

DESIDOC in Pursuit of Excellence

1. INTRODUCTION

The Defence Scientific Information and Documentation Centre (DESIDOC) is very well-known as a central source of S&T information for the Defence Research & Development Organisation (DRDO) which has over 50 R&D laboratories located at different places in the country. DESIDOC is one of the DRDO laboratories or establishments which is meant for collecting and disseminating S&T information of interest and relevant to DRDO scientists and technologists. The functions of DESIDOC are therefore organised to meet this mandate.

DESIDOC started functioning in 1958 and it was then known as Scientific Information Bureau. It was one of the divisions of the Defence Science Laboratory (DSL), a major

laboratory of DRDO. As the activities of DRDO increased and expanded, the activities of DESIDOC also increased correspondingly. In 1967 it was renamed as Defence Scientific Information and Documentation Centre with expanded charter of duties. The details of the functions of DESIDOC carried out as per the present charter of duties are given in the following sections.

1.1 The Hierarchical Position

As is well known, the Ministry of Defence in the Government of India has three departments, each headed by a Secretary to the Government of India. Its organisational hierarchy and the position of DESIDOC are shown in Fig.1.

The figure however does not show the hierarchy in terms of protocol among the chiefs of the Defence Services (Army, Air Force and

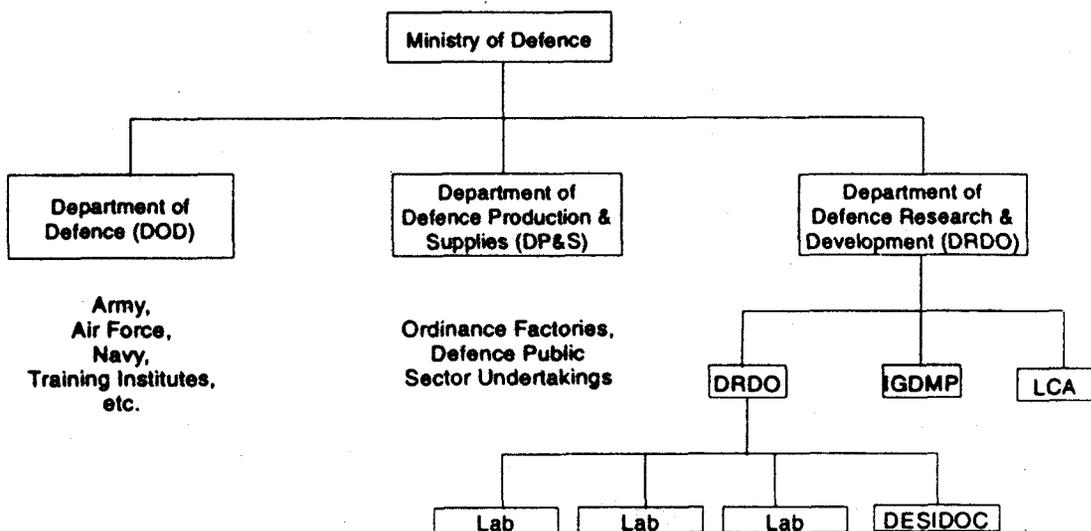


Figure 1. Hierarchical position of DESIDOC in Ministry of Defence.

the Navy) and the secretaries of the departments and other senior officials, but only shows the administrative structure of the Ministry and the position of DESIDOC in the Ministry. Since the Centre is a part of the Defence Ministry, it also extends its services to the defence agencies other than those of DRDO. In other words, DESIDOC serves mainly the DRDO agencies and extends some of its services to the other defence agencies in the country.

1.3 Service to Non-Defence agencies

While concentrating its efforts to meet the S&T information requirements of DRDO in particular and the Ministry of Defence in general, DESIDOC was also extending, till 1992, its services to other non-defence agencies or organisations on reciprocal basis. However, since January 1993, DESIDOC has opened its services to any individual agency or organisation against payment, subject to its convenience. Since the Centre has a very rich information base in its library and has expertise, skills and capabilities in several areas of information processing and dissemination, the demand on its services can be quite huge and varied. So, the policy of DESIDOC is to endeavour to serve non-defence requests also

while concentrating its efforts to meet the DRDO demands.

2. ORGANISATIONAL STRUCTURE

The organisational structure of DESIDOC underwent modifications from time to time to meet the changing information requirements of DRDO in terms of subject areas, extent of coverage, speed of supply, etc. But these changes were always within the framework of its charter of duties which cover collection, processing and dissemination of S&T information. The functions of DESIDOC are organised into various divisions and groups as given in Fig. 2.

3. DIVISIONS AND THEIR FUNCTIONS

The Divisions of DESIDOC are organised according to broad areas of activity and by grouping similar functions together.

3.1 Defence Science Library (DSL)

The DSL is a main Division of DESIDOC forming the basis for most of its activities. Most of the information dissemination activities and services of the Centre, like the current awareness and selective dissemination of information (SDI) services, are based on the

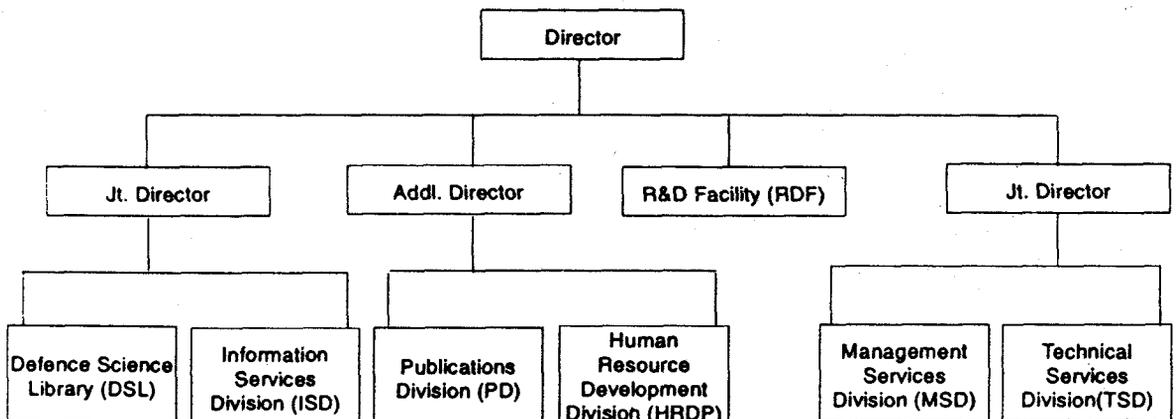


Figure 2: Organisational chart of DESIDOC (w.e.f. 2 April 1997).

information received in DSL in the form of books, journals, reports, patents, standard specifications, CD-ROM databases, video and audio tapes, etc. Since defence R&D is normally carried out on current or latest technologies, the documents or publications procured by the DSL are mostly foreign, in addition to the R&D reports generated in India that are of relevance to or have application in defence. Also, the growth of collection of the Library has been gradual and in tune with the demands of DRDO scientists and technologists. Many of these publications are highly specialised and value-added, like analysis reports on defence-related technologies. Since such publications are quite expensive, the number of publications added every year increases only gradually even though the budget allocation for the acquisitions is quite substantial. The present collection of DSL and the budget allocation are given in Table 1.

Table 1. Collection of DSL and its budget allocation

Year	Size of collection (in lakhs)	Annual budget allocation* (in lakhs)
1994-95	1.73	128.75
1995-96	2.37	161.45
1996-97	2.87	151.70

* Allocation only for purchase of reading materials & does not include other expenses on furniture, equipment, staff, accomodation, etc.

Since DSL has to acquire more of technical reports, specialised monographs, abstracting and indexing periodicals and other research journals than books, the acquisitions also reflect such priorities. Table 2 gives the collection in terms of different types of publications or documents.

DSL acquires a number of CD-ROM databases which are used by the concerned groups for providing reference service, CAS and SDI services. The reference service is also strengthened by an impressive collection of reference tools. The list of CD-ROM databases acquired by DSL and a list of selected reference tools available are given in Annexures A & B respectively. In addition to the usual functions of

the library like acquisition, circulation, serials control and reference service, the DSL carries out the following functions :

Table 2 . Holdings of DSL (as 31 March 1997)

Type of publications	No. of documents
Books	63,350
Current Periodicals	376
Bound Volumes of Periodicals	40,807
Technical Reports	72,331
Standards/Specifications	23
Micro documents	56,345

3.1.1 Database Development

The DSL maintains a database of its holdings of books and reports in computerised form using an in-house software called SUCHIKA. Data for this database is collected in the Common Communication Format (CCF) promoted by Unesco. This database is available as online public access catalogue (OPAC) which can be accessed from the terminals kept in the library and also through telephone lines in dial-up mode. It contains presently about 92,000 records.

In addition to this database of DSL holdings, a database of the holdings of books and reports of all the DRDO libraries excluding those of DESIDOC (about 45 libraries/TICs) is also being developed. For this data is received from the DRDO libraries and TICs and then converted into a computerised form. This DRDO holdings database (of books & reports) presently has about 55,000 records.

Another database covering the periodical holdings of DRDO libraries is also maintained in a computerised form. Shortly, all these databases will be made available for online access from distant locations also, in dial-up mode or through the I-Net (a packet switching network provided by the Department of Telecommunications, Government of India).

3.1.2 Knight-Ridder (DIALOG) Service

Majority of the requests for information are served from the holdings of the DSL. However, for current and exhaustive searches from

databases which are not received in CD-ROM, the library searches the knight Ridder (formerly known as DIALOG Information Service) databases.

3.1.3 Manual of Library Procedures

The libraries in the DRDO laboratories located at various places in the country, were following procedures which differed in some aspects from those of others. Such differences were mainly in the activities of acquisition, circulation, serials control and financial management. So, in order to make these procedures uniform so that a single library automation software would serve all the libraries and also for pooling up and exchanging of holdings information, DESIDOC has evolved, in collaboration with other DRDO libraries, a set of uniform library procedures. A manual covering these common procedures has been issued as a departmental document by the DRDO headquarters for use by all the libraries in the Organisation. This manual is titled, 'Procedure Manual for Libraries and Technical Information Centre.'

3.1.4 Development of Library Management Software

For automating the functions and services of the DSL and also to help automation of those of other DRDO libraries, DSL has got a developed software called SUCHIKA. This is an integrated software which is applicable for computerising all the library functions and for providing online catalogue. The software has been developed in C++ and is available both in DOS and UNIX versions. This is available to non-DRDO libraries/organisations also on payment.

The software developed earlier before the SUCHIKA was called DELMS which was implemented in DSL and was also distributed to some other DRDO libraries and to the INFLIBNET Program of the University Grants Commission.

3.1.5 DSL Extension Unit at DRDO Headquarters

While the library support to the DRDO Headquarters is mostly provided by DSL, an extensive unit of DSL called the Technical

Information Centre (TIC) functions at the DRDO Headquarters. This serves as an extension counter of DSL and the publications to be issued to the members of the Headquarters are done so through this unit. Also, the unit receives and displays about 80 current periodicals (other than those received in DSL) and maintains a small reference and other book collection for meeting the immediate and day-to-day reference requirements of the Headquarters. Old issues of periodicals are transferred to DSL for retention.

3.1.6 Resource Sharing with other Libraries

DSL participates in resource sharing programmes with other libraries particularly the major S&T libraries in New Delhi. It supplies contents pages of selected journals required by the participating libraries and also receives the ones required by its users. In addition, it actively participates in the DELNET program.

3.2 Information Services Division

DESIDOC constantly endeavours to bring to the notice of DRDO scientists the information received in DSL. In other words, it makes efforts to take the library to its users. This is done by providing exhaustive and regular CAS and SDI services. Since it would require considerable efforts to take the vast information received to a large number of scientists, a separate Division called Information Services Division (ISD) is formed for the purpose. This Division is committed to beam the incurring information to the scientists of the corresponding subject disciplines. Thus, while the DSL provides information against specific queries (reference service), i.e. information service on demand, the ISD provides anticipatory information services like CAS and SDI. Towards this the Division provides the following services.

3.2.1 Defence Technology Alerts (DTA): A Weekly Current Awareness Service

About 60 military journals are regularly scanned for collecting information relevant to DRDO. Abstracts of such articles/papers are

prepared and arranged under different subject groupings is brought out as the DTA. Printed copies of the DTA are mailed to about 500 project groups and individual scientists in DRDO and other agencies of the Ministry of Defence.

3.2.2 Selective Dissemination of Information (SDI)

Out of the 23 CD-ROM bibliographic databases received in DSL, about half a dozen are selected based on demand, and these are matched by computer with about 500 subject interest profiles of project groups and individual users of DRDO for generally SDI reports and the matched outputs are mailed to the respective users once a month. A mechanism of feedback from the users is built into the operation of the service through which the Division regularly receives feedback from the users on the relevance of the items included in the SDI outputs. Since the SDI service provides mostly titles and/or abstracts of relevant papers or publications, the users frequently request for full texts of some of the SDI items. DESIDOC expects the libraries or TICs of the respective laboratories to provide such document delivery service. In case a DRDO library is unable or finds it difficult to provide full texts of the documents, DSL also makes efforts to provide document delivery service to DRDO scientists. This work often necessitates acquiring copies of articles from other libraries while this is done for DRDO demands, non-DRDO requests for document supply is done only when the requested document is available in DSL.

3.2.3 Newspaper Clippings Service (NCS)

Over 16 newspapers are daily scanned and news items and articles of Defence interest and also those of interest to scientists in general, are collected and included in this daily service which is sent daily to the top management at DRDO HQrs. In addition to selected newspapers, important news items and articles are collected from a few magazines like India Today, Front Line, Sunday, New Scientist, etc and included in this service. About 35 top and senior officials in DRDO receive this service daily.

3.2.4 Forthcoming Conferences

This is a quarterly awareness service giving details of forthcoming conferences, seminars and symposia of potential interest to DRDO scientists. While scientists use such information for presenting papers at such events, libraries use it for acquiring the proceedings of interest to their laboratories. About 500 scientists and project groups receive this information.

3.2.5 Translation Services

Since nearly half of world's S&T literature output is in languages other than English, DESIDOC, right from its initial stages, has been providing translation services to DRDO scientists from languages like Chinese, French, German, Japanese, Russian, etc. While the Centre has a few staff for some of these languages, it maintains panels of translators from other organisations and individuals to cope up with the demand from the DRDO scientists for translations. The number of pages of original text in different foreign languages translated during the year 1996 was about 2,000 pages.

3.2.6 Database Development

Computerised databases covering the items selected for CAS and SDI services will be developed and maintained shortly. A database of the translations done so far by DESIDOC is already available as 'Translation Bank'.

3.2.7 International Directory of Defence Related Institutions & Industries

The ISD initially collected a large number of addresses for compiling mailing lists for Centre. This was subsequently augmented further and a directory of institutions and industries in various countries engaged in defence-related activities, both in the public and private sectors, was compiled. This has then been published under the Special Publications Series of DESIDOC. Most of the information in the Directory was included after getting authenticated and updated by the respective organisations.

3.3 DRDO Publications

DESIDOC also acts as the publication wing of DRDO. On behalf of the Organisation it

publishes a number of periodicals and other special publications.

3.3.1 Defence Science Journal (DSJ)

This is a quarterly research periodical of DRDO which publishes original research papers having application to defence and critical reviews on topics of defence science. It also includes short communications. The papers contributed to the Journal are refereed by experts in the field and its policies and procedures are guided by an Editorial Advisory Board and an Editorial Executive Committee both comprising eminent experts in different disciplines related to Defence. Every issue of DSJ is usually a special issue on a specific topic and an eminent scientist in the field is associated with it as a Guest Editor. The Journal is a priced publication and is abstracted in about a dozen international abstracting/indexing periodicals.

3.3.2 Technology Focus (TF)

This is bi-monthly periodical focussing on the technologies developed by DRDO. Since many of these technologies have applications in the civilian sector also, TF is well received not only by defence agencies in various countries but also non-defence agencies both in the public and private sectors.

3.3.3 DESIDOC Bulletin of Information Technology (DBIT)

The DBIT is a bi-monthly which endeavours to bring the current developments in library and information technology to its readers. It publishes original papers and review articles and also current developments in library and information science and technology. Special issues of the Bulletin are brought out with senior information experts as Guest Editors. Recent special issues published include:

- Internet for the Librarian (Guest Editor: Dr P Vyasamurthy)
- Expert Systems in LIS (Guest Editor: Prof YP Dubey)

- Copyright Problems in Library Services (Guest Editor: Dr NR Madhava Menon)
- Collection Development in the Context of Electronic Publishing and Networking (Guest Editor: Prof IK Ravichandra Rao)
- Indian Library Networks (Guest Editor: Dr SS Murthy)

The papers received for publication in the Bulletin are refereed and those recommended by the referees for publication are published. This is a priced publication.

3.3.4 DRDO Newsletter and DRDO Samachar

These are monthly house bulletins of DRDO. They present the manifold activities of the DRDO laboratories and establishments. Besides reporting technical developments, they cover topics such as personnel news, academic and cultural activities, visits of VIPs and so on. The main objective of these publications is to bridge the communication gap among various levels of management and other staff. The English version of the newsletter is called DRDO Newsletter and the Hindi version is called 'DRDO Samachar'.

3.3.5 DRDO Monographs

For disseminating specialised and detailed information on specific scientific topics, DESIDOC publishes (on behalf of DRDO) the Monographs/Special Publications Series. Eminent scientists are commissioned to write monographs and other such special publications, and the manuscripts thus received edited and published by DESIDOC. These are priced publications. The titles published so far include the following:

- Introduction to Torpedo Technology by Rear Admiral Ramnarasiah
- The other side of Science by Prof KAV Pandala
- Radiological Protection—A Handbook by A Nagaratnam

The following titles are being published:

- Camouflage Technology by JV Ramana Rao

- Guided Weapons System Design by Dr R Balakrishnan
- Directory of Aerospace Scientists in India
- Night Vision Technology by Dr R Hradaynath

3.3.6 *DESIDOC News*

This is a monthly house bulletin of DESIDOC which announces the scientific developments in the Centre, the staff news, etc. This is supplied free of charge to libraries and information centres in DRDO in other organisations.

3.4 Human Resource Development

Information science and technology is developing very fast and the library and information specialists must keep themselves abreast with those developments for making effective use of them in constantly improving their services. Towards this end, the Human Resource Development Division of DESIDOC conducts refresher courses and other training program in the areas of library and information science and technology. Although these are mainly meant for the DRDO personnel, suitable candidates from other organisations are also accepted on a nominal fee. Several courses on indexing, online searching, Internet, Effective communication, Library Automation, Database Development, etc have so far been conducted. Such and other relevant courses will also be conducted every year.

The Division also arranges for the visit of BLISc and MLISc students from various universities to the various Divisions of DESIDOC when they visit on study tours.

3.4.1 *Consultancy*

DESIDOC endeavours to provide consultancy to other organisations in the establishment of libraries and technical information centres, and in database development, library automation, online and Internet searching, reprography, multimedia development, etc. Some of the organisations to which consultancy services were provided include Nehru Memorial Museum Library, NISSAT, and Consultancy Development Centre (CDC).

3.5 Technical Services

All the technical services support required by various Divisions of DESIDOC is provided by the Technical Services Division (TSD). These services include the following:

3.5.1 *Online and Network Services*

DESIDOC took initiative and obtained e-mail and Internet facilities for DRDO laboratories and its headquarters by obtaining group subscription to such facilities from ERNET of the Department of Electronics (DOE) and the RENNIC of National Informatics Centre (NIC). This means, if any DRDO laboratory or office is interested in having e-mail/Internet facility, DESIDOC contacts either ERNET or NICNET authorities and arranges for installation of such facility. DESIDOC presently uses both the facilities at 2.4 kbps line speed and it is establishing a 64 kbps link through ERNET for accessing databases (including graphics and multimedia) available on Internet. The I-Net facility of the Department of Telecommunications (DOT) is already available in the Division which will be used for providing online access from different places to all the databases maintained by DESIDOC.

The TSD is also installing a local area network (LAN) connecting the computers functioning in various Divisions in the Centre. This will help in better utilisation of computers and their peripherals like printers and for accessing the library and other information online.

3.5.2 *Multimedia and Reprographic Services*

The Division has excellent facilities for preparing high quality 35 mm colour slides, overhead projection transparencies and for colour photography. These are used for providing high quality presentation materials to the scientists and the top level officials like the Scientific Advisor to Defence Minister, Chief Controllers (R&D), Directors of laboratories and so on.

Facilities for production of multimedia CD-ROMs have also been recently established and a few multimedia CDs are under production.

3.5.3 Printing Services

DESIDOC provides printing services to the DRDO HQs and laboratories. For this, it established a phototypesetting and offset printing unit. Manuscripts are also accepted in the form of computer floppies and using a special software, the text on the floppies is transferred to the phototypesetting unit and the final high resolution formatted text is obtained and used for printing by offset process. When the demand exceeds the capacity of the printing unit and for multicolour printing jobs with high quality photographs, the unit uses the services of external printing presses.

The printing unit produces a large number of publications/documents every year.

3.6 R&D Unit

The fast developments taking place in information science and technology necessitate doing R&D work for their application at the level of particular libraries or information centres. Also, new applications for current technologies are to be developed to suit local requirements. With this view, an Research & Development Facility (RDF) has recently been started in DESIDOC. The RDF not only carries out research on its own but also would collaborate with external experts and institutions to work on R&D problems of mutual interest.

CD-ROM Databases Received in Defence Science Library

Name	Frequency	Type	Subject coverage
Aerospace Database (1989—)	(4/12)	Bibliographic (Abstracts)	Aeronautics, Astronautics
ANSI (1995)	(6/12)	Full text	American National Standards
AS&TI (1983—)	(12/12)	Bibliographic (Citations)	300 S&T journals
BSI (1996)	(6/12)	Full text	British standards
Chemical Abstracts (1996—)	(12/12)	Bibliographic (Abstracts)	5000 Journals, Conference proceedings (Chemical & related subjects)
COMPENDEX (1995—)	(4/12)	Bibliographic (Abstracts)	Engineering and Technology
Current Technology Index (1986—1993)	(4/12)	Bibliographic (Abstracts)	400 S&T periodicals, UK
DOD Standards (1996)	(6/12)	Full text	UK military standards, Specifications
Global Defence Information (GDI) (1987—)	(12/12)	Bibliographic (Abstracts)	47 Periodicals on Military Science
Historical Standards, Specifications (1996—)	(1/12)	Full text	Historical MIL standards
IEE/IEEE Publications on Disc (1990—)	(12/12)	Bibliographic (Abstracts)	IEE/IEEE publications, conference proceedings, standards, etc.
INSPEC (1989—)	(4/12)	Abstracts	4800 journals, books, conference proceedings (Physics, Computers, Electronics)
ISO Standards (1996)	(6/12)	Full text	International standards
LISA Plus (1969—)	(2/12)	Bibliographic (Abstracts)	Library and Information Science
NTIS (1983—)	(4/12)	Bibliographic (Abstracts)	US Government reports
Patent View (1996—)	Weekly	Full Text	US patents
Powder Diffraction File (1994)	(1/12)	Full Text	Powder diffraction patterns
Ulrich's Serials Database (1994)	(1/12)	Bibliographic (Abstracts)	Periodicals
US Patent Images (1995)	Weekly	Full Text	US patents
Whitaker's Book Bank (1993)	(12/12)	Bibliographic (Abstracts)	British books
Worldwide Standards (1996)	(6/12)	Full Text	ASTM, ISO, UK Defence standards and specifications
GLOBAL Books (1997)	(12/12)	Bibliographic (Abstracts)	Titles of US, UK, Canada, Australia, Europe, etc.
RISK (1997)	(6/12)		Unclassified databases. of organisation suspected of building weapons

Selected Reference Titles Available in Defence Science Library

A. Important Reference Sources

- Comprehensive Heterocyclic Chemistry
- Comprehensive Inorganic Chemistry
- Comprehensive Organic Chemistry
- Comprehensive Organometallic Chemistry
- Comprehensive Polymer Science
- Dictionary of Inorganic Compounds
- Dictionary of Organic Compounds
- Dictionary of Organometallic Chemistry
- Elsevier Encyclopedia of Organic Chemistry
- Encyclopedia of Applied Physics
- Encyclopedia of Arms Control & Disarmament
- Encyclopedia of Chemical Processing and Design
- Encyclopedia of Chemical Technology
- Encyclopedia of Computer Science and Technology
- Encyclopedia of Environmental Control Technology
- Encyclopedia of Fluid Mechanics
- Encyclopedia of India
- Encyclopedia of Industrial Chemical Analysis
- Encyclopedia of Library and Information Science
- Encyclopedia of Mathematics
- Encyclopedia of Microcomputing
- Encyclopedia of Physical Science and Technology
- Encyclopedia of Reagents for Organic Synthesis
- Encyclopedia of Telecommunications
- Handbook of Data on Organic Compounds
- International Encyclopedia of Composites
- International Military and Defence Encyclopedia
- Jane's Military Systems Handbook (18 titles)

- Mc-Graw Hill Encyclopedia of Science and Technology
- Metals Handbook
- Rodd's Chemistry of Carbon Compounds
- Systems and Control Encyclopedia

B. Series Publications

- Advances in Cryogenic Engineering
- Advances in Electronics and Electron Physics
- Advances in Polymer Science
- Control and Dynamic Systems
- Institute of Mathematics and its Applications
- Lecture Notes in Computer Science
- Materials Research Society Symposium Proceedings
- Materials Science and Technology
- Progress in Astronautics and Aeronautics
- Semiconductors and Semimetals
- Solid State Physics
- Springer Proceedings in Physics
- Springer Series in Materials Science
- Springer Series in Optical Science
- Springer Series in Solid-State Science
- Springer Series in Surface Science
- Topics in Applied Physics
- Topics in Current Chemistry
- Topics in Current Physics

C. Abstracting and Indexing Journals

- Applied Science & Technology Index (Upto 1991)
- Chemical Abstracts-complete set with all the indexes
- Computer and Control Abstracts (upto 1988)
- Engineering Index (up to 1988)

- German, French, Soviet, Japanese and British Patents Abstracts (upto 1991)
- Journals of Current Laser Abstracts
- Military Science Index
- Physics Abstracts (upto 1988)
- World Translations Index

D. Other Publications

- United States Military Standards

- Worldwide Standards Service (on CD-ROM) (covers about 1,00,000 standards from 400 standards agencies including ASTM, BSI, ISO, ANSI, Defence Standards, etc.
- UK Defence Standards and Specifications
- SPIE Proceedings
- IEEE Transactions & Journals (Complete set)
- NTIS SRIM (11 subject categories of Defence interest)