based on their estimated prevalence of modern slavery per 1,000 people**.
- Asia and the Pacific have the largest number of people in modern slavery (29.3 million).
 - India has the prevalence rate of 8 (Estimated proportion of population living in modern slavery per thousand people).
- There are three sets of key findings:
 - The worst offenders are countries like North Korea, Eritrea Mauritania, Saudi Arabia, Turkey, Tajikistan.
 - Lowest prevalence: Switzerland, Norway, Germany, Netherlands, Sweden.
 - Maximum number of people living in modern slavery: India, China, North Korea, Pakistan, Russia, Indonesia.

What is Modern Slavery?

- Modern slavery encompasses various forms of exploitation, including forced labour, forced marriage, debt bondage, commercial sexual exploitation, human trafficking, slavery-like practices, and the sale and exploitation of children.
- Modern slavery has devastating consequences for individuals, communities, and societies.
 - It violates human rights, undermines human dignity and erodes social cohesion.
 - It also hampers economic development, perpetuates inequality, and fuels corruption. It poses a threat to global security and stability by fuelling conflict, terrorism, and organised crime.

2. **Anjadip and Sanshodhak**

Context: Anjadip and Sanshodhak were launched recently.

Key details:

• **Anjadip:**

- ‘Anjadip’ is the 3rd of eight ships of Shallow Water Craft (SWC) Project.
- The ship has been named Anjadip to signify the strategic maritime importance accorded to the island of Anjadip, located off Karwar, Karnataka.
- The island is connected to the mainland by a breakwater and is part of INS Kadamba.
- The ‘Arnala’ class of ships would replace the current ‘Abhay’ class of Anti-Submarine Warfare Corvettes of the Navy.
- These are designed to undertake anti-submarine operations in coastal waters, low intensity maritime operations, subsurface surveillance among others.
- The ships would have 80 per cent indigenisation.

• **Sanshodhak:**

- A warship ‘Sanshodhak’, - the fourth Survey Vessel Large (SVL) - of Indian Navy, was launched recently.
- The ship named ‘Sanshodhak’, meaning ‘Researcher’, signifies the primary role of the ship as a Survey Vessel.
- SVL ships will replace the existing Sandhayak Class survey ships, with new generation hydrographic equipment, to collect oceanographic data.
- With a capability to carry four Survey Motor Boats and an integral helicopter, the primary role of the ships would be to undertake full scale coastal and deep-water hydrographic surveys of ports and navigational channels.
- The ships would also be deployed for collecting oceanographic and geophysical data for defence as well as civil applications.
- The SVL will have over 80 per cent indigenous content.

3. **JATAN: Virtual Museum Software**

Context: A MoU has been signed between the MeitY and Union Culture Ministry to complete 3D digitisation of all museums (under central control) by the year-end for better conservation of artefacts. The 3D digitisation would be done using the JATAN-virtual museum builder software through 3D scanning.

About Jatan:

- JATAN is a virtual museum builder software, which enables creation of digital collection management system for Indian museums and is deployed in several national museums across India.
- Its objective is to make a digital imprint of all the objects preserved in museums and help researchers, curators and other people interested in the field.
- Designed and developed by Human Centres Design and Computing Group, Centre for Development of Smart Computing (C-DAC) Pune.
- The digital imprints (of preserved objects and monuments) created using the JATAN software is integrated in the national digital repository and portal for making them accessible to the public.
 - The National portal and digital repository (developed by C-DAC, Pune) for museums of India provides an integrated access to theme based collections and artifacts (in terms of sculptures, paintings, manuscripts, weapons, coins and numerous other categories of artifacts) irrespective of the physical and geographical locations of museums.
- Centre for Development of Smart Computing (C-DAC) Pune has also developed “Darshak”, a mobile-based application aimed at improving the museum visit experience among the differently-abled.
 - It allows real-time museum visitors gather all details about objects or artifacts simply by scanning a QR code placed near the object.
- Museums included:
 - Salar Jung Museum, Hyderabad,
 - The Allahabad Museum in Prayagraj,
 - The Indian Museum and the Victoria Memorial Hall, Kolkata,
 - The National Museum and the National Gallery of Modern Art, New Delhi.

4. **ISHAD MANGO**

Context: The Ishad mango, a native variety of Ankola taluk in Uttara Kannada district of Karnataka, has recently received the coveted geographical indication (GI) tag.

Key Details:

- The Ishad mango is known for its thin skin, fleshy pulp and small seed. It has a sweet taste and a pleasant aroma. It is also called the Oriental mango, as it was once canned and exported to various countries under this name. The fruit has been cultivated for over 400 years in Ankola and its surrounding area.
- The GI tag will help protect the identity and uniqueness of the Ishad mango, as well as promote its cultivation and marketing.
- The Ishad mango has two variants: Kari Ishad and Bili Ishad. The former has thinner skin, more pulp and is sweeter than the latter, which has thicker skin and less pulp and sweetness. Both variants are harvested from mid-May and have a short shelf life of two or three days. However, the pulp can last for more than a year if stored properly.

Geographical Indication (GI) Tag:

- A Geographical Indication (GI) tag is a sign used on products that have a specific geographical origin and possess qualities or a reputation that are due to that origin.
- A GI tag enables the producers of such products to prevent unauthorized use of the indication by third parties who do not conform to the standards or criteria established for that product.
 - The concept of GI has its roots in the Paris Convention for the Protection of Industrial Property (1883) and the Madrid Agreement for the Repression of False or Deceptive Indications of Source on Goods (1891).
 - However, it was only in 1994 that a multilateral agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) under the World Trade Organization (WTO) provided a comprehensive legal framework for the protection of GIs.
 - In India, the Geographical Indications of Goods (Registration and Protection) Act 1999 came into force in 2003 to comply with the obligations under TRIPS. The Act provides for the registration and protection of GIs in India.

Features of a GI tag:

- It is a collective intellectual property right that belongs to the producers or makers of the product in a defined geographical area.
- It is granted for a period of 10 years and can be renewed indefinitely.

- It is based on a code of practice that defines the quality, characteristics and reputation of the product.
- It is administered by a registered association or organization that represents the interests of the producers or makers of the product.
- It is enforced by the competent authorities at the national or regional level.

5. **ROHINI RH-300**

Context: The resolve to deepen space sector ties between India and Norway following Norwegian Ambassador Hans Jacob Frydenlund’s visit to the ISRO headquarters offers an occasion to recall this challenging Svalbard Mission.

RH-300

- The Rh-300 is a single-stage sounding rocket, derived from French Belier rocket engine technology.
- It has a launch altitude of 100 km. A variant, the RH-300 Mk-II, has a maximum launch altitude of 116 kilometers.
- It has the ability to lift a payload of up to 80 kilograms (20 kg of scientific payload) having a volume measuring 380*500 mm in diameter. It is capable of reaching very high acceleration (20 G to M6). Numerous payloads can be tested in a single flight.

Rohini Rocket Family

- Rohini is a series of sounding rockets developed by the Indian Space Research Organisation (ISRO) for meteorological and atmospheric study.
- These sounding rockets are capable of carrying payloads of 2 to 200 kilograms between altitudes of 100 to 500 kilometres.
- The ISRO currently uses RH-200, RH-300, RH-300 Mk-II, RH-560 Mk-II and RH-560 Mk-III rockets, which are launched from the Thumba Equatorial Rocket Launching (TERLS) in Thumba and the Satish Dhawan Space Center in Sriharikota.
- The rockets in the series are designated with the letters RH (for "Rohini"), followed by a number corresponding to the diameter (in millimetres) of the rocket.
- Some details of Sounding Rockets

Vehicle	RH-200	RH-300-Mk-II	RH-560-MK-II
Payload (Kg)	10	60	100
Altitude (Kms)	80	160	470
Purpose	Meteorology	Aeronomy	Aeronomy
Launch Pad	Thumba Balasore	SDSC-SHAR	SDSC-SHAR

6. **Exercise Ekuverin**

Context: Joint military exercise between the Indian Army and the Maldives National Defence Force.

Key Details:

- The 12th edition of the joint military exercise "Ex Ekuverin" between the Indian Army and the Maldives National Defence Force commenced at Chaubatia, Uttarakhand from 11 to 24 June 2023.
- This bilateral annual exercise, alternately conducted in India and Maldives, aims to enhance interoperability in Counter Insurgency/Counter Terrorism Operations under the UN mandate and conduct joint Humanitarian Assistance and Disaster Relief operations.
- The Maldives is an archipelago located in the Indian Ocean, southwest of Sri Lanka. It consists of a chain of almost 1200 small coral islands that are grouped into clusters of atolls. The capital and largest city of the Maldives is Malé. The majority of the population follows Islam. The official language of the Maldives is Dhivehi. English is also widely spoken, especially in the tourist areas.

7. **Cholederm**

Context: The Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST) has received approval from the **Central Drugs Standard Control Organisation (CDSCO)** for its advanced wound care product called **Cholederm**.

Key Details:

- It is a Class D medical device made from the extracellular matrix of a pig’s gall bladder, tissue-engineered into membrane forms of the scaffold.
- Advantages: It has demonstrated faster healing of various skin wounds, including burns and diabetic wounds, in animal tests with minimal scarring. Cholederm is expected to reduce treatment costs and make advanced wound care more affordable.

- Significance: This development marks a significant milestone for indigenous development in the field of animal-derived medical devices, meeting all regulatory requirements.

ANSWER WRITING

Q. Aptitude reflects what you are capable of doing. Motivation determines what you do. Attitude determines how well you do it. Comment. (10 marks/150 words)

Solution:

Ability, Motivation, Attitude are the three key attributes required for achieving success in life. This is true for all whether it's a manager in a MNC, a sports person or a leader of the nation.

Aptitude

Aptitude is innate physical or mental abilities. Ability is what one is capable of doing.

It represents-

- **What can one do?**
- **What is one's talent?**
- **For Example:** Virat Kohli's ability is to bat excellently in cricket. Similarly an IAS officer's ability is to have a good hold over administration and department.

Motivation

- Motivation is the process that initiates, guides, and maintains goal-oriented behaviours.
- **For Example:** When Virat Kohli goes to bat, his motivation is to excel in given situation and to win for India. Similarly for an IAS officer it's necessary to be motivated to excel on daily basis and further have empathy and compassion for downtrodden which can act as motivating factor in one's career.

Attitude

- It is feeling or opinion about something or someone, or a way of behaving that is caused by this. It is not to be confused with motivation (**WHY do something?**).
- Attitude is **how you FEEL while doing your thing?** If you have a positive attitude then you'll feel good about getting going and making progress.
- **For example:** Virat Kohli has positive attitude until the last ball of the match is bowled as seen by his field placing and energy on ground.
- Similarly, an IAS officer needs to have a positive attitude to work efficiently and without losing balance as times can be tough, especially as seen in COVID-19 pandemic but the response and action can be positive to motivate not only ones subordinates but also to revive public confidence.

Therefore, the combination of all these three attributes helps a person to achieve success in any task, profession or his/her desired course of action.

So we can say

Aptitude + Motivation + Attitude = Success

The combination of all these three attributes helps a person to achieve success in any task, profession or his/her desired course of action.

MCQs

- Consider the following statements about Global slavery Index:
 1. It is the sixth edition of the Global Slavery Index and is based on the 2022 estimates.
 2. It is constructed by Walk Free Foundation and is based on data provided by the Global Estimates of Modern Slavery, which, in turn, is produced by the International Labour Organization (ILO), Walk Free, and International Organization for Migration (IOM).

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
- With reference to PLI scheme, consider the following statements:
 1. Product Linked Incentive (PLI) schemes contribute to increase in production, employment generation, and economic growth.
 2. A significant increase of 76% in FDI in manufacturing sector occurs due to PLI Schemes.
 3. The major objective of the scheme is to make domestic manufacturing globally competitive and to create global Champions in manufacturing.

How many of the above statements are corrects?

 - (a) Only 1
 - (b) Only 2
 - (c) All three
 - (d) None
- With reference to the G.I. tag, consider the following statements:
 1. It is a collective intellectual property right that belongs to the producers or makers of the product in a defined geographical area.
 2. It is granted for a period of 10 years and can be renewed indefinitely.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) **Both 1 and 2**
- (d) Neither 1 nor 2

4. Consider the following statements about Jatan:

1. It is a virtual museum builder software, that enables creation of digital collection management system for Indian museums and is deployed in several national museums across India.
2. It is designed and developed by C-DAC, Pune.

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. Consider the following statements about Ishad mango:

1. The Ishad mango has two variants: Kari Ishad and Bili Ishad.
2. Khari Ishad is harvested from mid-May and have a short shelf life of two or three days.

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

6. Consider the following statements about Anjadip and Sanshodhak:

1. Anjadip is the 2nd of eight ships of Shallow Water Craft (SWC) Project.
2. Sanshodhak is the fourth Survey Vessel Large (SVL) of Indian Navy.

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. With reference to the Rohini RH-300, consider the following statements:

1. The Rh-300 is a multi-stage sounding rocket, derived from French Belier rocket engine technology.
2. A variant, the RH-300 Mk-II, has a maximum launch altitude of 116 kilometers.

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

8. Consider the following statements about Cholederm:

1. It is made from the extracellular matrix of a pig's gall bladder.
2. It has demonstrated faster healing of various skin wounds, including burns and diabetic wounds, in animal tests with minimal scarring.

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

9. With reference to the Deep Brain Stimulation, consider the following statements:

1. It is a neurosurgical procedure that involves the implantation of a medical device (a neurostimulator) which delivers electrical impulses to specific regions of the heart and brain.
2. DBS is primarily used to treat neurological conditions such as Parkinson's disease, essential tremor, dystonia, and some cases of epilepsy and obsessive-compulsive disorder (OCD).

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

10. Consider the following statements about **Dimethyl Ether (DME)**:

1. **Dimethyl Ether (DME) is a renewable and clean-burning alternative fuel** that can be used in various applications, including **transportation**.
2. Under normal atmospheric conditions, **DME is in liquid condition**.

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