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Introduction

A. Objectives.

Department of Information Technology (DIT), in the Ministry of Communications and Information Technology is *inter alia* responsible for formulation, implementation and review of national policies in the field of Information Technology. All policy matters including e-Governance (which aims to make all Government Services accessible to the common man in his locality), silicon facility, computer based information technology and processing including hardware and software, standardisation of procedures and matters relating to international bodies, establishing the National Knowledge Network with multiple gigabit bandwidth to connect Knowledge Institutions across the country, promotion of knowledge based enterprises, internet, e-commerce and information technology education and development of electronics and coordination amongst its various users are also addressed by the Department.

B. Following are the business allocated to the Department of Information Technology:

1. Policy matters relating to Information Technology, Electronics and Internet (all matters other than licensing of Internet Service Provider).
2. Promotion of Internet, IT and IT-enabled services.
3. Assistance to other Departments in the promotion of e-Governance, e-Commerce, e-Medicine, e-Infrastructure, etc.
4. Promotion of Information Technology education and Information Technology-based education.
5. Matters relating to Cyber Laws, administration of the Information Technology Act 2000 (21 of 2000) and other IT related laws.
6. Matters relating to promotion and manufacturing of Semiconductor Devices in the country excluding all matters relating to Semiconductor Complex Limited (SCL), Mohali. Administration of the Semiconductor Integrated Circuits Layout Design Act, 2000 (37 of 2000).
7. Interaction in IT related matters with international agencies and bodies, e.g. Internet for Business Limited (IFB), Institute for Education in Information Society (IBI) and International Code Council- online (ICC).
8. Initiative on bridging the Digital Divide: Matters relating to Media Lab Asia.
9. Promotion of Standardization, Testing and Quality in IT and standardization of procedure for IT application and Tasks.

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10. Electronics Export and Computer Software Promotion Council (ESC).
11. National Informatics Centre (NIC).
12. Initiatives for development of Hardware/Software industry including knowledge based enterprises, measures or promoting IT exports and competitiveness of the industry.
13. All matters relating to personnel under the control of the Department.

C. Schemes/Programmes being implemented by Department of Information Technology.

In order to operationalise the objectives of the Department, schemes are formulated and implemented by the Department. The schemes are implemented directly by the Department and through various organisations / institutions. To make the technology robust and state-of-the-art, collaboration of the academia and the private / public sector is also obtained. The following broad programmes/schemes are implemented by the Department.

Society for Applied Microwave Electronics Engineering and Research (SAMEER), Micro-electronics and Nano-technology, Technology Development Council (incl. ITRA), Convergence, Communication & Strategic Electronics, Component and Material Development, Centre for Development of Advanced Computing (C-DAC), Electronics in Health and Tele-medicine, Technology Development for Indian Languages (TDIL), IT for Masses(Gender, SC/ST), Media Lab Asia, Standardisation, Testing and Quality Certification (STQC), Software Technology Parks of India(STPI) & EHTP, E-Governance, Cyber Security (including CERT-In, IT Act), Controller of Certifying Authorities (CCA), Promotion of Electronics/IT Hardware Manufacturing, Department of Electronics Accreditation of Computer Courses (DOEACC), Manpower Development, Facilitation of setting up of Integrated Townships, Headquarter (Secretariat & Building), National Informatics Centre (NIC) and National Knowledge Network.

D. Organizational set-up.

The Department of Information Technology in the Ministry of Communications and Information Technology (MC&IT) is headed by Secretary who assists Hon'ble Minister for Communications and Information Technology/Minister of State of Information Technology in carrying out the business allocated to the Department of Information Technology. The Department has various groups viz. Research and Development (R&D) in IT, R&D in Electronics, R&D in Convergence, Communications and Broadband Technologies, e-Commerce and Cyber Laws, International Co-operation and Industrial Promotion, e-Governance Programme Implementation, Language Computing, e-Infrastructure/ e-Learning, Coordination, Economic Planning, Financial Management, Personnel and Support Groups.

The Department has two attached offices – (i) National Informatics Centre (NIC) and (ii) Standardisation, Testing and Quality Certification (STQC) and four statutory organizations – (i) Controller of Certifying Authority (CCA), (ii) Cyber Appellate

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Tribunal (CAT) and (iii) Semiconductor Integrated Circuits Layout Design Registry(SICLDR) and (iv) Indian Computer Emergency Response Team (CERT-In). The Department also has seven Autonomous societies under its control namely: (i) Society for Applied Microwave Electronics Engg & Research (SAMEER); (ii) Centre for Development of Advanced Computing (C-DAC); (iii) Software Technology Parks of India (STPI); (iv) Department of Electronics Accreditation of Computer Courses (DOEACC); (v) Centre for Materials for Electronics Technology (C-MET); (vi) Education & Research Network (ERNET) and (vii) Electronics and Computer Software Export Promotion Council (ESC). Besides above, there are three section 25 companies viz. (i) Media Lab Asia, (ii) National Informatics Centre Services Inc.(NICSI) and (iii) National Internet Exchange of India(NIXI).

1. Attached Offices

1.1 National Informatics Centre (NIC)

National Informatics Centre (NIC) under DIT has been playing a leading role in promotion of ICT led development in the country. A country-wide computer communication network (NICNET) has been set up as backbone network infrastructure for Govt. informatics providing linkages to Central Government Departments, 35 States/Union Territories and 616 districts. There are about 55000 nodes of Local Area Network with a dense coverage of the North Eastern part of the country. The network operations incorporate Cyber Security, Internet, Data Centres, Disaster Recovery Centers, Network Operations facility, Certifying Authority, Video-Conferencing, Executive Videoconferencing and capacity building set up. The ICT infrastructure is enhanced/upgraded to meet the growing demand and use of latest technology.

A wide range of services are provided through NICNET and these include Internet, e-mail, websites development & hosting, digital signature, video-conferencing, geospatial services, e-learning, intra-GOV, etc.

Some of the major e-governance projects implemented are: National Rural Employment Guarantee Scheme, Land Records Computerization, Property Registration, Sarvshiksha Abhiyan, all Courts, Transport, Food Grains Movement Management, Agriculture Market Network, Passport and Immigration, Common Integrated Police Application (CIPA), Counseling for Admissions, Municipality Services, Rural Drinking Water, Government Accounts & Treasuries, Panchayati Raj Computerization, Agriculture, e-Procurement, Utility Mapping, Geographic Information, etc. and a number of workflow applications. This includes G2C services also.

ICT support at block level has been set up through CICs in a few states. ICT support and consultancy has also been extended to a few neighboring countries.

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1.2 Standardisation, Testing & Quality Certification (STQC) Directorate

Standardization, Testing, Quality and Certification (STQC) Directorate, an attached office of the Department of Information Technology provides Testing, Calibration, Training and Certification services through its well-developed network of test laboratories spread across the country. Additionally, Indian Institute of Quality Management (IIQM) at Jaipur and Center for Reliability (CFR) at Chennai and four Regional Certification Centers have been rendering specialized services in the respective areas.

Through National / International accreditation and recognition for test services, STQC Directorate has also earned an International reputation and its testing & certification services are being recognized globally. Apart from being a major testing & calibration network in the country and primary institution in this field, STQC has also initiated a number of schemes aimed at Exports Promotion, Website Quality, Information Security and Software Quality Engineering. STQC has also strengthened its infrastructure and activities in the area of Information Security and Software Testing & Certification, keeping in view the department's thrust in these areas. A number of projects sponsored by the department in the field of Software Quality Assurance, Information Security Management, Indian Language Technology Products and Quality certification have been successfully executed. STQC Directorate has also developed Quality Assurance Framework (QAF) along with Conformity Assessment Requirements (CARE) for the National e-governance Programme (NeGP).

2. Statutory Organisations

2.1 Office of Controller of Certifying Authorities (CCA)

The Controller of Certifying Authorities (CCA) continues to promote the growth of e-commerce and e-governance through the use of digital signatures. The number of Digital Signature Certificates issued grew to more than 11,00,000 and is expected to increase significantly with the launch of e-governance programmes. Initiatives have been taken in this respect through coordinated interactions between the e-governance application service providers and the Certifying Authorities.

2.2 Cyber Appellate Tribunal (CAT)

In accordance with the provision contained under Section 48(1) of the IT Act 2000, the Cyber Regulations Appellate Tribunal (CRAT) has been established in October 2006. As per the IT Act, any person aggrieved by an order made by the Controller of Certifying Authorities or by an Adjudicating Officer under the Act can prefer an appeal before the Cyber Appellate

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Tribunal (CAT). This Tribunal is headed by a Chairperson who is appointed by the Central Government by notification as provided under Section 49 of the IT Act 2000.

Before the amendment of the IT Act in the year 2009, the Tribunal was known as CRAT and the Chairperson was known as the Presiding Officer. Provision has been made in the amended Act for the Tribunal to comprise a Chairperson and such number of other members as the Central Government may notify/appoint. The name of CRAT has also been changed to CAT.

2.3 Semiconductor Integrated Circuits Layout-Design Registry (SICLDR)

Govt. of India has enacted Semiconductor Integrated Circuit Layout Design Act, 2000. The legislation lays down mechanisms for registering and protecting the intellectual property of the Integrated Circuit Layout Designs. Section 5 (1) of the Act provides for establishment of Registry to be known as Semiconductor Integrated Circuits Layout Design Registry. The Registry is to receive IP Registration applications, make determinations on the ones eligible for Registrations and grant Registrations. The Registry is to be headed by Registrar appointed by Government as per section 3(1) of the Act.

Semiconductor Integrated Circuits Layout Design Registry (SICLDR) has been established for receiving IP Registration applications and granting Registrations to eligible cases. The Registry will have jurisdiction all over India.

2.4 Indian Computer Emergency Response Team (CERT-In)

CERT-In has been designated under Section 70B of Information Technology (Amendment) Act 2008 to serve as the national agency to perform the following functions in the area of cyber security:

- Collection, analysis and dissemination of information on cyber incidents
- Forecast and alerts of cyber security incidents
- Emergency measures for handling cyber security incidents
- Coordination of cyber incident response activities

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- Issue guidelines, advisories, vulnerability notes and whitepapers relating to information security practices, procedures, prevention, response and reporting of cyber incidents
- Such other functions relating to cyber security as may be prescribed

CERT-In has been evolved as the most trusted referral agency in the area of information security in the country. Activities of CERT-In include regular interaction with Critical Infrastructure Organisations and sectorial CERTs to ensure security of the critical systems, collaboration with IT product and security vendors to mitigate the vulnerabilities in various systems, cooperation with international CERTs and security organizations on information sharing and incident response, promotion of R&D activities in the areas of Artifact analysis and Cyber Forensics and security training and awareness.

CERT-In is the national nodal agency for responding to computer security incidents as and when they occur. CERT-In creates awareness on security issues through dissemination of information on its website (<http://www.cert-in.org.in>) and operates 24X7 Incident Response Help Desk. It provides Incident Prevention and Response services as well as Security Quality Management Services.

3. Societies/Autonomous Bodies

3.1 Society for Applied Microwave Electronics Engineering and Research (SAMEER)

SAMEER is a society of the Department with a broad mandate to undertake R&D work in the areas of RF/Microwave Electronics, Electromagnetic Technology and its related areas. At present SAMEER has three Centres – one each at Mumbai, Chennai and Kolkata specializing in the areas of RF & Microwaves, Communication, EMI/EMC, Antenna & Millimeter wave technology respectively.

SAMEER is a premier R&D institution working in the hi-technology area of microwave and allied disciplines. SAMEER has a long-term strategy, which consists of building of expertise by doing core R&D and keeping abreast of latest trends and state of art technologies. This is achieved by building up the infrastructure for making R&D and deliverables viable and meaningful in terms of technology and duration. This institution continues to be in a position of strength in handling design, development and delivery of hardware to meet stringent specifications of user agencies in its expert areas of High Power RF amplifiers, RF communication systems, Atmospheric Radar Instrumentation, Linear Accelerators, Electromagnetic Interference/compatibility (EMI/EMC), Thermal Engineering of electronic hardware, RF/Microwave/Millimeter wave antennas, Photonic devices, Microwave components/modules and Industrial RF/Microwave application products.

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3.2 Centre for Development of Advanced Computing (C-DAC)

Centre for Development of Advanced Computing (C-DAC) is a Society of the Department of Information Technology (DIT), carrying out R&D in IT, Electronics and associated areas. Starting from its initial mission on building indigenous supercomputers, C-DAC has progressively grown to build an eco-system and institutional framework for innovation, technology development, skills development, delivery plans, collaboration, partnership and market orientation in a number of niche areas of national importance and market relevance in ICT and Electronics. Through in-house research, technology and product development efforts in collaboration with Academia, Research Labs and Industry in India or abroad, it endeavors to identify promising ideas nurtured building of ideas and competencies convert many of them into practical tools, technologies, products and services to meet the needs of SMEs and other industrial players in the country; intermediate players; and end-users in Science and Engineering, manufacturing & service sectors, government, health, development and strategic sectors.

3.3 Software Technology Parks of India (STPI)

Software Technology Parks of India has been set up as an Autonomous Society of the Department with an objective to implement STP/EHTP Scheme, set-up and manage infrastructure facilities and provide other services like technology assessment and professional training. The objectives of the Software Technology Parks of India are: to promote development of software and software services, to provide statutory services to the exporters by implementing STP/EHTP Scheme ,to provide data communication services including various value added services to IT industries and corporate houses, to provide Project Management and Consultancy services both at national and international level , to promote small and medium entrepreneurs by creating a conducive environment in the field of Information Technology and to promote Bio-informatics/Bio-technology industries by providing infrastructural and statutory support.

The main services rendered by STPI for the software exporting community have been, statutory services, data communications services and incubation facilities. STPI has also played a developmental role in the promotion of software exports with a special focus on SMEs and start up units. The STP scheme has been widely successful and the exports made by STP units have grown manifold over the years. STPI has also been providing incubation facilities for the software exporters, specifically to the SMEs and start up units. The incubation facilities include ready to use built up space with plug and play facilities and other backup resources such as power, DG set, internet enabled workstations etc., which have been very useful for the start-up units and SMEs.

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3.4 Department of Electronics Accreditation of Computer Courses (DOEACC) Society

DOEACC Society, an Autonomous Scientific Society under the administrative control of Department of Information Technology, Ministry of Communications and Information Technology, Govt. of India, was set up to carry out Human Resource Development and related activities in the area of Information, Electronics & Communication Technology (IECT). The Society has 12 Centres at Agartala, Aizawl, Aurangabad, Calicut (with Southern Regional Office at Pudukkottai), Chandigarh (with 3 branches at Shimla, Lucknow & New Delhi), Gorakhpur (with Eastern Regional Office at Patna, Bihar), Imphal, Srinagar/Jammu, Kohima/Chuchuyimlang, Kolkata, Shillong and Tezpur/Guwahati with its Headquarter at New Delhi. Two more Centres at Chennai (Tamil Nadu) & Gangtok (Sikkim) are being set-up.

DOEACC society is implementing the joint Scheme of DIT & AICTE i.e. DOEACC Scheme for Computer Courses at 'O', 'A', 'B' and 'C' levels. DOEACC Centres are conducting long-term courses at Post-Graduate level (M.Tech) in Electronics Design & Technology, Embedded Systems etc., which are normally not offered by Universities/Institutions in the formal sector. Other long term courses conducted by the Centers are Diploma Level courses in Electronics Production & Maintenance, Electronic Engineering, Computer Science & Engineering, Masters in Computer Application, Bachelor in Computer Applications etc., which are affiliated to respective State Universities/Technical Boards. Under the non-formal Sector, the Centres are conducting various long term courses offered under DOEACC Scheme, O & A level Courses in Computer Hardware & Maintenance and O/A/B level courses in Bio-informatics, Entrepreneurship development, etc. depending upon the demand in respective areas. The DOEACC Centres are also imparting training in Short Term Courses in the areas of Information Technology, Electronics Design & Technology, Manufacturing Technology, Maintenance Engineering, ITES-BPO etc. Besides the training activities, DOEACC Centres are offering consultancy services and undertaking software development projects in addition to Govt. sponsored projects in the area of Education & Training, R& D, etc.

3.5 Centre for Materials for Electronics Technology (C-MET)

Centre for Materials for Electronics Technology (C-MET) has been set up as a Society under Department of Information Technology as a unique concept for development of viable technologies mainly in the area of electronics materials. C-MET's mission is to develop knowledge base in electronics materials and their processing technology for Indian industries and to become a source of critical electronic materials, know-how and technical services for the industry and other sectors of economy". C-MET is operating with its laboratories with well carved out programmes at Pune, Hyderabad and Thrissur. The objectives of C-MET are to establish the technology up to pilot scale for a range of electronic materials transfer the same to industry for

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commercialization; to establish relevant characterization facilities; to undertake applied research activities in the area of its operation; to establish national Data Base on Electronics Materials.

3.6 Education & Research Network (ERNET) India

Education & Research Network (ERNET), India is an autonomous Scientific Society under the administrative control of the Department of Information Technology. ERNET India has been serving institutions in various sectors namely, health, agriculture, higher education, schools and science & technology and thus, understands the needs of these knowledge institutes. ERNET is helping to create a truly global research community where advanced resources and new learning can be effectively shared by connecting the research network in Europe with ERNET. ERNET network is a judicious mix of terrestrial and satellite based wide area network. ERNET Network supports Ipv4 and Ipv6 Internet Protocol in dual stack, unicast and multicast. Ipv6 routing protocol OSPFv3, end-to-end Ethernet services, Qos, Video Conferencing, authentication and authorization have also been implemented on ERNET network.

3.7 Electronics and Computer Software Export Promotion Council (ESC)

Electronics and Computer Software Export Promotion Council (ESC) is mandated to promote India's exports of Electronics, Telecom, Computer Software and IT Enabled Services. ESC offers a varied set of services to its members for accelerating exports. Some of the services of ESC are as follows:

- To promote India's electronics, software and IT trade, ESC facilitates participation in Global Trade Shows / Expositions and Conferences etc.
- ESC undertakes Market Research / Studies in major overseas markets.
- For enhancing the brand equity of Indian IT industry, ESC undertakes publicity Campaigns in overseas markets.
- ESC facilitates business interface between Indian and foreign companies through Buyers – Seller Meets, Receiving and Mounting Business Missions and Match – making and Contact Promotion.
- ESC locates new business partners for Indian electronics, computer software and IT companies.
- For facilitating foreign trade, ESC provides on-line facility for Data Search, Information Dissemination and Broadcast using internet and Dial-up facilities.

ESC provides a set of value-added services to its members as well as overseas companies. These are:

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- ESC has a critical mass of Information on electronics, IT and services sectors.
- ESC provides Information at a single point.
- ESC assists in moving up the value chain.
- Network of counterpart organizations in 40 countries

4. Other Organisations

4.1 Media Lab Asia (MLA)

The Media Lab Asia has been set up as a not-for-profit organization under Section 25 of Companies Act with an aim to bring the benefits of the most advanced information and communication technologies to the common man and the needy people. Media Lab Asia works on the paradigm of collaborative research in the task of developing relevant and sustainable technologies and bringing them to the daily lives of people. Media Lab Asia works with academic and R&D institutions, industry, NGOs and Governments in this endeavor. It has reached 1500 villages / remote sites in the country in almost all the states of the country.

Media Lab Asia's application development is focused on use of ICT for healthcare, education, livelihood generation, empowerment of the disabled and providing rural connectivity. The research themes of Media Lab Asia include an affordable computing and access device, technologies for broadband rural connectivity, advance interfaces etc.

4.2 National Informatics Centre Services Incorporated (NICS)

NICS was set up by NIC in 1995 as a Section 25 Company to provide total IT solutions to the Government departments and organizations. NICS has been providing services to organizations in the Central Government, State Governments and PSUs which includes Turnkey Projects, Hardware/Software Procurement, LAN/WAN/VC/VSAT Set up, and Technical Support Persons Deployment.

To strengthen the above activities, NICS has also set up a Data Centre in close coordination with NIC to provide value added services. Data Centre Services include Server Co-location, Consultancy and Shared Hosting. Other activities in this domain include Software as a Service(like e-procurement), System Integration etc.

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4.3 National Internet Exchange of India (NIXI)

The National Internet Exchange of India (NIXI) is a not-for-profit organization under Section 25 of Companies Act to facilitate handing over of domestic Internet traffic between the peering ISP members. This will enable more efficient use of international bandwidth, save foreign exchange. It will further improve the quality of services for the customers of member ISPs, by being able to avoid multiple international hops and thus lowering delays. Four Internet Exchanges Nodes have been operationalised at Noida (Delhi), Mumbai, Chennai and Kolkata and as many as 40 ISPs connected with these nodes.