MANIDHANAEYAM FREE IAS ACADEMY – TNPSC GROUP II & IIA
TEST 10 – FEBRUARY 2023 – ANSWER KEY

Manidhanaeyam Free IAS Academy

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TEST - 10 – 12 Feb 2023 (Answer Key)

6 MARKS = 6 to 7 POINTS
12 MARKS = 12 to 14 POINTS
15 MARKS = 15 to 17 POINTS

- ✓ எளிமையான வாக்கிய அமைப்பு தேவை
- ✓ நீளமான வாக்கிய அமைப்பை தவிர்க்க வேண்டும்.
- ✓ விடைத்தாளில் கொடுக்கப்பட்ட இடைவெளிக்குள் விடையை எழுதி முடிக்க வேண்டும்.
- ✓ தனித்துவமான விடையை எழுதுவதற்கு பயிற்சி செய்யவும்.
- ✓ கால மேலாண்மையை கருத்தில் கொள்ளவும் 3 மணி நேரத்திற்குள் விடையை எழுதி முடிக்க வேண்டும்.
- ✓ SCERT பாட புத்தகங்களுக்கு அதிக முக்கியத்துவம் கொடுக்கவும், தேவை ஏற்படின் பிற பாட புத்தகங்களையும் பார்க்கவும்.
- ✓ முதன்மை தேர்வு தொடர்பான TNPSC அறிவுறுத்தல்களை கருத்தில் கொள்ளவும்.

தாள்-**II**
PAPER-II
பொது அறிவு
GENERAL STUDIES

அலகு - **I / UNIT – I**
பிரிவு – அ / **SECTION - A**

(15 x 6 = 90)

1. ஏதேனும் இரண்டிற்கு விடை அளிக்க: **Attempt any two:**

   (i) நிரல்படுத்தக்கூடிய படிக்க மட்டும் நினைவகம் (**PROM**)
   Programmable Read Only Memory (PROM)

   1. PROM - Programmable Read-Only Memory. PROM is a written type of ROM.
   2. To fulfil the overall requirements of a group of various ROMs that may consist of any selected content of the memory.
   3. This memory is written only once by the user and electrically programmed at that time.
   4. It is called a storage coder.

(ii) அழிக்கக்கூடிய நிரல்படுத்தக்கூடிய படிக்க மட்டும் நினைவகம் (EPROM)

Erasable Programmable Read Only Memory (EPROM)

1. It is a type of ROM that can be written and read optically. The storage cells in it must stay within a similar initial state.
2. The storage permanency of the EPROM is reduced as compared to PROM
3. EPROM is very much susceptible and receptive to electrical noise and radiation.

(iii) மின்சாரம் அழிக்கக்கூடிய மற்றும் நிரல்படுத்தக்கூடிய படிக்க மட்டும் நினைவகம் (EEPROM)

Electrically Erasable and Programmable Read Only Memory (EEPROM)

1. This type of ROM makes use of electricity for erasing the content in EEPROM.
2. The memory in EEPROM might be non-volatile.
3. It is capable of storing a very little amount of data and information used in computer BIOS/ laptop.

2. **நெட்வொர்க் என்றால் என்ன? மேலும் அதன் வகைப்படுத்தலை விளக்குக.**

What is Network? and explain its Classification.

1. A computer network is a collection of computers and other peripheral devices
2. Connected in order to exchange data and hardware resources.
3. Sharing of information, sharing of resources, storage efficiency, and timely communication, among other things.
4. **LAN (Local Area Network):** Systems connected in a small network like in a building or a small office It is inexpensive
5. **PAN (Personal Area Network):** The smallest computer network Devices may be connected through Bluetooth or other infra-red enables devices
6. **MAN (Metropolitan Area Network):** A network that can be connected within a city, for example, cable TV Connection It can be in the form of Ethernet, ATM, Token-ring and FDDI
7. **WAN (Wide Area Network):** A network which covers over a country or a larger range of people Telephonic lines are also connected through WAN
8. **VPN (Virtual Private Network):** A network which is constructed by using public wires to connect to a private network.systems use encryptions and other security mechanisms to ensure only authorised users can access.

3. **ரோபோக்களின் வகைகளை பட்டியலிடுக.**

List out the different types of Robots.

1. Device can only be called a "robot"
2. It contains a movable mechanism, by sensing, planning, actuation and control components.
3. "Robot" usually refers to a machine that can be electronically programmed to carry out a physical tasks or actions.

Types of robots:

1. Industrial Robots
2. Mobile robots
3. Rolling robots
4. Walking robots
5. Stationary Robots
6. Autonomous Robots
7. Remote-control Robots

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4. அறிவியல் மற்றும் தொழிலக ஆய்வு மன்றம் (CSIR) பற்றி சிறு குறிப்பெழுதுக.

Write a short note on Council of Scientific & Industrial Research (CSIR).

1. Established in 1942
2. Autonomous body.
3. CSIR is the largest research and development organisation in India
4. 38 laboratories/institutes,
5. Under Ministry of Science and Technology,
6. Research activities -life sciences, aerospace engineering, structural engineering, food, ocean sciences, metallurgy, petroleum, chemicals, mining, leather and environmental science.

5. இந்திய மருத்துவ ஆராய்ச்சி கவுன்சிலில் (ICMR) குறித்து குறிப்பு தருக.

Give an account on the Indian Council of Medical Research (ICMR).

1. The Government of India funds ICMR.
2. Under the Department of Health Services (DHS), Ministry of Health and Family Welfare (MoH&FW).
3. Headquarters - New Delhi.
4. It is a free and online public record system for the registration of clinical trials being conducted in India.
5. It encourages registration of clinical trials before the enrolment of the first participant.
6. Union Health Minister of India presides over the governing body of ICMR.

6. தேசிய அறிவியல் மற்றும் தொழில்நுட்ப கண்டுபிடிப்பு கொள்கை 2020 பற்றி விளக்குக.

Explain National Science and Technology Innovation Policy 2020.

1. STIP will lead to the establishment of a National STI Observatory that will act as a central repository for all kinds of data related to and generated from the STI ecosystem.
2. The "One nation, One subscription" policy
3. Atbleast 30% representation be ensured for women
4. To establish a system whereby all researchers in India can access research published in top international journals for no cost.
5. All data used in and generated from public-funded research will be available to everyone
6. Collaborative Research Centres (CRCs) will be established
7. It bring the industries, MSMEs, startups, R&D institutions and HEIs with the government.
8. It proposes lateral entry of scientists up to 25 per cent of scientists in related ministries.

7. மாநில சட்டமன்றத்தில் சபாநாயகரின் பங்கினை விளக்குக.

Elucidate the role of speaker in State legislative assembly.

1. Legislative assembly (also known as Vidhan Sabha) is the lower house of the bicameral states and sole house of the unicameral states.
2. Article 178 -provides of a Speaker to preside over sessions of the Legislative Assembly Indian Speaker also enjoys powers and position similar to those of the British speaker.
3. Legislative Functions- law making
4. Control over the Executive- standing committes
5. Electoral Functions- president election
6. Functions related to Constitutional Amendments- Ratification under Article 368

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8. வருவாய் நிர்வாக ஆணையரின் செயல்பாடுகளை விளக்குக.

   Explain the functions of Commissioner of Revenue Administration.

   Revenue administration functions:

   1. Providing efficient delivery of services of various Government schemes to the people of Tamil Nadu.
   2. Providing relief and implementing rehabilitation measures for those affected by Natural Calamities.
   3. Functioning as the custodian of Government lands and ensuring proper maintenance of land records for the State.
   4. Implementation of Land Reforms and providing land to the needy and eligible persons.
   5. Commissionerate of Revenue Administration, Disaster Management and Mitigation.Land Administration, Land Reform, Survey and Settlement, Urban Land Ceiling and Land Tax.

9. எல்.எம். சிங்கிவி குழு மற்றும் அதன் முக்கியத்துவம் பற்றி எழுதுக.

   Write about L.M. Singhivi Committee and its significance.

   1. Under the chairmanship of L.M.Singhvi
   2. Rajiv Gandhi government created a committee
   3. Year 1986
   4. Local self-government should be acknowledged by the Constitution.
   5. Panchayat elections on a regular basis
   6. Panchayati Raj judicial tribunal to deal with issues relating to the administration of Panchayati Raj.
   7. Adequate financial resources
   8. Nyaya Panchayat
   9. Gram Sabha represents direct democracy
   10. Gram Sabha should be prioritized.

பிரிவு – ஆ / SECTION – B

10. ஏதேனும் இரண்டிற்கு விடை அளிக்க: **Attempt any two:**

    (i) சிப்காட்

    SIPCOT

    1. The SIPCOT was formed in 1971
    2. To promote industrial growth in the state and to advance term loans to medium and large industries.
    3. Development of industrial complexes/parks/industrial estate in Nallampalli Road growth centres with basic infrastructure facilities.
    4. Establishing sector-specific Special Economic Zones (SEZs)
    5. Implementation of Special infrastructure Projects.
    6. SIPCOT IT Park is the largest Information Technology Park in Asia, located in siruseri near chennai.

    (ii) டிஐஐசி

    TIIC

    1. Established in 1949
    2. First State level Development Financial Institution promoted for catalyzing industrial development
    3. To continuously evolve schemes and processes which are customer-centric.
    4. Development of MSMEs in the State.
    5. To become the preferred destination for seeking term finance in the State.
    6. Working with Fintech companies, NBFC, SFB, MFI and other large industries.

(iii) டான்சி

TANSI

1. The Tamil Nadu Small Industries Corporation Limited, popularly known as TANSI, was formed in the year 1965
2. To serve as Training cum Demonstration Centres
3. To provide infrastructure for the development of industries and
4. To ensure dispersal of economic growth.
5. For small industries development
6. TANSI manufacturing a wide range of high quality paints and allied products under brand name of "ARASU".

11. புதிய தொழில்முனைவோர் மற்றும் நிறுவன மேம்பாட்டுத் திட்டம் பற்றி குறிப்பெழுதுக.

Write a note on New Entrepreneur cum Enterprise Development Scheme.

1. NEEDS Scheme is promoted by the Directorate of Industries and Commerce, Government of Tamil Nadu
2. For providing opportunities for young/new educated entrepreneur with subsidy and support for starting a new venture.
3. Educated youth with any degree, diploma, ITI/vocational training from recognized institutions.
4. TIIC, the ideal destination for business loans in Tami Nadu, also acts as the nodal agency for Government subsidies for customers availing loan for business.
5. Minimum project cost is Rs. 10 lakh.
6. Maximum project cost is Rs. 500 lakh.

12. 'முகவுரை இந்திய அரசியலமைப்பின் ஒருங்கிணைந்த பகுதியாகும்' – நியாயப்படுத்துக.

Preamble is an Integral part of Indian Constitution' - Justify.

1. The Supreme Court ruled in the LIC of India case (1995) that the Preamble is an integral part of the Constitution.
2. core ideas, purposes, and philosophical postulates that the Constitution of India stands for are contained in the Preamble to the Constitution of Free India
3. Outlines the Constitution's Ideals And Philosophy
4. Justice, Liberty, Equality& Fraternity as Goals
5. People As the Source of the Constitution

13. பெண் தொழில்முனைவோர் எதிர்கொள்ளும் சவால்களை பட்டியலிடுக.

List out the Challenges faced by Women Entrepreneur.

1. Lack of Social and Institutional Support
2. Poor Funding Prospects
3. Lack of Access to Professional Networks
4. Pressure to Stick to Traditional Gender Roles
5. Lack of an Entrepreneurial Environment
6. Limited Mobility
7. Lack of Education
8. Balancing Responsibilities between Family & Business
9. Stiff Competition
10. Limited Industry Knowledge
11. Missing Role Models

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14. இணையத்தின் பல்வேறு பயன்பாட்டினை விளக்குக.

Elucidate the various application of Internet.

1. Sending and receiving email
2. Searching and browsing information archives
3. Copying files between computers
4. Conducting financial transactions
5. Navigating (in your car, smart scooter, smart bike, or other)
6. Playing interactive games
7. Video and music streaming
8. Chat or voice communication (direct messaging, video conferencing)

15. பிளாக்செயின் தொழில்நுட்பத்தை விளக்கி அதன் வரம்புகளை பட்டியலிடுக.

Explain Block chain technology and list out its limitations.

1. Blockchain is a distributed database or ledger
2. Blockchain stores information electronically in digital format
3. Cryptocurrency systems, such as Bitcoin,
4. Security of a record of data
5. Scalability
6. Energy Consuming
7. Time-Consuming
8. Legal Formalities
9. Storage

16. 'வுமனியா' முன்முனைவு விளக்குக.

Explain 'Womaniya' Initiative.

1. Womaniya on GeM
2. To develop women entrepreneurship on the margins of society to achieve gender-inclusive economic growth.
3. Women entrepreneurs and women self-help groups
4. To sell handicrafts and handloom,
5. Jute and coir products,
6. Home decor and office furnishings,
7. Directly to various government ministries, departments and institutions.

17. SAMARTH தொழில்முனைவோர் திட்ட இயக்ககம் குறித்து குறிப்பு தருக.

Give an account on SAMARTH Entrepreneurship Program Drive.

1. Launch – 2022
2. To provide Skill Development and Market Development Assistance to women and to train more than 7500 women candidates from rural and sub-urban areas
3. 20% Seats in free Skill Development Programs organized under skill development schemes of the Ministry will be allocated for Women.
4. 20% of MSME Business Delegations sent to domestic & international exhibitions
5. 20% Discount on annual processing fee on NSIC's Commercial Schemes Special Drive for registration

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18. பிரதான் மந்திரி முத்ரா யோஜனா பற்றி குறிப்பெழுதுக.

Write a note on Pradhan Mantri Mudra Yojana.

Launched - 2015.

Scheme objective:

1. To refinance collateral-free loans given by the lenders to small borrowers.
2. Banks can draw refinance under the MUDRA Scheme
3. After becoming member-lending institutions of MUDRA.
4. Mudra Loans are available for non-agricultural activities upto Rs. 10 lakh and activities allied to agriculture such as Dairy, Poultry, Bee Keeping etc, are also covered.

Three types of loans:

1. Shishu (up to Rs.50,000).
2. Kishore (from Rs.50,001 to Rs.5 lakh).
3. Tarun (from Rs.500,001 to Rs.10,00,000).

அலகு – II

UNIT – II

(10 x 12 = 120)

1. அறிவியல், தொழில்நுட்பம் மற்றும் புத்தாக்கக் கொள்கை– 2013 இன் முக்கிய அம்சங்களை விளக்குக.

Elucidate the salient features of Science, Technology and Innovation Policy- 2013.

1. India's first Scientific Policy Resolution was announced on 1958.
2. STI POLICY OF 2013 was prepared by Department of Science and Technology with in the ministry of science and technology.
3. This involves both in the private and public domain, majorly **focus on faster, sustainable and inclusive development of the people.**
4. It has set A Strong and viable Science, Research and Innovation system for High Technology led path for India (**SRISHTI**) as the goal
5. Promotion of scientific temper amongst all sections of society.
6. Increase the number of R&D personnel by 66% in next five years.
7. India's share in high tech products is around 8% globally While India barely spends around 1% of its GDP in research, Development, innovation. Therefore, Policy says, we'll increase the spending in sci-tech-innovation to 2% in next five years.
8. Skill Enhancment for applications of science among the youth from all social sectors.
9. Establishing the world-class infrastructure for R&D for gaining global leadership in some select frontier areas of science.
10. Aim of Positioning India among the top five global scientific powers by 2020 (by increasing the share of global scientific publications from 3.5% to over 7% and quadrupling the number of papers in the top 1% journals from the current levels).
11. Creating an environment for enhanced **private sector participation** in R &D, as well as establishing **new PPP structures**.
12. **Replicating hitherto successful models** by making R and D a societal and commercial application
13. **Modifying IPR policy** to provide for marching rights for social good when supported by public funds and for co-sharing, IPRs generated under PPP.
14. **Sharing of IPRs** between inventors and investors which in turn leads to exchange of knowledge
15. Achieve gender parity in S&T

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2. இந்திய விண்வெளி ஆராய்ச்சி நிறுவனத்தின் (ISRO) முக்கிய மைல்கற்களை விளக்குக.

   Illustrate the major milestones of Indian Space Research Organisation (ISRO).

   1. 1975-76, Satellite Instructional Television Experiment (SITE) was conducted and was was hailed as 'the largest sociological experiment in the world'
   2. First Indian spacecraft 'Aryabhata' was developed and launched using a Soviet Launcher.
   3. Development of the first launch vehicle SLV-3 with a capability to place 40 kg in Low Earth Orbit (LEO), which had its first successful flight in 1980.
   4. **AstroSat** It is the first dedicated Indian astronomy mission aimed at studying celestial sources in X-ray, optical and UV spectral bands simultaneously.
   5. **Mars Orbiter Mission (MOM)** (Mangalyaan) the maiden interplanetary mission of ISRO, successfully got inserted into Martian orbit in its first attempt. Aim of studying Martian surface and mineral composition as well as scan its atmosphere for methane (an indicator of life on Mars).
   6. **Chandrayaan-1,** India's first mission to moon, was an unmanned.
   7. **Chandrayaan-2,** India's second mission to the Moon is a totally indigenous mission comprising of an Orbiter, Lander and Rover. Aim of exploring elemental abundance, lunar exosphere and signatures of hydroxyl and water-ice.
   8. **India's Manned Mission to Space:** Gaganyaan to be launched in 2023. Under this mission.There will be two unmanned flights and one human spaceflight.
   9. The Gaganyaan system module, **called the Orbital Module** will have three Indian astronauts, including a woman.
   10. **IN-SPACE: provide a level playing field for private companies** to use Indian space infrastructure.
   11. **NewSpace India Limited (NSIL):** Under the administrative control of the Department of Space.It is the commercial arm of ISRO. Headquartered in Bengaluru.
   12. **Indian Space Association (ISpA):** The collective voice of the Indian Space industry.

3. பிக் டேட்டா என்றால் என்ன? அதன் முக்கியத்துவம் மற்றும் பயன்பாடுகளை விளக்குக.

   What is big data? Explain its significance and applications.

   1. Big data is a combination of structured, semistructured and unstructured data collected by organizations.
   2. It can be mined for information and used in machine learning projects, predictive modeling and other advanced analytics applications.
   3. Large volume of data in many environments;
   4. Wide variety of data types frequently stored in big data systems
   5. Velocity at which much of the data is generated, collected and processed.
   6. Power Discoms use data collected from last-mile to cut down their Aggregate Technical & Commercial losses.
   7. Security agencies and Police forces use big data to,
   8. Prevent cyber-attacks
   9. Enhance security systems
   10. Detect card-related fraud cases
   11. Predict criminal activities, g – Crime and Criminal Tracking Networks and Systems (CCTNS)
   12. To improve quality of education.
   13. Disaster Management: In understanding and mitigating the risks of disasters.

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4. தேசிய சூப்பர் கம்ப்யூட்டிங் மிஷன் ஆய்வு செய்க.

Examine the National Supercomputing Mission.

1. Proposed to create a cluster of seventy supercomputers connecting various academic and research institutions across India.

2. Being jointly directed by the **Department of Science and Technology (DST)** and the **Ministry of Electronics and Information Technology (MeitY).** And **implemented by** the Centre for Development of Advanced Computing (C-DAC), Pune, and the IISc, Bengaluru.

3. It adds strength '**Digital India**' and '**Make in India**' initiatives.

4. In April 2015 the government approved the NSM with a total outlay of Rs.4500 crore for a period of 7 years.

5. The mission was set up to provide the country with supercomputing infrastructure to meet the increased computational demands of academia, researchers, MSMEs, and startups by creating the capability design, manufacturing, of supercomputers indigenously in India.

6. Currently, there are four supercomputers from India in the Top 500 list of supercomputers in the world.

7. The target was to establish a network of supercomputers ranging from a few Tera Flops (TF) to Hundreds of Tera Flops (TF) and three systems with greater than or equal to 3 Peta Flops (PF) in academic and research institutions of National importance across the country by 2022.

8. This network of Supercomputers envisaging a total of 15-20 PF was approved in 2015 and was later revised to a total of 45 PF (45000 TFs), a jump of 6 times more compute power within the same cost and capable of solving large and complex computational problems.

9. The supercomputer was established earlier this year, under the National Supercomputer Mission (NSM) and is going to be installed in the Centre for Development of Advanced Computing's (C-DAC) unit.

Supercomputers developed in India are:

1. **Mihir**: Mihir (146th on the list), clubs with Pratyush to generate enough **computing power** to match **PARAM-Siddhi.**

2. **PARAM**-Siddhi: It is the **high-performance computing-artificial intelligence (HPC-AI)** supercomputer, and has achieved a global ranking of 62 in the TOP 500 most powerful supercomputer systems in the world.

3. **Pratyush**: It is a supercomputer used for weather forecasting at the Indian Institute of Tropical Meteorology, ranked 78th on the November edition of the list.

4. **PARAM Shivay**, -It is the first supercomputer assembled indigenously, was installed in IIT (BHU), followed by PARAM Shakti, PARAM Brahma, PARAM Yukti, PARAM Sanganak at IIT-Kharagpur IISER, Pune, JNCASR, Bengaluru and IIT Kanpur respectively.

5. 'முதலமைச்சர் அரசாங்கத்தின் தலைவர்' - விமர்சன ரீதியாக பகுப்பாய்வு செய்க.

'Chief Minister is the head of the government' - Critically Analyse.

1. Article 164 of the Constitution provides the Chief Minister shall be appointed by the governor.

2. A leader of the party that has got the majority share of votes in the assembly elections, is appointed as the Chief Minister of the state.

3. The Governor is the nominal executive authority

4. The real executive authority rests with the Chief Minister

Power and Functions:

1. The Chief Minister is the head of the Council of Ministers of his State.

2. The Chief Minister plays an important role in the administration of the State.

3. The Governor allocates portfolios to the ministers on the advice of the Chief Minister.

4. The Chief Minister presides over the Cabinet meetings.

5. Coordinates the functioning of different ministries.

6. Guides the functioning of the Cabinet.

7. Framing the laws and policies of the State Government.

8. Bills are introduced by the ministers in the State legislature with her approval.

9. Chief spokesman of the policies of his government both inside and outside the State Legislature

10. Article 167, the Chief Minister is the sole link of communication between the Cabinet and the Governor.

11. Constitution provides that the Chief Minister shall communicate to the Governor all decisions of the Council of Ministers relating to the administration and the affairs of the State and proposals for legislation.

6. மாவட்ட நிர்வாகத்தில் வருவாய் ஆய்வாளரின் பணிகள் மற்றும் பொறுப்புகளை விளக்குக.

Explain the roles and responsibilities of Revenue Inspector in District Administration.

Roles and responsibilities:

1. Each Taluk is divided into firkas comprising of group of villages

2. Revenue Inspector plays a vital role in land revenue collection

3. Supervising the work of Village Administrative Officers. Revenue inspector oversees the block of villages

4. Responsible for collecting Land tax, Panchayat Taxes and other dues.

5. Responsible and maintain peace in Village, he should inform any violence, unnatural death, caste fight, encroachment, Natural calamities, etc to the Higher Officials.

6. Issuing Chitta and Adangal for obtaining loan from Co-Operative Societies and other banks,

7. Responsible to issue various certificates like caste certificate, income certificate etc.

8. Issuing Certificate to farmers for various loan

9. Inspecting various land records

10. Responsible for re- locate the people

11. Providing aminities duding natural calamities

12. He Maintains all the accounts relating to cultivation, irrigation etc.

7. நிதி தொழில்நுட்பம் என்றால் என்ன? தமிழ்நாடு ஃபின்டெக் கொள்கை - 2021 இன் முக்கிய அம்சங்களை விளக்குக.

What is Financial Technology? Explain the salient features of Tamil Nadu FinTech Policy – 2021.

1. Fintech (financial technology) refers to emerging digital technology for improving and automating financial services, in terms of delivery and usage.

2. Variety of functions is enabled by specialized softwares, algorithms and more recently,

3. Use of cryptocurrencies like Bitcoins.

4. Use in wide range of sectors like education, retail banking, investment management, non-profit fundraising, etc

5. Tamil Nadu Fintech Policy 2021 is formulated with the following objectives:

6. To transform Tamil Nadu into a leading global destination for FinTech firms by 2025.

7. To increase financial inclusion and fintech adoption rate in Tamil Nadu by promoting digital solutions for the traditional financial sector.

8. To develop a comprehensive and concerted program with government agencies to provide a one-stop shop solution to existing and new FinTech firms in the State.

9. To facilitate seamless and transparent Business-to-Business (B2B), Business-to-Consumer (B2C), Government-to-Government (G2G), Government -to-Business (G2B), and Government-to-Citizen (G2C) financial transactions efficiently.

10. To develop industry-academia linkages to create a FinTech knowledge ecosystem comprising universities, research institutions, design & innovation labs, and FinTech firms.

11. To develop, attract, and nurture talent in the fields of finance and digital technologies.

12. To develop the necessary infrastructure required for attracting and promoting the next generation of FinTech firms.

13. To develop partnerships with other leading FinTech centres across the world

14. To become the leading State in the country in terms of growth of new FinTech firms incorporated during the Policy period.

15. To develop a FinTech city in the State with 1 million square feet of working space for FinTech firms with a world class FinTech Innovation Hub/FinTech Lab.

16. To set up Skill Centres for FinTech in the State in partnership with premier institutes & private firms which shall also serve as Centres of Excellence (CoEs) to support entrepreneurs/ SMEs/ startups in the State.

8. ஆதார் (திருத்த) சட்டம் – 2019 ன் முக்கிய அம்சங்களைப் பட்டியலிடுக.

List out the salient features of Aadhar (Amendment) Act 2019.

1. Provides for voluntary use of Aadhaar number in physical or electronic form by authentication

2. Offline verification with the consent of Aadhaar number holder.

3. Use of twelve-digit Aadhaar number and its alternative virtual identity

4. Gives an option to children who are Aadhaar number holders to cancel their Aadhaar number on attaining the age of eighteen years.

5. Permits the organization to perform authentication only when they are compliant with the standards of privacy and security specified by the Authority

6. The authentication is permitted under any law made by Parliament or is prescribed to be in the interest of State by the Central Government.

7. Allows the use of Aadhaar number for authentication on voluntary basis as acceptable KYC document under the Telegraph Act, 1885 and the Prevention of Money-laundering Act, 2002.

8. Prevents denial of services for refusing to give Aadhar number

9. Authentication Provides for establishment of Unique Identification Authority of India Fund.

10. Provides for civil penalties

11. Its adjudication, appeal with regards with violations of Aadhaar Act

9. இந்திய அரசியலமைப்பின் கீழ் உத்தரவாதம் அளிக்கப்பட்டுள்ள அடிப்படை உரிமைகளை அமலாக்குவதற்கு என்னென்ன தீர்வுகள் உள்ளன?

   What are the remedies available for the enforcement of fundamental rights guaranteed under constitution of India?

   1. Five different writ types
   2. **Supreme Court under Article 32**
   3. **High court under Article 226**

   Habeas Corpus:
   1. Writ under the right to constitutional remedies is enforced to protect fundamental rights.
   2. It protects the liberty of Indian citizens from any unlawful detention.
   3. Arresting is unlawful, this writ can help.

   Mandamus:
   1. The Mandamus writ (WE COMMAND) is also issued by the High Court or the Supreme Court under the right to constitutional remedies.
   2. The court issues this writ to identify if the officeholder is not their legal duty
   3. It also checks if the person is prohibiting any rights of the individual.

   Prohibition:
   1. Both the Supreme Court and High Court can issue this writ.
   2. It is mainly applicable when the case in the lower court surpasses its jurisdiction. Hence, it can be issued only against quasi-judicial and judicial authorities.

   Certiorari:
   1. The court orders a lower court or authority for transferring the pending case.
   2. The case is transferred to a higher court or authority.
   3. The Certiorari writ is issued against quasi-judicial and judicial authorities.
   4. It is not available against private and legislative bodies.

   Quo Warranto:
   1. "By what warrant or authority."
   2. The court issues the writ for enquiring about the legality of the claim.
   3. It is legally made by the person to the public office.
   4. Preventing any illegal usurpation of the public office.

10. நிர்வாகத்தில் சமூக ஊடகங்களின் பங்கினை விளக்குக மேலும் அதன் நன்மைகளை பட்டியலிடுக.

    Elucidate the role of Social Media in Governance and list out its advantages.

    1. **Source of information:** unbiased information is important for a democracy and its growth
    2. Media help in providing critical information to citizens. E.g government schemes
    3. **Educate:** Media is important to educate people on issues that are of utmost important for the society
    4. **Awareness:** Media make society aware of their democratic rights and fight the three institutions of democracy.
    5. **Ensuring Justice:** Media plays an important role in ensuring justice and benefits of the government policies reaching the weaker sections of the society.
    6. **Watchdog:** Media reporting on public affairs and investigations into wrongdoing in the administration of public affairs
    7. *Good Governance:* Media plays an important role in audit of the government policies and spending.

8. **Accountability:** Media ensure accountability of government by exposing bad state of democracy.

9. **Dissemination of government policies:** Media is important for spreading and disseminating various government policies and initiatives.

Advantages:

1. Engage with the public

2. Crisis communication like covid

3. Democratisation of Information

4. Wider and Heterogeneous Communities

5. Direct Interaction With Government eg: grievance redressal like **CPGRAMS**

11. MSME என்றால் என்ன? இந்தியாவில் MSME துறை எதிர்கொள்ளும் முக்கிய சவால்கள் யாவை?

What is MSME? What are the major challenges faced by MSME sector in India?

Investment in Plant and Machinery or Equipment

Micro enterprises:

1. Not more than Rs.1 crore and

2. Annual Turnover not more than Rs. 5 crore Investment in Plant and Machinery or Equipment

Small enterprises:

Not more than Rs.10 crore and Annual Turnover not more than Rs. 50 crore

Medium enterprises:

1. Investment in Plant and Machinery or Equipment:

2. Not more than Rs.50 crore and

3. Annual Turnover not more than Rs. 250 crore

Importance:

1. Second largest employment generating

2. Provides employment to around 120 million persons in India.

3. Access to credit

4. Poor infrastructure

5. Lack of modern technology

6. Access to market

7. Lack of skilled manpower

8. Low standardization of products

9. Low market penetration

10. Lack of regulatory

11. Export constraints

12. ஜீப்ராஃபிஷ் மற்றும் அதன் முக்கியத்துவம் பற்றி எழுதுக.

Write about Zebrafish and its importance.

1. **Zebra fish** (*Brachydanio rerio)* is a small tropical freshwater fish originating in the Ganges River and its tributaries.

2. The zebrafish is a tropical fish native to Southeast Asia.

3. optical transparency of embryos and larvae

4. Zebrafish have already been used to help unlock a number of the biological processes behind muscular dystrophy , and are an important model for understanding the mechanisms of development and diseases such as cancer

5. Zebrafish have a similar genetic structure to humans. They share 70 per cent of genes with us.

6. zebrafish breed readily and can produce as many as 50 to 300 eggs at a time

7. 84 per cent of genes known to be associated with human disease have a zebrafish counterpart.

8. As a vertebrate, the zebrafish has the same major organs and tissues as humans. Their muscle, blood, kidney and eyes share many features with human systems.

9. Zebrafish have the unique ability to repair heart muscle.

10. For example, if part of their heart is removed they can grow it back in a matter of weeks.

11. Scientists are working to find out the specific factors involved in this process

12. To develop ways of repairing the heart in humans with heart failure or who have suffered heart attacks.

அலகு - III
UNIT-III

(6 x 15 = 90)

1. டிஆர்டிஒவின் வளர்ச்சி, பார்வை, பணி, சாதனை மற்றும் அதன் முக்கியத்துவம் குறித்து விரிவாக குறிப்பெழுதுக.
   Write a detailed note on Growth, Vision, Mission, Achievement and Significant of DRDO.

   1. The Defence Research and Development Organisation (DRDO) is the premier agency in india

   2. Under the Department of Defence Research and Development in Ministry of Defence of the Government of India,

   3. Charged with the military's research and development, headquartered in Delhi, India.

   4. It was formed in 1958 by the merger of the Technical Development Establishment and the Directorate of Technical Development and Production of the Indian Ordnance Factories with the Defence Science Organisation.

Vision and mission:

1. Empowering the nation with state-of-the-art indigenous Defence technologies and systems.

2. Design, develop and lead to production state-of-the-art sensors, weapon systems, platforms and allied equipment for our Defence Services.

3. Provide technological solutions to the Services to optimise combat effectiveness and to promote well-being of the troops.

4. Develop infrastructure and committed quality manpower and build strong indigenous technology base

Functions:

1. To advise on the matters of National Security in terms of upcoming progress in science and tech.

2. DRDO also designs and executes programs related to scientific research, development, design, and evaluation in fields incorporated under national security.

3. Administration of laboratories, ranges, facilities, agencies, establishments, and projects

4. DRDO is responsible for overlooking financial matters and other related assistance to institutions, individuals, and universities for the training and study of human resources on components of science and technology that affect national security.

5. Consult and cooperate with the Ministry of External Affairs in international relations related to science and technology affecting national security.

6. DRDO certifies the design airworthiness of military equipment and aircraft

7. Empowering the nation with state-of-the-art indigenous Defence technologies and systems

8. DRDO is a network of more than 50 laboratories

9. Labs like aeronautics, armaments, electronics, combat vehicles, engineering systems etc.

Various Programmes of DRDO:

1. Integrated Guided-Missile Development Programme (IGMDP)

2. Major works to make Indian defence forces self-sufficient in the field of missile technology.

3. The missiles developed under IGMDP are: Prithvi, Agni, Trishul, Akash, and Nag.

4. **Mobile Autonomous Robot System**

5. MARS is a smart robust robot to handle land mines and Inert Explosive Devices (IEDs) which helps the Indian Armed Forces to disarm them from far distances despite hostile surroundings.

6. With some add-ons, this system can even be used to dig the ground for the object and defuse the Improvised Explosive Device by various methods.

7. **Highest Terrestrial Centre in Ladakh**

8. DRDO's centre in Ladakh

9. 17,600 feet above sea level at Changla near Pangong lake

10. To serve as a natural cold storage unit for the preservation of natural and medicinal plants.

2. நானோ தொழில்நுட்பம் என்றால் என்ன? பல்வேறு துறைகளில் அதன் பயன்பாடு குறித்து விளக்குக.

What is Nano Technology? Explain its application in various fields.

1. Nanotechnology or nanotech in short is the technology that involves the manipulation of matter on atomic, molecular, and supramolecular scales

2. 1 to 100 nanometers.

3. One nanometer (nm) is one-billionth or (10^{-9}) of a meter.

4. Use of materials and devices so tiny that nothing can be built any smaller.

Applications of Nanotechnology:

1. Electronics

2. **Nano-RAM:** It is a non-volatile RAM (Random Access Memory) based on carbon nanotubes deposited on a chip-like substrate with a small size that permits very high-density memories.

3. Nano Optomechanical S-RAM (Static RAM)

4. Faster read/write time, compared to a MEMS memory, and the processes take place without interference which further reduces time compared to a traditional electrical enabled SRAM.

5. Healthcare and Medicine

6. Nanotech detector- to detect heart attack

7. Nanochips to check plaque in arteries

8. Nanocarriers for eye surgery, chemotherapy, etc.

9. NanoFlares – used for detection of cancer cells in the bloodstream

10. Nanopores – used in making DNA sequencing more efficient.

11. Diabetic pads for regulating blood sugar levels

12. Nanoparticles for drug delivery to the brain

13. Nanosponges – are polymer nanoparticles coated with a red blood cell membrane.

14. They can be used for absorbing toxins and removing them from the bloodstream.

15. Energy -Solar/photovoltaic paints – potential to replace solar panels.

16. Painted surface will capture energy from the sun and transform it into electricity.

17. Wind power generations – nanogenerators – are flexible thin sheets that, when bent, can generate potential power.

18. Nanobatteries – enable rechargeable lithium-ion batteries to last longer.

19. Nanotechnology in Agriculture and Food

20. Nano fertilizers

21. Hybrid polymers are used in packaging and to reduce spoilage

22. Sensors for food-borne pathogens

23. Nano-emulsions – to reduce bacteria in produce

24. Nanoparticles based on titanium dioxide – used as antimicrobial agents

3. கிராம நிர்வாக அதிகாரியின் (VAO) கடமைகள் மற்றும் பொறுப்புகளை விமர்சன ரீதியாக பகுப்பாய்வு செய்க.

Critically analysis Duties and Responsibilities of Village Administrative Officer (VAO).

1. Maintenance of Village records like Chitta, Chalan Register,

2. Settlement Register, Register of Rights, Collection Accounts, Receipt And Dispatch Book

3. Processing of applications for Mutation and Furnishing report

4. Inspection of the lands.

5. Maintenance of Crop Register (Adangal) and inspection of all the Lands

6. Inspection of scenes of fire accident/other calamities and furnishing Report for relief.

7. Assisting in the relief operation during occurrence of Natural Calamities like floods, fire accident, etc.

8. Furnishing land particulars in respect of lands proposed for other Departments.

9. Service of various notices from Taluk office intended for public in the Village.

10. Conduct of enquiry into various Kinds of petitions submitted by the Public to higher authorities.

11. Assisting higher Officials in times of law & order, elections, CensuS

12. Periodical inspection of encroachments and furnishing report

13. Levy of penalties.

14. Periodical supervision of Irrigation sources.

15. Maintenance of Lease Register for Government lands.

16. Issue of basic report for various certificates like Residence, Income, Caste etc.

17. Furnishing of basic statistics on land for other Departments

18. VAO is responsible for collecting Land tax, Panchayat Taxes and other dues

19. VAO is responsible and maintain peace in Village, he should inform any violence, unnatural death, caste fight, encroachment, Natural calamities, etc to the Higher Officials.

20. Issuing Chitta and Adangal for obtaining loan from Co-Operative Societies and other banks.

21. He is responsible of Issuing Certificate to farmers various loans after inspecting recors and enquiry on Ground reality.

22. He Maintains all the accounts relating to cultivation, irrigation etc.

23. In Total VAO is responsible person for particular Village in all matter.

24. Gathering of vital field level data useful for various departments such as Below Poverty Line (BPL) survey for Civil Supplies and Consumer Affairs Department.

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TEST 10 – FEBRUARY 2023 – ANSWER KEY

4. மத்திய மாநில உறவுகளில் அரசியலமைப்பு மற்றும் கூடுதல் அரசியலமைப்பு சாதனங்களின் பங்கினை விளக்குக.

Explain the role of constitutional and extra constitutional devices on centre state relations.

Finance Commission:

1. Article 280 of the Indian Constitution defines a quasi-judicial body to supervise the government's finances

2. It recommends shares financial resources between union and state

Inter-state council:

1. Art 263 contemplates the establishment of an inter-state council to effect coordination between the states and between centre and states ex: local government council

2. The President can establish such a council at any time it appears to him that public interest would be served by its establishment.

3. According to Article 262, in case of disputes relating to waters:

4. Parliament may by law provide for the adjudication of any dispute or complaint with respect to the use, distribution or control of the waters of, or in, any inter-State river or river valley.

5. Parliament may, by law provide that neither the Supreme Court nor any other court shall exercise jurisdiction in respect of any such disputes

6. Ex – cauvery water dispute tribunal

Inter-State Trade and Commerce:

Articles 301 to 307 in Part XIII of the Constitution deal with the trade, commerce and intercourse within the territory of India.

GST council:

1. The establishment of a Goods and Services Tax Council, or GST Council, to facilitate this consultation process

2. The amendment to the Constitution (101 Constitutional Amendment Act) added a new Article 279A

State public service commission Art. 315:

1. Chairman and members appointed by goveror

2. Removed by president

State election commissioner Art.243:

1. Appointed by governor

2. Removed by president

Extra-Constitutional Devices:

1. Advisory/Policy Making bodies: NITI Aayog, NIC,

2. Zonal Councils under state reorganisation act 1956

3. North eastern zone (North eastern zonal council act 1971)

4. Central Council on Health,

5. Central Council on Local Govt

6. Central Council on Medicine

7. Central Council of Homeopathy,

8. Central Family Welfare Council, Transport

9. Development Council, UGC

10. Conferences: Governors, CMs, CSs, DGPs, CJoH, VCs, Home/Law Ministers.

5. நிதி ஆணையத்தின் பங்கு மற்றும் செயல்பாடுகளை விளக்குக.

Explain the role and functions of Finance Commission.

1. The Finance Commission of India is a constitutional body that is established for the Purpose of allocating and distributing the tax revenues among the centre and states

2. Article 280 of the Indian Constitution provides for the Finance Commission as a Quasi-judicial body

3. The Finance Commission is constituted by the president every 5 years once

4. Fifteenth finance comission chairman – N.K.Singh in November 2017,

Functions of Finance Commission:

The Finance Commission is supposed to recommend the following matters to the President of India:

1. The distribution of the net proceeds of taxes should be shared among the centre and the states.

2. The principles that govern the grant-in-aid by the central government to the state Government are out of the consolidated fund.

3. Any matter referred to which is in the interest of sound finances by the President of India.

4. The measures required to extend a state's consolidated fund to supplement the Resources of the panchayat and municipalities in the state

5. On the basis of Recommendations made by the state Finance Commission.

6. The Finance Commission decides its own procedure and enjoys power in the Performance of its function.

7. Every 5 years, the Finance Commission determines the grounds for the Distribution of taxes among the centre and states as well as the principles governing the Grant-in-aid to the states.

8. The members of parliament received the Finance Commission's recommendation and an explanatory memorandum of the actions taken by the government.

Role of Finance Commission:

1. The recommendations which are made by the Finance Commission of India are just Advisory in nature

2. Not binding on the government. It is totally up to the central Government to either implement its recommendations or grant the money to the states.

3. It would be right to say that it is not written or laid down in the Constitution

4. That the recommendations put up by the Finance Commission is not binding on Government of India

5. The constitution of India oversees the Finance Commission to be the balancing Wheel of fiscal federalism in India.

6. தொழில்முனைவு மற்றும் கண்டுபிடிப்புகளை மேம்படுத்துவதில் இந்தியாவின் முயற்சியினை விளக்குக.

Elucidate India's effort on promoting Entrepreneurship and Innovation.

Startup India:

1. Government of India promotes entrepreneurship by mentoring

2. Launch in January 2016

3. A 'Fund of Funds' has been created to help startups gain access to funding.

Make in India:

1. This scheme is designed to transform India into a global design and manufacturing hub,

2. launched in September 2014

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Atal Innovation Mission (AIM):

1. AIM is the Government of India's endeavour to promote a culture of innovation and entrepreneurship,

2. It serves as a platform for promotion of world-class Innovation Hubs, Grand Challenges, start-up businesses and other self-employment activities, particularly in technology driven areas.

Support to Training and Employment Programme for Women (STEP):

1. STEP was launched by the Government of India's Ministry of Women and Child Development to train women who have access to formal skill training facilities, especially in rural India.

2. The Ministry of Skill Development and Entrepreneurship The programme imparts skills in several sectors such as agriculture, horticulture, food processing, handlooms, traditional crafts like embroidery, travel and tourism, hospitality, computer and IT services.

Jan Dhan-Aadhaar – Mobile (JAM):

1. technological intervention that enables direct transfer of subsidies to intended beneficiaries

2. Eliminates all intermediaries and leakages in the system, which has a potential impact on the lives of millions of Indian citizens.

Digital India:

1. The Digital India initiative has been launched to modernize the Indian economy to make all government services available electronically.

2. The initiative aims at transforming India into a digitally-empowered society and knowledge economy with universal access to goods and services.

Stand-Up India:

1. It was launched in 2015

2. Stand-Up India seeks to leverage institutional credit for the benefit of India's underprivileged

3. It aims at enabling economic participation of, women entrepreneurs, Scheduled Castes and Scheduled Tribes and share the benefit of Indian growth with the above mentioned categories

4. Loans between Rs.10 lakshs to Rs.1 crore to set up Greenfield enterprises in manufacturing, services or the trading sector.

Trade related Entrepreneurship Assistance and Development (TREAD):

1. India's underprivileged women, the TREAD programme enables credit availability to interested women through non-governmental organizations (NGOs).

2. Women can receive support of registered NGOs in both accessing loan facilities

3. Receiving counselling and training opportunities to kick-start proposed enterprises, in order to provide pathways for women to take up non-farm activities.

Pradhan Mantri Kaushal Vikas Yojana (PMKVY):

1. Initiative of the Ministry of Skill Development and Entrepreneurship (MSDE)

2. This is a Skill Certification initiative which aims to train youth in industry-relevant skills to enhance employment opportunities for livelihood creation and employability.

National Skill Development Mission:

1. This scheme was unveiled in July 2015.

2. With a vision to build a 'Skilled India' it is designed to expedite decision-making across the sectors to provide skills at scale, without compromising on quality or speed.

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TEST 10 – FEBRUARY 2023 – ANSWER KEY

Science for Equity Empowerment and Development (SEED):

1. SEED aims to provide opportunities to motivated scientists and field level workers to undertake action-oriented, location specific projects for socio-economic gain, particularly in rural areas.

2. SEED emphasizes equity in development, so that the benefits of technology accrue to a vast section of the population, particularly the disadvantaged.

7. இந்தியாவில் சுய உதவிக் குழுவின் நோக்கங்கள் மற்றும் செயல்பாடுகளை விமர்சன ரீதியாக ஆராய்க.

Critically examine the objectives and Functions of Self-help group in India.

1. Self-Help Groups (SHGs) are informal associations of people who choose to come together to find ways to improve their living conditions

2. An ideal SHG should have about 10 to 20 members.

3. This is because if the group is bigger, it will be difficult for an individual to undertake equal participation in a large group

4. The SHG shouldn't have more than one member from a particular family.

5. This allows the inclusion of many families.

6. It should also have either only men or only women because it is found that the mixed groups are not successful.

Objectives of SHG:

1. To inculcate the savings and banking habits among members.

2. To secure them from financial, technical and moral strengths.

3. To enable the loan for productive purposes.

4. To gain economic prosperity through loan/credit.

5. To gain from collective wisdom in organising and managing their own finance and distributing the benefits among themselves.

6. To sensitize women of target area for the need of SHG and its relevance in their empowerment.

7. To create group feeling among women

8. To enhance the confidence and capabilities of women.

9. To develop collective decision making among women.

10. To encourage habit of saving among women and facilitate the accumulation of their own capital resource base.

11. To motivate women taking up social responsibilities particularly related to women development

12. It acts as the forum for members to provide space and support to each other

13. SHGs are considered as one of the most significant tools to adopt participatory approach for the economic empowerment of women

14. Meets regularly to discuss issues of interest to them and to look at solutions of commonly problems.

8. சுயதொழில் என்றால் என்ன? சுயதொழில் எப்படி இந்தியப் பொருளாதார வளர்ச்சியை ஊக்குவிக்கிறது.

What is self employment? How does the self employment promote the Indian economic growth?

1. A self-employed person is an independent contractor or a sole proprietor who reports self-employment income.

2. Self-employed people work for themselves in a variety of trades, professions, and occupations rather than working for an employer.

3. The Government of India has launched several flagship outcome-based skill training schemes like Pradhan Mantri Kaushal Vikas Yojana (PMKVY), Skill India.

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4. Start Up India, Stand Up India, Start-up Village Entrepreneurship Program (SVEP).

5. Atal Innovation Mission is the emerging policy being implemented by NITI Aayog, policy think tank of Government of India.

6. Despite rapid economic growth, the explosion of microcredit programs and self-help groups, and laudable efforts to increase women's political participation, gender disparities have remained deep and persistent in India.

7. Skill development is more than ever before linked to entrepreneurship.

8. Institutions and individuals promoting rural development now see entrepreneurship as a strategic development intervention that could accelerate the rural development process.

9. Rural India continues to suffer from lack of employment and self-employment opportunities owing to its narrow economic base

10. Career is a way of making one's livelihood. Self-employment is also a career because one may employ oneself in business or in service activities and earn one's livelihood.

11. With growing unemployment and lack of adequate job opportunities, self-employment has become very significant.

12. Advantage of Small Business

13. Small-scale business has several advantages over large-scale business.

14. It can be easily started, and requires small amount of capital investment.

15. The self-employment involving activities on a small-scale is a good alternative to large scale business which has brought various evils like environmental pollution, development of slums, exploitation of workers, and so on.

16. Preference over Wage Employment

17. In self-employment there is no limit of earnings as is the case with wage employment.

18. In self-employment one can use one's talent for own benefit. The decisions can be taken quickly and conveniently.

19. All these factors act as strong motivators for self-employment to be preferred over wage employment.

20. Developing the Spirit of Entrepreneurship

21. Entrepreneurship involves taking risks because the entrepreneur tries to innovate new products, new methods of production and marketing

22. Self-employment, on the other hand, involves either no risk or very little risk.

23. But, as soon as the self-employed person starts becoming innovative and takes steps to expand his business, he becomes an entrepreneur

24. Self-employment becomes a launching pad for entrepreneurship.

25. Promotion of Individualised Services

26. Self-employment may also take the form of providing individualised services like tailoring, repair work, dispensing of medicines,

27. Such services are helpful in providing better consumer satisfaction. These can be easily started and run by individuals.

28. Reducing the Problem of Unemployment

29. Self-employment provides opportunities of gainful occupation to those who otherwise remain unemployed. Thus it reduces the problem of unemployment.

30. A boon to Under-privileged in Respect of Higher Education.

31. Self-employment has been given high priority in government policies and programmes.

32. A number of schemes have been initiated all over the country to encourage entrepreneurship and self-employment.