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(B) ELECTRONIC RESOURCE MANAGEMENT SYSTEM

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Unit -II

Electronic Information resources: Meaning and definition, Growth and development, Types. E- Journals, e-Books, e-Theses, e-newspapers, Blogs, Wikis.Free *online* Dictionaries, Non-free online dictionaries, Free Thesauri. Encyclopedia, Virtual Libraries, Subject gateways and Portals

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Introduction

- The twentieth century was shaped by sweeping changes in Information and Communication Technologies.
- Information and communication technology (ICT) generally relates to those technologies that are used for accessing, gathering, manipulating and presenting or communicating information.
- The technologies could include hardware (e.g. computers and other devices); software applications; and connectivity (e.g. access to the Internet, local networking infrastructure, video conferencing).
- It is s dynamic and unending resource that affects all discipline and all spheres of life. Consequently, the Research and Development community has also undergone tremendous changes during these years, assuming new dimensions influenced by technology-driven applications .

- Libraries have witnessed a great metamorphosis in recent years, both in their collection development and in their service structures. Libraries are now using technology to improve the management of scholarly information and to provide speedy access to scholarly information.
- With advances in technology, print medium is increasingly giving way to the electronic form of materials.
- The transition from print to electronic medium apart from resulting in a growth of electronic information, has provided users with new tools and applications for information seeking and retrieval.

Origin and Growth

The early Libraries were defined as an Institution that managed and preserved the intellectual sources of society in print form and made them available in a systematic manner to the users, who could readily gain access to these resources.

- Evaluation, growth of Internet and e- publishing industries in the field of information and communication technology has given birth to electronic resources.
- Societies are transforming from information societies into knowledge societies.
- E-resources play an important role by providing a convenient medium and fast access to a vast range of information.
- Beginning in the mid 1990s, several publishers started to explore the possibilities of delivering information to libraries and their users in the electronic form (Wikipedia.org).

Definition

- An "Electronic Resource" is defined as any work encoded and made available for access through the use of a computer. It includes electronic data available by (1) remote access and (2) direct access (fixed media).
- In other words:
  - Remote access (Electronic Resources) refers to the use of EIRs via Computer Networks.
  - Direct Access (EIRs) refers to the use of electronic resources via carriers (e.g., discs/disks, cassettes, cartridges) designed to be inserted into a computerized device or its auxiliary equipment.

Purpose of E- resources

- ✓ Main purpose of electronic resources is providing current information.
- ✓ Up date information is necessary for research work.
- ✓ Through electronic resources users are able to access latest information.
- ✓ Save the time of user and staff
- ✓ Solve the space problem in library
- ✓ Easy to use and disseminate

Need of Electronic Resources

- Electronic resources have great potential and bright future to attract users. It combines all the benefits of the multimedia, digital coding and Internet.
- It enable user to carry everywhere and can be read on all types of computers including handled device.
- E- Resources can be downloaded instantly.
- Users can read an e- resource any time
- Due to portability, e-resources can be taken any where on portable computer.
- Font size can be changed suitably;
- E- resources provide facility to hold and turn pages easily
- Physically disabled users can hear audible E- resources

Need continued…..

- In buying E- resources, the overhead charges like shipping , postal ,handling are totally ruled out
- Some E- resources are interactive

  E- Resources have back round music and animations.
- E- resources do not require bindery and repair
- E- resources save human resources for shelving and rectification
- User can not misplace e- books

Types

- Electronic Information Resources (EIRs) are increasingly important to all aspects and all levels of education and research. With the advent of World Wide Web, the EIRs have flourished in unprecedented way and have become the focus of research and academic activities of institution in recent years.
- These Electronic Information Resources (EIRs) provide quick and comprehensive access information to the users by using best, easier and user-friendly tools and techniques.
- Different EIRs are

- Electronic Journals
- Electronic Books
- E-Zine
- E-Thesis and dissertation (ETD)
- E-News Papers
- E-Reference books
- Databases
- Blogs
- Patents
- Standards
- Dictionaries
- Consortia

E-Journals:

- E- Journals are define as any journals, magazines or types of serial publications, which are available electronically and can be accessed through computer and different technologies i.e. CD-ROM, WWW, Email, FTP etc.
- A Journal may contain Research Paper, articles, Scholarly Communication etc
- E-journals are defined as any serials publications published and distributed nationally and internationally via electronic networks such as Internet.

Types of E-Journals

- **Classic e-journals:** are available through internet application, such as email, but now these journals are available on web and only alert of new journals are distributed by email.
- **Parallel e-journals:** are available in both print and electronic form. The online version may include the full-text of journal, table of content or selected articles from the print version.
- **Database model and software model:** provides article in a centralized database, maintained by the publisher and subscribers are given permission to locate and access
- the database

- **CD-ROM journals:** many commercial publishers made full text journal article available on CD-ROM. Many libraries have often subscribed journals both online and on CD-ROMs.
- **Full text journals:** are completely available journals rather than just summaries or abstracts. Usually the whole of the journals is available online.
- **Electronic only journals:** are those journals that are only available electronically, no counterpart likes print or CD-ROM is available of these types of Journals.

Access to E-Journals:

- The access to E-Journals through Internet is gaining prominence due to the inalienable preferences of the internet over the media such as CD-ROMs and advancement in Web technology.
- The publishers or distributers of E-journals provide the following different types of access mechanisms:
- **Free Access:** Access to the electronic version of a journal is free with the subscription to the print journal.
- **Exclusive Subscription:** Library can have complete access to all the e-journals brought out by the publishers without subscribing to its print counterparts.
- **Selective Access:** Subscribing library chooses a few e-journals from the publishers and pays for them as per agreed terms and conditions

- **Remote Access:** In this type of model, vendor/publisher has their journals at their website.
- When some institute or library subscribes to the e-journals through that specific publisher, they provide access to these journals to libraries.
- Depending on how this right is defined, the patrons of the library can have access from set of IP addresses or through library's LAN or even both.
- Publishers give the privilege to subscribing library/institution through one of the following strategies like:-
- **User-ID and password:** Publishers provides user ID and password to subscribers, which can be used from any user terminal in the library.

- **IP enabled (Intranet):** This method can be used by the libraries that have intranet based LAN in their libraries or campus.
- Here publisher's server site will recognize and validate the IP address of subscriber's intranet server when each time a user logs into publisher's website for a subscribed journal.
- This is a controlled method of access the e-journals and it can be used by only those libraries that have an intranet based LAN in their library or institution.
- Large publishers like ACS (American Chemical Society) and Elsevier find this method more secured for both themselves and the library .

E- Journals: A Consortia Approach

- Consortia based subscription to electronic resources is now considered to be a plausible strategy to increase the access to e-journals at highly discounted rates of subscription.
- The Consortia-based subscriptions can be successfully adopted by Research Libraries to meet the pressures such as minimized budget, increased user demands and increasing expenses of journals.
- The Libraries everywhere throughout the world are forming Consortia with an objective to exploit global network to promote better, faster and most cost-effective ways of providing electronic information resources to the information seekers.

E-Books

- Electronic-Book is characterized as any Book, which can be downloaded and read on a computer or personal devices.
- Sometimes E-Books are the electronic versions of Print Books and it has easy search facility which reader can see visually and it can be saved on a pen drive, CD etc and transferred to CD-ROM.
- The content is indistinguishable with the exception that there are additional features such as, bookmark and link between issues and solutions.
- The earliest electronic-books were distributed on floppy disk, but in the mid 90s, e-books were distributed on CD-ROMs.
- With the advent of WWW, e-books are easily available on internet. These e-books are self-contained executable files of HTML, which are completely interactive with the Internet.

Different format

- **PDF format:** PDF format is an electronic copy of the printed book. The placement of items on the page are static and will never move. This makes the PDF format ideal for printing, and possibly viewing on computer monitor.
- A PDF format is more difficult to read on small readers, where the page size of the reader is not as large as the original book because the PDF does not scale easily to be viewed on different sizes.
- **E-PUB format:** EPUB files are the most widely accepted e-book format and can be read on the Nook, Sony Reader, Kobo, and I-Pad.
- It is a long stream of text and images that can be re-flowed easily to different sizes of viewing. Having text that re-flows makes increasing font sizes while maintaining readability much easier.

MOBI format: is a Kindle-Friendly eBook format. E-PUB format cannot be read by kindle.

- This format can only be read on a Kindle, unless some special device which indicates to read MOBI format.

Advantage of E-Books

- They are always available for download.
- They cannot be lost or stolen.
- They have hyperlinks which make them easy to navigate.
- Easily download without waiting.
- Less expensive than paper Books.

E-Zine

E-Zine means electronic magazine and it is also called **web- Zine**. The articles that are stored of a file server may be distributed or accessed via a computer network. Some examples of e-zine are:

- www.indiatoday.com
- www.musicindia.com etc.

E-Thesis and dissertation (ETD)

- An ETD is an electronic document that explains the intellectual works or research of a researcher.
- ETD is provides a technologically advanced medium for expressing ideas with less expensive, small space, easy handling, high longevity and never collect dust.

Electronic News Papers

- An electronic newspaper is a self contained, reusable, and refreshable version of a traditional news paper that acquires and holds all information in the news paper electronically.

E-Reference books

Many reference books are also brought out in CD-ROM formats and available online through payment. There are a number of reference sources available freely on-line through Internet.

- http://www.britannica.com/
- http://dictionary.cambridge.org/

CD-ROM

- A compact disk- read only memory is one of a series of devices.
- It is use for store large amount of structured data, bibliographic information full text information and images etc.
- The In combination with Web server the network operating system also enable launching of CD applications from Web browsers, by clicking on hypertext links on a HTML page.

Data Bases

Database is computerized record keeping system. The important thing is that a database allows storing data and getting it or modifying. Databases are a collection of records pertaining to a specific field of study.

- A Database is basically a collection of information organized in such a way that computer program can quickly select desired pieces of data (book.google.co.in).
- It is a regularly updated file of digitized information related to a specific subject of field, consisting of records of uniform format organized for ease and speed of search and retrieval. There are to type of databases –

- **Traditional Databases**
- **Analytical Databases**
- **Operational Databases**

Traditional Databases

- Traditional Databases are organized by fields (a field is a single piece of information),records (record is the one complete set of fields) and files (a file is a collection of records) .
- In a new database approach, rather than having separate data files, a pool of related data is shared by multiple application programs.
- Each application uses a collection of data that is either joined or related in the database. It is therefore, convenient to use, widely available and can be accessed from anywhere by many users at the same time.
- Research libraries, therefore, spend large amounts of money on these databases to satisfy the teaching, learning and research needs of its users.

Analytical Databases

- Analytical Databases are primarily static, read only databases , which store archived, historical data used for analysis. Web pages are generated dynamically search parameters.

Operational Databases

- Operational databases allow to modify that data. These types of databases are usually used to track real-time information.

Form of Databases

Bibliographic Databases:

- Bibliographic Database provides a descriptive record of an item such as author, title, subject, publisher etc. Rather than complete monograph, bibliographic database generally contain rich description in the form of short summary or abstract and keyword etc**.**

AGRICOLA http://www.nal.usda.gov/ag98/

ERIC Databases http://ericir.syr.edu/Eric/

PubMed Medline http://www.ncbi.nlm.nih.gov/PubMed/

SciBASE http://www.thescientificworld.com/scibase/

Full-text Database

- A full-text Database is a compilation of documents or other information in the form of a database in which the complete text of each referenced documents are available for online viewing, printing and downloading.
- For instance, IEEE-Xplore, not only provides index, citation and reference to journals articles, but also provides entire text of the article and paper on computer science, electrical, and electronic engineering etc.
- Example: Web of Science
- Scopus

Citation Databases

- A citation is a reference to an article or part of article identifying the document in which it may be found. References given at the end of an article are called **“cited articles**” while the article that provides references are called **“citing article”.**
- A citation index consists of list of cited articles, each one of them followed by the citing articles.
- ISI Citation Databases are multidisciplinary databases of bibliographic information gathered from thousands of scholarly journals.
- It is indexed so that one can search for specific articles by subject author, journal and author address. The important citation indices produced by the Institute for Scientific Information (http://wwwisinet.com/), are as follows:
  - **Science Citation Index Expanded**
  - **Social Science Citation index**
  - **Arts and Humanities Citation Index**
  - **BioSciences Citation Index**

Features of Databases

- Databases store large quantities of information. The larger the mass of information, the bigger the benefit of using a database.
- Databases make it easy to retrieve information quickly and flexibly.
- Databases help to organize and reorganize information. User can quickly switch between schemes.
- Databases provide facilities to print and distribute information in a variety of ways.

Blogs

- Blogs are defined as A Website that contains an online personal journal with reflections, comments, and often hyperlinks provided by the writer (Merriam-Webster dictionary.com).
- A Blog is a very simple webpage where entries or posts are organized in reverse chronological order (Wikipedia.org).
- It is a unique form of online publishing that creates opportunities for producing knowledge, sharing research, building social networks, developing professionally, or documenting personal growth. Usually, blogs are open to public and these are free to create.
- Most of the blogs are interactive in nature and these are allowing visitors to leave comments and even message each other via widgets on the blogs. This interactivity make them distinguish from other static websites.

Types of Blogs

- **Personal Blogs:** The personal blog is an ongoing diary or commentary written by an individual.
- **Collaborative Blogs or Group Blogs:** In this type of Blog, posts are written and published by more than one author. Majority of groups or collaborative blogs are based on single
- uniting theme, such as Technology or Health.
- **Micro-Blogging:** Micro-Blogging is the act of posting small pieces of digital content which could be a text, pictures, links or other media on the internet. It offers a portable communication mode to share useful resources.
- **Organizational blogs:** These types of blogs are used to enhance the communication and culture in research institutes mostly they update news, upcoming events, technology etc. for research.

Thesauri and Subject Headings

- A thesaurus may be defined either in terms of its functions or its structure.
- In terms of function, it is a terminological control device used for translating from the natural language of documents into controlled vocabulary.
- In terms of structure, a thesaurus is a controlled and dynamic vocabulary of semantically and generically related terms in various fields have been published in order to achieve a unity of indexing terminology in their respective field.
- Subject headings are words or group of words under which books and other material on a subject are entered in a catalogue in which the entries are arranged in alphabetical order.
- List of subject headings are used by the cataloguers to achieve uniformity.

- Typical examples of standard subject headings used in libraries are:
  - Library of Congress Subject Headings (LCSH),
  - Medical subject Headings (MeSH),
  - Subject Headings in Engineering (SHE) and
  - Sears List of Subject Headings (SLSH).
- Some of the thesauri and subject headings available

on the internet are:

- Roget's Thesaurus :http;//www.thesaurus.com/Roget_Alpha-Ind

- M-W Thesaurus http://www.m-w.com/mw/thesaurus.htm

- Medical Subject Headings
- http://www.nlm.nih.gov/mesh/meshhome.html

- Roget's Thesaurus Online: http://www.bartleby.com/62/

Meta Resources

- Meta resources, variably called
  - Subject Gateways,
  - Subject-based Information Gateways (SBIGs),
  - subject-based gateways,
  - subject-index gateways,
  - Virtual libraries,
  - clearing houses,
  - subject trees,
  - pathfinders, and
  - guide to Internet resources are facilities that allow easier access to networked-based resources in a defined subject area.
- A Meta resource can be defined as an organized and structured guide to Internet-based electronic information resources that are carefully selected after a predefined process of evaluation and filtration in a subject area or specialty.

- Meta resources are often independent websites or part of an institution or library's website that serve as a guide to Internet resources considered appropriate for their target audiences.
- A Meta resource site that is a part of an institutional website or the library's website may include resources that are on subscription by the parent organization or are accessible for free, to all.
- A Meta resource site may also be built by a commercial enterprise that is accessible free of cost up to the bibliographic level. However, a user may be required to pay if he/ she wish to access the full-text. Home pages of all the major educational and research institutions, especially in the developed world, provide an organized and structured guide to electronic resources available on the Internet.

Portals, vortals and hortals

- A **portal is a website that offers a broad array of** resources and services and is intended to be the main point of entry to the Internet for the users.
- Portal is a term, generally synonymous with gateway, for a Worldwide Web site that is or proposes to be a major starting site for users when they get connected to the Web or that users tend to visit as an anchor site.
- There are general portals and specialized or niche portals.
- Some major general portals include Yahoo, Excite, Netscape, Lycos, CNET, Microsoft Network, and America Onlineís AOL.com. Examples of niche portals includeGarden.com (for ardeners), Fool.com (for investors), and SearchNetworking.com (for network administrators).

- Besides, hosting a catalogue of websites, a portal site may offer other enticements to the users such as e-mail, forums, search engines, calendars and on-line shopping malls so as to retain users at the site and to draw visitors repeatedly.
- The portals are also characterized by their ability to personalize the site for users according to their own preferences.
- A **vortal is a portal website that provides information and resources for a** particular industry.
- Vortals are the Internet's way of catering to consumers‘ focused-environment preferences.
- Vortals typically provide news, research and statistics, discussions, newsletters, online tools, and many other services that educate users about a specific industry.
- Vortals are the Internet’s way of catering to customers’ focused-environment preferences

- **Hortal or horizontal portals are interesting group or community-specific** portals that provide a business-to-consumer e-commerce web site which allows large numbers of community-based consumers to transact electronically with a limited number of suppliers.
- These suppliers generally supply goods specific to the interest or community group.

Dictionaries

- The Oxford English Dictionary defines a Dictionary as a "Book dealing with the individual words of a language (or certain specified class of them) so as to set forth their orthography, pronunciation, signification and use, their synonyms, derivation and history, or at least some of these facts, for convenience of reference the words are arranged in some stated order, now in most languages, alphabetical, and in larger dictionaries the information given in illustrated by quotations from literature"(OED, 2017).

Types of Dictionaries

- **General Dictionaries**
  - (a) Academic or Normative Dictionary,
  - (b) Referential or overall Descriptive Dictionary
- **Special Dictionaries**

The Special Dictionaries may be classed into the following groups on the basis of the nature of their word lists:-

(1) Covering special Geographical regions, Social Dialects or Special Spheres of human activity,

(2) These are in formal shape,

(3) Special language units and others

- **Dialect Dictionaries:** dialect dictionaries deal with the word stock of a particular geographical region or social group.
- The dictionaries usually contain words not found in the standard language i.e. words which are variations of the standard form, or words whose meanings are restricted to a particular area or social group.
- The preparation of these dictionaries is generally associated with dialect surveys.
- The entries are selected form the data collected on the basis of extensive field work, preparation of linguistic atlases, recording of all the regional variations of the lexical units etc.

- **Closely related to the dictionaries of technical terms** are those of different professions, trades, crafts, sports etc. These dictionaries present words peculiar to a particular profession e.g. Dictionary of fishing terms etc.
- Many dictionaries of agriculture terms have been compiled in India. E.g. Grieson's Behar Peasant Life is a good example of professional dictionary.
- **Not very far removed from these dictionaries** are the dictionaries of slangs, jargons, argot etc.
- These dictionaries contain closed set of words used by a particular class of people. These words are either newly coined words or general words with some new special and secret meaning attached to them.
- In both cases the secrecy of the word is strictly maintained and is considered a taken of group solidarity. Any violations in the norms results in the disowning of the person in the group

Online Dictionary

- An online dictionary is a dictionary that is accessible via the Internet through a web browser. They can be made available in a number of ways: free, free with a paid subscription for extended or more professional content, or a paid-only.

- Academic Press Dictionary of S&T
  http://www.harcourt.com/dictionary/
- Dictsearch: Search in Online
  http://www.foreignword.com/Tools/Dictionaries
- Cambridge Dictionary Online
  http://disctionary.cambridge.org/
- Merriam- Webster Online http://www.meriam-webster.com/

Online Encyclopaedia

- Availability of enormous storage space in the CD-ROM coupled with sophisticated search software witnessed the appearance of several encyclopaedias on CD-ROM.
- Later, web versions of these encyclopaedias became available as important reference tools on the web. Web versions of several important encyclopaedias are available over the Internet.
- A few examples are given:
- En cyclopaedia Britannica http://www.britannica.com/
- Columbia Encyclopaedia http://www.bartleby.com/
- Encarta Encyclopaedia http://encarta.msn.com
- ImportantEncyclopaedia http://www.encyberpedia.com/cyberlinks

Virtual Libraries

- The term “Virtual Library” or “**library without wall”** usually refers to the Meta resources or subject portals that extend virtual accessibility of digital collections from several diverse sources without the users even knowing where the resource actually resides.
- A virtual library could potentially be enormous, linking huge collections from all around the globe, or it could be very small, consisting of a few hundred links to digital resources maintained by an individual.
- A virtual library also known as a Digital Library or an electronic Library may be defined as the online facility provided by a conventional library to read books and access other facilities or it may mean a website which offers links to various sites with a large store of information in a catalogued or archived form.

- The term is more often used to refer in a collective manner to the entire number of online books and other literary material related to any subject available on the Internet.
- Virtual libraries can be very useful and very diverse in what they contain. The options for what they can include are virtually endless, and become more and more boundless as technology advances.
- Some of the content of virtual libraries may include, but certainly is not limited to
  - **CD-ROM,**
  - **Internet subscriptions,**
  - **lists of annotated web links,**
  - **internal work products,**
  - **proprietary databases and**
  - **even web spiders or push technology** that deliver targeted research to the user.

- **WWWVirtualLibrary:**The WWW Virtual Library (VL) is the oldest catalogue of the Web. It is individual indexes live on hundreds of different servers around the world.http://vlib.org/
- **INFOMINE: Scholarly Internet Resource Collection** INFOMINE is a virtual library of Internet resources relevant to faculty, students, and research staff at the university level.
- http://infomine.ucr.edu/
- **Vifamath: the Virtual Library of Mathematics** Vifamath, the Virtual Library of Mathematics is the central access point for your search for mathematical information. It allows to search both for conventional forms of media and for electronic resources.http://vifamath.de/

Wiki

- A **wiki** (**listen)** ***WIK-ee***) is a knowledge base website on which users collaboratively modify content and structure directly from the web browser. In a typical wiki, text is written using a simplified markup language and often edited with the help of a rich-text editor.
- A wiki is a Web site that allows users to add and update content on the site using their own Web browser. This is made possible by Wiki software that runs on the Web server. Wikis end up being created mainly by a collaborative effort of the site visitors. A great example of a large wiki is the **Wikipedia,** a free encyclopedia in many languages that anyone can edit.
- The term "wiki" comes from the Hawaiian phrase, "wiki wiki," which means "super fast." "**Wiki**" (pronounced **[ˈwiki] is a Hawaiian word meaning "quick".**

- A wiki is run using **wiki software**, otherwise known as a wiki engine. A wiki engine is a type of **content management system**, but it differs from most other such systems, including **blog software**, in that the content is created without any defined owner or leader, and wikis have little inherent structure, allowing structure to emerge according to the needs of the users.
- There are dozens of different wiki engines in use, both standalone and part of other software, such as **bug tracking systems**. Some wiki engines are **open source**, whereas others are **proprietary.**
- Some permit control over different functions (levels of access); for example, editing rights may permit changing, adding, or removing material. Others may permit access without enforcing access control. Other rules may be imposed to organize content.

Services

- The online encyclopedia project **Wikipedia** is the most popular wiki-based website, and is one of the most widely viewed sites in the world, having been ranked in the top ten since 2007.
- wikis functioning as **knowledge management** resources, **note taking** tools, **community websites**, and **intranets**. The English-language Wikipedia has the largest collection of articles; as of September 2016, it had over five million articles.
- **Ward Cunningham,** the developer of the first wiki software, **WikiWikiWeb**, originally described wiki as "the simplest online database that could possibly work".

Subject Gateways

- Web Masters define a **Subject Gateway** as a Web based mechanism for accessing a collection of high quality, evaluated resources identified to support research in a particular subject or discipline.
- **Subject Gateway** is an organized collection of resources on a given **subject** along with a retrieval mechanism. ... In the simplest form, the resources may be made available as a structured hyper-linked directory as followed by some of the search engines sites that offer directory services
- Library and Information Science
  - LIS Learning
  - LISGateway.com
  - Infolibrarian
  - AILLMIS- All India Libraries and Librarians Management Information System

- **AERADE: Reports Archive:**AERADE is a Gateway for aerospace
- http://aerade.cranfield.ac.uk/
- **DMOZ:** The Open Directory Project is the largest, most comprehensive human-edited directory of the Web.http://www.dmoz.org/
- **ELDIS:**Eldis is an online information service providing free access to relevant, up-to-date and diverse research on international development issues. http://www.eldis.org/
- **Internet Public Library (ipl2) – Information you can trust** ipl2 is a public service organization and a learning/teaching environment and it the first public library of and for the Internet community. http://www.ipl.org/

WorldWideScience.org: One-stop searching of worldwide science sources: World Wide Science.org is a global science gateway comprised of national and international scientific databases and portals. WorldWideScience.org accelerates scientific discovery and progress by providing one-stop searching of databases from around the world. Multilingual WorldWideScience.org provides real-time searching and translation of globally-dispersed multilingual scientific literature.

http://worldwidescience.org/

Intute: Intute is a free online service that helps you to find the best web resources for your studies and research. Intute is the internet Guide to Engineering, Mathematics, Computing, Agriculture, Law, Physical Science, Social Science, Mangagement, Bioglogical Science, Geography, Medicine and many more.With millions of resources available on the Internet, it can be difficult to find useful material. http://www.intute.ac.uk/

- **SciCentral: Gateway to the best science news sources** SciCentral provides aggregated breaking science research news from the most reputable and reliable sources. SciCentral is a gateway to thousands of online resources, grouped by science area (Biological, Health, Engineering, Physical & Chemical, etc.) and then subdivided by resource type (directories, specialized resources, databases, special reports,articles). http://www.scicentral.com/ **Science**

Other gateways

- LibrarySpot.com: (http://www.libraryspot.com/)
- Librarians' Index to the Internet (LII) (http://lii.org/)
- Argus Clearing House (http://www.clearinghouse.net/)
- Galaxy (http://galaxy.einet.net/)
- Direct Search (http://gwis2.circ.gwu.edu/~gprice/direct.htm)
- Academic Info (http://www.academicinfo.com/)
- BUBL (http://bubl.ac.uk/)
- BIOME (http://biome.ac.uk/)
- The Scout Report (http://scout.cs.wisc.edu/report/sr/current/)
- LivingInternet.com (http://www.livinginternet.com/)
- Edinburgh Engineering Virtual Library (EEVL) (http://www.eevl.ac.uk)
- Social Science Information Gateway (SOSIG) (http://sosig.ac.uk/)
- Digital Librarian (http://www.digital-librarian.com/)
- QUEST.net (http://www.re-quest.net/)
- BioMedNet (http://www.bmn.com/)