शर्मा एकेडमी

an Institute for IAS/IPS, MPPSC

MPPSC Pre
English Medium

Awarded for
Leading E-Learning
Academy of MP-2018
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Awarded for
Result Oriented Academy
For UPSC/MPPSC-2018
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MPPSC Pre
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Major Features, Events and their Administrative, Social and Economical systems of Ancient and Medieval India

The Indus Valley Civilization [2350-1750 BC]

Introduction

- Indus valley civilization is also called as Harappan civilization because Harappa was the first site to be excavated in 1921 under the supervision of **Daya Ram Sahni**.
- The known extent of this civilization in the west is upto Sutkagendor in Baluchistan; Alamgirpur (UP) in the east; Daimabad (Maharashtra) in south; and Manda (J and K) in the north.
- This civilization belongs to Bronze Age/Chalcolithic Age. Hence, it is also called Bronze Age civilization.
- Contemporary civilizations of Harappan civilization are Mesopotamian or Sumerian civilization, Egyptian civilization and Chinese civilization.

Important Sites of Harappan Civilization

Site	Location	River Bank
Harappa	Montegomari, Punjab (Pakistan)	Ravi
Mohenjo-daro	Larkana, Sindh (Pakistan)	Indus
Sutkagendor	Baluchistan (Pakistan)	Dashta
Chanhudaro	Sindh (Pakistan)	Indus
Rangpur	Ahmedabad (India)	Meedar
Kalibangan	Ganganagar (Rajasthan)	Ghaggar
Lothal	Ahmedabad	Sabarmati & Bhogva
Banawali	Fatehabad (Haryana)	Saraswati
Note: The largest number of sites is found in Gujarat.		

General Facts about some Sites

1. Harappa

- Working floors consisting of rows of circular brick platforms, which were meant for threshing grain, have been found here.
- Six **granaries** and sixteen **agnikundas** (fire pits) have been found here.
- People of Harappa knew the process of making tar coal.
- Main gate for the entry in the houses of Harappa was in the north direction.
- R-37 cemetry have been found here.
- Terracotta figurine of Mother Goddess has been found here.

2. Mohenjodaro

- Mohenjodaro was discovered in 1922 under the supervision of **R.D. Bannerji.**
- The literal meaning of Mohenjodaro in Sindhi language is **mound of the dead.**
- The Great Bath, a granary, big halls, a bronze statue of a dancing girl, idol of a yogi and numerous seals have been found here.

- The evidences of a assembly hall and proper planned houses with a kitchen and courtyard have been found at Mohenjodaro.
- Seven layers of Mohenjodaro city directs that the city was destroyed and rebuilt seven times.

3. **Lothal**
   - A dockyard has been found at Lothal.
   - In 1957, Lothal was discovered by S.R. Rao in Gulf of Cambay in Gujarat.
   - Red & black clay pots, copper tools, brick built tank like structure, a bead making factory and a seal from Iran have been found at Lothal.
   - Linear scale of bronze has been found here.

4. **Kalibangan**
   - It was not as well-planned or organised as Mohenjodaro was.
   - It did not have a drainage system.
   - A number of firepits **agnikundas** (firepits) have been found here.
   - Kalibangan was discovered in 1953. It is located in upper Rajasthan.
   - It saw two cultural phases, viz., pre-Harappan and Harappan.
   - A ploughed field has been found here.

5. **Dhaulavira**
   - Dhaulavira in Gujarat was discovered in 1992 by **J.P. Joshi**.
   - Dhaulavira shows all the three phases of Harappan civilization.
   - A script consists of big alphabets has been found on a gate in Dhaulavira.

Important Features

- **Town planning** was the most distinguishable feature of the Harappan civilization. Hence, this civilization is also called first urbanization.
- Towns were divided into parts, viz., citadel and lower town. Citadels were occupied by members of ruling class and lower town was inhabited by the common people.
- Dhaulavira is an exception because it existed in three parts.
- Harappan cities were developed in **Block Pattern/Chess Board Pattern** because roads of these cities used to cut each other at right angles.

E-Governance

E-Governance: Concept and Significance

- Since 1990s, constant efforts are being made to improve the systems of public services delivery in order to reinvent governments worldwide. The recent innovations in Information and Communication Technology (ICT) have facilitated the reinvention of governments and enabled them to serve the needs of a diverse society.
- Moreover, the information age has redefined the fundamental and transformed the institutions and mechanisms of services delivery forever. The vision is the articulation of a desire that can transform the functionality of the government and the way it relates to its constituents.
- Electronic governance, as a concept, is populary called e-governance. The vision of majority of democracies of the world share is e-governance, as a way of life.
- India has been at the forefront of the IT revolution. Thereby making its contribution to the public administration systems, as we would see later in this unit. As a matter of fact, the potential of ICTs, if harnessed properly, has a lot of opportunities, especially for social and economic growth of the developing world.
- As per Ministry of Information and Technology, the role of e-governance goes far beyond mere computerization of stand-alone back-office operation. It leads to fundamental changes in government operationsand new set of responsibilities for the legislature, executive, judiciary and citizens.
- It is providing public access to information via the Internet by government departments and their agencies.

National E- Governance Plan (NEGP)

- The Department of Electronics and Information Technology (DEITY) and Department of Administrative Reforms and Public Grievances (DARPG) formulated the NATIONAL e-Governance Plan (NeGP).
- The NeGP, comprising 27 Mission Mode Project (MMPs) and 10 components, was approved (MMPs) and 10 components, was approved by Union Government on 18 May 2006.
- It aims at improving delivery of government services to citizens and business with the vision: "To make all Government services accessible to the common man in his locality through common services delivery outlets and ensure transparency, reliability and efficiency of such services at affordable costs, to realize the basic needs of a common man".

Various National e-Governance Plan setup for multilevel growth and development in India are given below:

State Data Centres (SDCs)

- It is proposed to establish Data centres in all the State/Union territories to host state-level e-Governance applications/data via common and secure IT infrastructure.

- This will enable seamless delivery of Government-to-Government (G2G), Government-to-Citizen (G2C) and Government-to-Business (G2B) Services, duly supported by State Wide Area Network (SWAN) and Common Services Centres (CSC), which are established at the village level.

State-Wide Area Networks (SWANs)

- SWANs act as a converged backbone network for data, voice and video communications throughout a state/union territory.
- It is expected to handle the information communication requirements of all the departments.

Common Services Centres (CSCs)

- The CSCs are ICT-enable kiosks with broadband connectivity to enable various government, private and social services at the doorstep of citizen.
- The Government aims to create 1,00,000 CSCs, across 600,000 rural and remote locations of India.

e-District

- The implementation of the e-District project was approved in 2011.
- The e-District project was conceptualized to improve Government-to-Consumer or G2C interaction. This, as a result, will enhance the efficiencies of various departments at the district-level to enable seamless service delivery to the citizen.

Crime and Criminal Tracking Networks System (CCTNS)

- It is Mission Mode Project under the National e-Governance Plan of Government of India, MHA, which was started in 2009.
- The primary objective is to create a comprehensive and integrated system for enhancing the efficiency and effectiveness of policing through adopting a principle of e-Governance and creation of a nationwide networking infrastructure.
- The systems are set up to facilitate collection, storage, analysis, retrieval, transfer and sharing of data and information at the police station, between the police station and the State Headquarters and the Centres Police Organisations. It will enable online tracking of cases and arresting criminals and speedy investigation of any case.

Mobile Governance

- In 2012, the framework for mobile governance had been developed and notified by the DEITY. The Mobile Services Delivery Gateway (MSDG) was operationalized in 2011 and contributes to the core infrastructure that enables the availability of public services through mobile devices.
- A mobile applications store has also been created and made operational in 2012.
- Most government departments across the country are using the MSDG for delivering their services through mobile phones and fully integrated mobile apps have been hosted on the mobile App Store.

Rapid Replication Initiative

DEITY has undertaken an initiative to replicate the successful e-Governance applications to other states.

e-Bharat

- The World Bank provided a loan to the GOI towards programme management and financial support for the National e-Governance Plan (NeGP).
- The project is envisaged to support NeGP's countrywide plans of increasing the availability of online services for citizens in their locality.
- It is aimed to improve the quality of basic governance in areas that concern the common man.

MeghRaj (GI Cloud)

- DEITY has initiated a project called 'Meghraj', with a view to harness the benefits of cloud technology.
- Another name for Meghraj is the GI Cloud Initiative (GI – Government of India). This project aims at creating the Government of India Cloud (GI Cloud) computing environment at the national level.
- This initiative primarily focuses on evolving a strategy and implementing various components including governance mechanism, thereby ensuring proliferation of cloud in government. Meghraj's role will be a common receptacle of cloud-based infrastructure resources and applications available on demand.
- It will enable our government for the effective delivery of e-services.

Cloud Computing

- Cloud computing is a tool for enabling ubiquitous convenient, on-demand network access to a various shared configurable computing resources (e.g., networks, services, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.
- Cloud computing is defined as the storing and accessing of data and programmes over the Internet, instead of a computer's hard drive. On top of this, cloud in the term of Cloud Computing refers to a set of hardware, storage, services, networks, and interface combining to deliver aspects of computing as a service.
- So, over and above sharing information, even the infrastructure can be shared on real-time basis on the Internet.

Dial.Government

- The dial.gov is a portal launched in December 2012.
- It has been implemented as a common man's interface for providing comprehensive information on eligibility of benefits under the various social sector schemes operational across the country.
- The information is being provided through web-based portal.
- Call Centres and Interactive Voice Response System (IVRS), Dial.Gov. will eventually encompass all welfare schemes across the central and state departments and provide the related information in a convenient manner.

e-Tall: Electronic Transactions Aggregation and Analysis Layer

- e-Tall is a web portal developed by NIC (National Informatics Centres) for aggregation and analysis of e-transaction statistics of central and state level e-governance projects, which also includes Mission Mode Projects.
- The transaction statistics is received from web-based application periodically on near real-time basis and presents status on actual utilization of various application running at various locations.
- It also assists with quick analysis of transaction counts in tabular form as well as graphical form to give quick view of the category and number of transactions done through e-governance projects. e-Taal provides visibility for the national/state level e-governance services.

UMANG (Unified Mobile Application)

- UMANG is the acronym for Unified Mobile Application for New-age Governance, which is also popular with the name of mobile governance in India. After BHIM app, PM Modi launched UMANG app for government services
- This app is developed by National e-Government Division (NeGD) and Ministry of Electronics and Information Technology (MeitY), launched in November, 2017.
- It encourages people to opt for digital payment transactions in the country.
- Umang app is a single-window platform with multiple application of pan India e-government services like income-tax filling, making Aadhar, booking a gas cylinder, Passport Seva and provident fund queries, etc.
- Here, people can access more than 100 services at the level of regional, state and central governments.
- Umang is a part of Digital India initiative to adop a new-age governance policy. This application is also allowed through the web, SMS, of IVR (Interactive voice response).

DND 2.0

TRAI has now incorporated its Mobile App named a DND 2.0. DND (Do Not Disturb) Services App facilitates smart phone users for registering their mobile number under DND and reporting spam message or calls for avoiding Unsolicited Commercial Communication (UCC)/Telemarketing Calls/SMS.

BHIM App

- Bharat Interface for Money (BHIM) is mobile app based on Unified Payment Interface (UPI), developed by NPCI (National Payments Corporation of India).
- This app was launched on 30 December, 2016, to facilitate e-payments directly through banks as part of the 2016 India banknote demonetization and drive towards cashless transactions.

PRAGATI (Pro-Active Govenance and Timely Implementatoin)

- It is a multi-purpose and multi-modal governance platform launched on 25 March, 2015.
- An unique integrating and interactive platform, PRAGATI is aimed to address common man's grievances, and at the same time, monitor and review important programmes and project of the GOI and projects flagged by state governments.
- It is an innovative project in e-governance and good governance and accountability with real time presence and information exchange among the key stakeholders.

Key features of the PRAGATI application are:

1. The PMO, Union Government Secretaries, and State Chief Secretaries constitute PRAGATI application and hence it is a three-tier system.
2. Designed in-house by the prime Minister's Office (PMO) team with the help of National Informatics Centres (NIC).
3. Three latest technologies, including digital data management, geo-spatial technology and video-conferencing are used to connect under PRAGATI.
4. To interact with the Government of India Secretaries and Chief Secretaries, the Prime Ministers will hold a monthly programme once in every month on the fourth Wednesday at 3.30 PM. This program (to be known as PRAGATI Day) is held through videoconferencing, enabled by data and geo-informatics visuals.
5. Prime Minister can directly discuss the issues with the concerned Central and State officials with full information and latest visual of the ground-level situation.
6. The system will work on strengthening and re-engineering the databases of Centralised Public Grievance Redress and Monitoring System (CPGRAMS), along with Project Monitoring Group (PMG) and the Ministry of Statistics and Programme Implementation.

M-KRISHI Mobile App for Aquaculture Operations

- This is a pilot project launched under the Digital India programme on an experimental basis in Gujarat and will be extended all across India. A huge amount of data is to be captured,analysed and dynamic decisions are to be made for the complex sets of activities involved in equaculture of shrimp.
- It is an Android mobile application, which has been developed by MPEDA (Marine Products Export Development Authority) and TCS Innovation Lab, Mumbai.
- It serves as an easy tool for book keeping, advisory services and weather information.
- The farmer enters the basic information regarding his farming activities and thus, will get expert guidance for all operations thereafter, making his operations both economical and profitable. The reports are available in the graphical format.
- There is also an option to view the trends or reports in the computer, thus enabling seamless data entry and visualization. It is expected that the mobile app will revolutionise the way farm activities are carried out.
- The app is used on a large scale, thus providing a trend of aquaculture activities across the country. It will also resolve farmer's issues quickly and more importantly on a more personalized approach.

AADHAR

- A revolutionary step in terms of digitalization of proof of identify came in the form of Aadhaar.
- It is a 12-digit individual identification number issued by the Unique Identification Authority of India (UIDAI), on behalf of the Government of India. This 12digit number will serve as a proof of identity and address, anywhere in India. Aadhaar letter can be received via India Post, in form of e-Aadhaar downloaded from UIDAI website, both being equally valid.
- No matter what is your age or gender, you can enroll for Aadhaar, being a resident of India and satisfying the verification process laid down by UIDAI.
- Single enrolment is required and that is free of cost.

- Each Aadhaar number is unique to an individual with lifelong validity. In due course to time, it is expected that via Aadhaar number you can access services like banking, mobile phone connections and other government and non-government services.

Basic Properties of AADHAAR

1. Easily verifiable in an online, cost-effective way.
2. Unique and robust enough, thus eliminating the large number of duplicate and fake identities in government and private databases.
3. A random number generated, devoid of any classification, be it on basis of caste, creed, religion or geography.

Digital Locker

- The Government of India launched DigiLocker, which is a digital locker service, in February, 2015, to provide a secure dedicated personal electronic space for storing documents like PAN card, passport, marksheets, degrees and certificates. It is linked to Aadhaar number.
- This locker maybe linked to a person's Aadhaar number.
- 10 megabytes of space is offered, which can be further extended to I-gigabyte space for all the documents, free of cost.
- It acts like a physical locker where the jewellery and documents can be stored, except the fact that it is digital, i.e., on website and will store digital information, in place of physical assets.
- On 7 September, 2016, Union Road Transport Minister, NitinGadkari initiated the integration of DigiLocker with the Driving License and Vehicle Registration system of the Ministry of Roal Transport and Highways.
- The Central Board of Secondary Education (CBSE) has issued mark sheets to class XII students in digital format along with hard copies for the students in their digital lockers from 2015.
- It is one of the key initiatives under the Digital India Programme. Mahaonline Limited, the joint venture between Maharashtra government and Tata Consultancy Services (TCS) has developed and maintains this website.
- Digital locker minimizes the usages of physical documents, thereby enabling sharing of e-documents across agencies. It will reduce the administrative overhead of government departments and agencies created due to paper work. It promotes the concept of paperless governance.
- The Government of India launched this service to provide a secure dedicated personal electronic space for storing the documents of resident India citizens. The useful websites to access these benefits are: https://digilocker.gov.in/ and https://digitallocker.gov.in/

Jam Trinity

- JAM stands for three things- The Jan DhanYojana, the Aadhaar initiative of UIDAI and Mobile number. These three things are often called the Trinity of reforms in India.
- The JAM Trinity holds the key to implement large-scale, technology-enabled, real-time direct benefit transfer (DBT's) to improve the economic condition of the India's poor.
- The first application of JAM was PAHAL scheme of transferring LPG subsidies directly to the account of BPL people.

- Though riddled with challenges of beneficially identification, distributor-opposition and beneficiary financial inclusion, JAM trinity is expected to reduce leakages and provide more financial space to the government.

Universal Account Number (UAN) of EPF

EPFO (Employee Provident Fund Organization has launched an Universal Account Number (UAN), based on Member Portal to provide a number of facilities to its members through a single window.

UAN member e-Sewa portal gives you following facilities:

1. You can download the updated EPF passbook. The passbook will tell you know the PF balance. This EPF balance can be also used for taking loan.
2. You can link your previous PF accounts.
3. You can upload KYS data.
4. You can change mobile number and email address.
5. You can apply for the online PF transfer.
6. You can use the missed call facility to check PF account balance.

E-Learning (Education and Internet Technology)

- The Internet and its World Wide Web have captured the imagination and interests of millions around the word, leading to use of terms like web-based learning, etc.
- The interests in the educational use of the web has been driven by higher demand for education and training, shift in the societal economy from labour-intensive to knowledge-intensive work, and need for earning while learning.
- As the terminology in e-learning needs further standardization, many terms were used inter-changeably.
    1. Web-based instruction: It is a hypermedia-based instructional program which utilized the attributes and resources of the World Wide Web to create a meaningful learning environment where learning is fostered and supported.
    2. Virtual learning: The educational process of learning over the Internet without having face-to-face contact is known as Virtual learning. Virtual learning may also include tele-learning.
    3. Online learning: it is synonymous with web-based learning, where learning is fostered via hypertext transfer protocol (http) on Internet or Intrant.
    4. e-learning: The term e-learning covers a wide set of applications and processes, including computer-based learning, web-based learning, virtual classrooms, and digital collaboration. The term e-learning is substituted for web-based learning or online learning, failing in line with e-commerce and e-business.

SAKSHAT: A One Stop Education Portal

- SAKSHAT: is a pilot project, a One-Stop Education Portal launched on 30 October, 2006, to facilitate lifelong learning for students, teachers and those who are in employment or in pursuit of knowledge. It offers the benefits free of cost.
- The Content Advisory Committee (CAC), consisting of representatives from educational institutions like Delhi University, KendriyaVidyalayaSangthan (KVS), Navodyaya Vidyalaya Sangthan (NVS), National Council for Educational Research and Training (NCERT), IGNOU and

National Institute of Open Schooling (NIOS) and prominent academicians in the field along with some NGOs, undertook the content development task.

- Its vision is to scale-up this pilot project to cater the learning requirements of more than 50 crore people through a proposed scheme of 'National Mission in Education through Information and Communication Technology (ICT).

Unnat Bharat Abhiyan

The Ministry of Human Resource Development (MHRD) has launched Unnat Bharat Abhiyan with the objective of connecting institutions of higher education, including India Institutes of Technology (IITs), National Institutes of Technology (NITs) and Indian Institutes of Science Education and Research (IISERs), etc., with local communities to address the development challenges through appropriate technologies. Unnat Bharat Abhiyan was launched in 2014.

There are two main objectives of Unnat Bharat Abhiyan:

1. Building institutional capacity in institutes of higher education in research and training relevant to the needs of rural India.
2. Providing rural India with professional resource support from institutes of higher education, especially those that have acquired academic excellence in the field of science, engineering and technology, and management.

e-pathshala

- e-Pathshala is a web portal hosting educational resources for students, teachers, parents, researchers and educators.
- As a part of the Digital India campaign, the Ministry of Human Resource Development (GoI) and NCERT (National Council of Educational Research and Training) jointly launched 'e-pathshala' in November 2015, as a single point repository of e-resources containing NCERT text books and various other learning resources.
- It can be accessed through mobile app interface on Android, IOS and windows platforms. These resources are available in the form of text books and other e-books in various languages like Hindi, English and Urdu.
- Students can get access to all educational material, including text books, audios, videos, periodicals and a variety of other print and non-print materials through e-Pathshala. The user can download these materials for offline use with no limits on downloads.

SARANSH

- Saransh is a web portal launched with the objective of promoting information and communication technologies in schools. It serves as an interface to enhance communication between schools and parents as a self-review tool.
- This portal too was launched by the Human Resource and Development Minister for Central Board of Secondary Education (CBSE)-affiliated schools, in November 2015, to promote Communication and Information technology. This portal will help to evaluate the strengths and weaknesses of children, which will help with the children's future.

- It is a progress of Digital India campaign and will bring transparency to the educational system. It intends to provide e-books of all standards and subjects, thereby encouraging sustainable development.
- It is a kind of one-on-one interaction platform between teachers and parents. It directly shares information about performance and attendance of students to parents.
- This portal will save three preceding years' data of all schools. Hence, a comparative year-on-year performance can be checked.

Indian MOOCs: "SWAYAM"

- SWAYAM, or Study Webs of Active-Learning for Young Aspiring Minds programme, is brought forward by the Ministry of Human Resource Development, Government of India in 2016, as a Massive Open Online Courses (MOOCs).
- Under this programme, various eminent Professors of IITs, IIMs and Central University, etc., will offer online educational courses.
- It is an instrument for self-actualisation of learning offered free of cost. Here, learners can choose from hundreds of courses that are taught at the university/college/school level and these shall be offered by the best of the teachers in India and elsewhere. In this way, SWAYAM provides a unique educational opportunity to expand the horizons of knowledge at everyone doorstep.
- In the beginning, various IITs, IIMs, Delhi University, Jawaharlal Nehru University, IGNOU, individually as well as with the help of faculty from foreign universities will be offering courses in areas of engineering education, social science, energy, management, and basic sciences.
- SWAYAM PRABHA is a group of 32 DTH channels devoted to telecasting high-quality educational programmes on a 24X7 basis, by using the GSAT-15 satellite.

e-SAMIKSHA

- e-Samiksha is an online system to monitor and take action on the decisions take by different Ministries on real-times basis.
- At least once in a month, all the concerned Ministries or Departments or Agencies will update all their respective decision here.
- The PMO or Cabinet Secretariat or Ministries or Departments access this system through a log-in and password.

e-RAKAM PORTAL LAUNCHED

- The Union Government has launched e-RashtriyaKisanAgriMandi (e-RaKAM) portal to provide a platform for farmers to sell agricultural produce.
- It is a first of its kind initiative that leverages technology to connect farmers from the smallest villages to the biggest markets of the world through Internet.
- e-RaKam is a digital initiative that aims to bring together farmers, PSUs, civil supplies and buyers on a single platform to ease the selling and buying process of agricultural products.
- It has been developed by state-run-auctioneer MSTC Limited and CRWC (Central Railside Warehouse Company) Limited.
- Under this initiative, e-RaKAM centre s are being developed throughout the country in a phased manner to facilities online sale of produce for farmers.

- Farmers will be paid through e-Payment, which will be directly deposited into their bank accounts under the e-RaKAM initiative.

PRADHAM MANTRI GRAMIN DIGITAL SAKSHRTA ABHIYAN

- Prime Minister NarendraModi recently launched the PradhanMantriGramin Digital SakshartaAbhiyan (PMGDISHA) at Gandhinagar in Gujarat.
- PMGDISHA is a government initiative with an objective to impart digital literacy among the people residing in rural areas. It is an important initiative under Modi's vision of 'Digital India' that Intends at making one person in every family digitally literate.
- This scheme will focus on making at least six crore people in rural areas (across States/UTs) digitally literate. By 31 March, 2019, it is expected to reach around 40 per cent rural households in the country.
- Under PMGDISHA scheme, which is free of cost, people in the rural area will be trained to operate a computer, tablet, smartphones, etc. They will be taught how to access the Interent, government services, undertake digital payments, compose e-mails, etc.
- The citizens of rural India will be taught to use applications related to digital payments so they can participate in the process of nation-buildings. This Scheme will help to connect the digital divide.
- The marginalized sections of society like Scheduled Castes (SC)/Scheduled Tribes (ST), Minorities, Below Poverty Line (BPL), differently-able, all will be a part of this scheme. The scheme aims to empower women in rural India.
- Illiterate people in the age group 14-60 years, nominated from every eligible rural household, are qualified for the scheme.

Significance of this Programme

- As per the 71st NSSO Survey on Education, 2014, only 6 per cent of rural households have a computer. This highlights that more than 15 crore rural households (at 94 per cent of 16.85 crore households) do not have computers and a significant number of these households are likely to be digitally illiterate.
- The PMGDISHA, initiated under Digital India Programme, would cover 6 crore households in rural areas, to make them, digitally literate. This would empower citizens by providing them access to information, knowledge and skills for operating computers/digital access devices.

Village Resource Centres (VRCS)

- ISRO has established around 473 Village Resource Centres (VRCs) on a pilot basis, in association with selected NGOs, Trusts and State Government Departments.
- This is one of the unique initiatives that use Satellite Communication (SATCOM) network and Earth Observation (EO) satellite data to reach out to the village to address the needs of the local people in villages.

Applications

- VRCs provide wide varieties of services in rural areas:
- Tele-medicine connects sick people in villages, through VSAT network, to the doctors, who are in cities/urban areas or super-specialty hospitals, for providing health services.

- Tele-education uses SATCOM to provide a virtual classroom areas in the country and helps in imparting education to the needy.
- Advisories related to agriculture like crop pest and diseases, fertilizer/pesticides, organic farming, crop insurances etc.; live stock/poultry, career guidance to rural students.
- Skill-development and vocational training, etc., to rural population; other areas of application include panchayat planning, weather information, marketing information, watershed development, drinking water, etc.

Importance of VRCs

- Use of VRCs demonstrates peaceful use of satellite technology for development of rural areas.
- Over 6500 programme have been conducted by the VRCs so far, addressing the areas like agriculture/horticulture development; fishers development; live stock development; water resources; tele health care; awareness programmes; woman's empowerment; supplementary education; computer literacy; micro credit; micro finance; skill development/vocational training for livelihood support, etc.

There is need to upscale VRCs and link all village Panchayats. This will help in efficient use of available resources at the villages and also reduces distress migration from villages due to lack of basic health, education and information asymmetry.