UNIT-4

E-Resources

Location	Learning Outcome	Knowledge Evaluation	Performance Evaluation	Teaching and Training Method
• Class room, library or computer laboratory.	• Introduction: Understanding E-resources.	• Meaning, definition, need and purpose.	• Explain E-resources. • Able to define E-resources. • Able to identify need and purpose.	• **Interactive lecture:** Explained E-resources.
	• Categories of E-resources on the basis of content.	• E-Book. • E-Journal. • E-Newspaper. • E-Databases. • Subject gateways. • Other E-resources.	• Explain E-book. • Explain E-journal. • Explain E-newspaper. • Explain subject gateway. • Explain other E-resources.	• **Interactive lecture:** Discuss different categories of E-resources with example. • **Activity:** Visit computer laboratory show students different types of E-resources available on Internet.
	• Categories of E-resources on the basis of accessibility.	• On-line E-resources. • Off-line E-resources.	• Explain on-line E-resources. • Explain off-line E-resources.	• **Interactive lecture:** Discuss on-line & off-line E-resources. • **Activity:** Visit computer laboratory & show students on-line & off-line E-resources.
	• Advantage and disadvantage of E-resources.	• Advantage and disadvantage.	• Explain advantage and disadvantage of E-resources.	• **Interactive lecture:** Discuss advantage and disadvantage of E-resources. • **Activity:** Visit computer laboratory, show students advantage and disadvantage of E-resources on internet.

	• Practical.	• Different kind of E-databases. • Downloading of E-books in different format. • Downloading of articles from the E-journals databases. • Visit to the various subject gateways.	• Explain different kinds of database. • Able to locate and download E-book, articles. • Able to access subject gateways.	• **Interactive lecture:** Discuss the process of downloading E-book, articles and process of accessing subject gateways. • **Activity:** Visit computer laboratory, download E-book, articles from internet, access subject gateways searches.

4.1 Introduction: Understanding of E-resources

The electronic resources, also known by its acronym as e-resources are any information resources consist of data (information representing numbers, text, graphics, images, maps, moving images, music, sounds, etc.), programs (instructions, etc., that process the data for use), or combinations of data and programs in electronic or digital form. This resource can be born digital or digitised from other forms of information resource as print books, journal, photographs, etc. Such resources are becoming more and more dominant and will continue to do so in the future because of its characteristics of easy and quick retrieval and dissemination.

The E-resources requires computer for processing, storing, retrieving and disseminating. The most important characteristics of this category of resources from the service point of view is that it can be accessible through a personal computer, mainframe or handheld mobile devices, etc. These resources can be accessible to the users remotely via the internet or locally on intranet.

There are many factors that attract the users towards the E-resources. The technological advancements and the acceptance of technology by the mass are two major factors in the growth of E-resources. E-ink technology has made reading on screen comparable to reading on paper. The desktop computer, laptop, smart phone, iPods, etc., have become essential accessories of the mass. Such portable technology and easy access of internet have trained people use the E-resources.

The unprecedented penetration of electronic content presently in the libraries is amazing. Today, the collection of information resources of a library includes various types of E-resources as E-journals, E-books, scholarly databases (abstract, index and full text), etc.

Categories of E-Resources

The E-Resources can be categorized in various types on the basis of certain characteristics. Those characteristics are:

A.   Content

B.   Accessibility

4.2   Categories of E-Resources on the Basic of Content

The E-Resources can be further grouped on the basis of their contents as follows:

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a. E-Book
b. E-Journal
c. E-Newspaper
d. E-Database
e. Subject Gateways
f. Other E-Documents

(a) E-Book

An E-Book is the electronic version of a book covering its full contents (illustration, diagram, text, etc.). E-book can be viewed on a desktop computer, laptop, and smart phone or e-book reader. A large number of e-books can be stored in portable units, eliminating weight and volume compared to the print version.

These days, most of the books are published in print as well as in electronic form. It has been observed that some books are published in electronic form exclusively. Apart from these, a number of universities, corporate houses and national governments have converted their old collection of printed books in electronic format. Because of these factors, the volume of E-book is increasing day-by-day.

Worldwide, the libraries are acquiring E-books and making them available to their members. The e-books can be purchased online by an individual and can make his / her own collection as people use to make their own library of printed books.

Figure 4.1: http://www.securedgenetworks.com/Portals/80068/images/ebook03.jpg

A good numbers of E-books are also available on the internet free of cost in most of the subject areas. Some are available for browsing and many titles are for downloading. For experiencing yourselves, follow the links given bellow:

Classic Bookshelf is a website, having collection of classics. One can read the books online and make reading enjoyable with its customization features. The website address is (http://www.classicbookshelf.com/). **Computer Science Books (**http://freecomputerbooks.com), having collection of books on computers science from all over the world.

Project Gutenberg (http://promo.net/pg/) gives online access to full text of classic books on different subjects, which were published before 1923. The project covers the books which are free from copyright. One can download texts from this website.

E-Books versus Printed Books

The acceptance of the E-book in the society getting high but, the printed book has also not lost its own place. A comparison between these two forms of the same information source has been made you understand the differences. The comparison is as follows:

E-Book	Printed Book
• Reader can customize E-book while reading as the size of the font or complete display may be changed.	Customization is not possible as size and display is fixed.
• Full text is searchable, a single word, phrase, quotation, or anything can be searched by the search engine of the E-book software. Even, if the book is in simple PDF format, features of the PDF reader can used for search, etc.	User will have to search the text using his/her experience. The book has index, which is helpful in searching the content but full text search is not possible.
• E-book can be supported with multimedia as animation,video, etc and at the same time the effect can be experienced.	Print book cannot display or run multimedia on paper.
• The content of E-book can make note, bookmark page, highlight content and selected for own purpose and these content can be further copied and one can create own file for using as courseware, power point presentations, etc.	Content can be highlighted or marked with ink or ink based highlighters but it damages the book. For copying a person will have to write in notebook.
• The portability is very high The reader can store hundred and thousands of books in laptop, smart phone, handheld devices, etc. and can also carry can also carry while travelling.	The portability is very low as it has volume and weight both. Storing of printed books takes space and carrying a large number becomes difficult.

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• Multiple reader can read same copy of an E-book simultaneously if, it is shared through network.	Same copy cannot be read simultaneously.
• Sending E-book worldwide through email or other mode on internet is easy, secure, time and cost saving. • The libraries can offer reading of E-book 24 hours and 365 day at the system of the readers through internet. There is no need to go and sit in the library for limited hours.	Only send through physical transportation mode which is costly, time consuming and unsecure (may be lost in the way) services in case of printed book.
• Loss, theft, degradation or damage in disaster is impossible.	Can be lost, theft degradation, or in case of disaster can be damaged.
• Multiple libraries can go for resource sharing easily in case of E-book and save the time and resources on Inter library loan.	Libraries can only share through Inter Library loan which expensive, time and resource consuming.
• Per unit cost to the library for providing reading service is lower.	Per unit cost to the library providing reading service is high.
• It always needs some skill and expertise to read through the machine or devices. It is difficult for children and semi literates to read E-book.	Simple skill to tuning page to read the content. Anyone can read easily.
• Devices always need electricity to run or charge their battery.	No need.
• Still poor section of the society cannot afford to by machines or devices.	No need.

These are some general observations but you can make comparison yourselves and find some more characteristics.

E-Book Format and Reader

The E-books come in different computer file format and a number of readers are available. Some of the popular format and readers are as follows:

- EPUB/ .epub- this format proposed by the International Digital Publishing Forum (IDPF).
- PDF / .pdf - portable document format (PDF) is widely available and readable on several types of devices.
- eReader/ .pdb- eReader software is available for many devices including iPhone/ Touch.
- Mobipocket / .prc / .mob
- Text/ .txt, Rich text/ .rtf, HTML / .html, .doc, JPEG Image/ .jpg etc.

E-Book Readers

Microsoft's free Reader, Amazon Kindle, Sony Reader, iPhone, etc.

Figure 4.2: E-book Reader

Review Questions

A.   Fill in the blanks

1.   The E-resources requires _____ for processing, storing, retrieving and disseminating.

2.   A large number of E-book can be stored in a portable units, eliminating weight and volume compared to the _____ version.

B.   Multiple Choice Questions

Tick the correct answer

1.   Name the characteristic, on the basis of which E-resources can be categorize.

(a) Accessibility and dispatch

(b) Online and print

(c) Print and analogue

(d) Content and accessibility

2. Which special device is used for online reading, downloading, storing and off-line reading – E-books?

(a) Card reader

(b) PDF reading

(c) Book reader

(d) Optical Character Reader

C. Short Answer Questions

1. What do you mean by E-resources?

2. What is an E-book?

3. How one can read an E-book?

4. What are the main difference between E-books and printed books?

5. Which one you will prefer, either print or E-books, and why?

Checklist for Assessment Activity

Use the following checklist to see if you have met all the requirements for Assessment Activities.

Part-A

1. Understood E-resources.

2. Understood different characteristics and categories of E-resources.

3. Differentiated E-book and printed book.

4. Identified different format of E-book.

Part-B

1. What is E-resources?

2. What are different characteristics of E-resources?

3. Differentiate E-book and printed book.

4. List different format of E-book.

Part-C

Performance Standards

The performance standards may include, but not limited to:

Performance Standards	Yes	No
Able to explain E-resources.		
Able to identify categories of e-resources.		
Able to understand difference between e-book and printed book.		
Able to list different format of e-book.		

(b) E-Journal

E-journal is the electronic form of its print counterpart and it possess numerous additional features. E-journal is often referred to interchangeably as "Electronic Serial", "Online Journal" and "Electronic Periodical". Lancaster (1995) defines an E-journal as "a journal created for the electronic medium and available only in this medium". Electronic serial may be defined very broadly as any journal, magazine or newsletter which is available over the Internet (E-journal Miner).

According to CONSER (The Cooperative Online Serial cataloging program), a remote access electronic serial is a continuing resource that is accessed "via computer networks". It is issued in a succession of discrete parts usually bearing numbering, and has no predetermined conclusion. This is in contrast to direct access electronic resource which is issued on a physical carrier such as CD-ROM, DVD or floppy disks, etc.

Most common format of E-journal is HTML and pdf. Each and every format having its own advantages and disadvantages. The HTML format provides option for hypertext linkage and flexible searching. The file size of this format is smaller in comparison to the PDF. But, the display of HTML format based Journals may change with different browser and the printing may also become troublesome.

The PDF provides familiar look for users, easy conversion of legacy print. But, this format requires additional plug in or software i.e. Acrobat Reader for displaying the content.
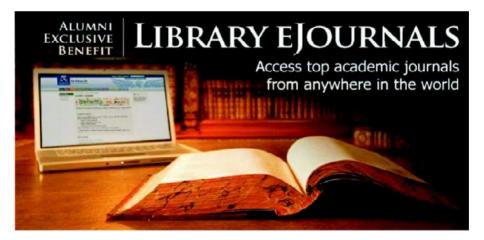

Figure 4.3: http://alumni.news.unimelb.edu.au/sites/alumni.news.unimelb.edu.au/files/images/2013/03/ejournals.jpg

Salient Features of E-Journals

According to Sreekumar (2005), the salient features of E-journals are as follows:

- Online access (endless outreach capability).
- Concurrent access by multiple users.
- Anytime, anywhere access and at a 24X7X365 formula.
- Support for multi-point searching capabilities.
- Unique features like hyperlinks to related items, reference linking, etc.
- Substantial saving in physical storage space.
- Support for multimedia information.

Benefits E-Journals to Libraries

The benefits of E-journal to the libraries are as follows:

- Superior resource delivery.
- Delivery of services based on E-journals is faster and at user's place.
- Improved service.
- Cost savings.
- Reduced shelving, binding, maintenance, claiming.
- Simultaneous access.

Benefit E-Journals to Users

The users are the most beneficiary from E-journal. The benefits can be described as:

- Independent of space and time as user can access the content any time from his/ her own place.
- Interact with other electronic resources as user can follow the links and further get more related information on the subject.
- Save user's time as user can access from his/her own place hence, it saves time and efforts of the users as there is no need to visit library for this purpose.
- Accessible by multiple users simultaneously as hundreds and thousands of the users can access same content through network.
- Damage, stolen, lost, vandalize, etc is impossible as the content is in soft form and accessible through network..

Drawbacks of E-Journals

There are some drawbacks of E-journal also. Those can be listed as:

- **Authentication Issues:** E-journals are not always peer reviewed hence it poses questions over their authentication.
- **Archival issues and long term preservation:** E-journal subscription provides access of content for the period of subscription. It is not delivered as the print journals. Once library stop subscription, it loses the right of access of the journals of subscription period.
- **Technology does not Always keep up with E-Journal Technology:** The publishers adopt and upgrade the technology comes in the field of E-journal publishing. But, the technology available at users' end doesn't get changed or up-graded with same pace.
- **Temporary Unavailability due to Technical Reasons:** Sometimes, the accessibility of the content of E-journals become unavailable because of system failure, as failure of internet connection, problem at server end, etc.
- **Managing E-Journals Require much more Skilled Manpower:** A set of skills is required for managing E-journals. The libraries may be difficulties in hiring skillful human resources or upgrading the skills of existing resources with the pace of changing technology.

Printed verses Electronic Journals

There are a number of differences between electronic and printed version of journals. Some of them are as follows:

- The printed version of a particular journal may differ in its content, appearance and presentation from its electronic 'equivalent'.
- Some articles may not be available online.
- The electronic version may have added features such as links to related information or other articles.
- Most electronic versions are presented in PDF (Portable Document Format) format, which requires the Adobe Acrobat Reader software to be installed on the computer. This enables the article to appear exactly the same as the printed version including pictures, graphs, figures, etc.
- Some are also available in HTML format which appears as a normal web page. This has various advantages: extra links can be added to related material; it loads more quickly than Adobe; does not require Adobe to be installed.
- Often the electronic version of a journal is uploaded and made available before the printed version is received. The reason behind are printing or postal delays.

Open Access E-Journals

Open Access (OA) E-journals or free e-journals are those which are available free of cost to individuals or institutions for access. The user can read, download, copy, distribute, print, search, or provide links to the full texts articles of such E-journals.

Open-access (OA) literature is digital, online, free of charge, and free of most copyright and licensing restrictions. OA removes price barriers (subscriptions, licensing fees, pay-per-view fees) and permission barriers (most copyright and licensing restrictions). Because OA uses copyright-holder consent or the expiration of copyright, it does not require the reform, abolition, or infringement of copyright law. Some of the OA journal publishers are non-profit (e.g. Public Library of Science or PLoS) while some are for profit making (e.g. BioMed Central or BMC).

Figure 4.4: Screen of an Open Access Portal

Some of the OA proponents use a color code to classify journals. For example gold (provides OA to its peer-reviewed research articles, without delay), green (permits authors to deposit their peer-reviewed manuscripts in OA repositories), pale green (doesn't opposes, preprint archiving by authors), gray (none of the above).

For a list of OA journals in all the fields and languages, you can see the Directory of Open Access Journals at http://www.doaj.org.

Review Questions

A.   Fill in the blanks

1.   E-journal is the ———————————— form of its print counterpart.

2.   Electronic serial is a continuing resource that is ———————————— via ———————————— network.

B.   Multiple Choice Questions

Tick the correct answer

1.   What does PDF stand for?

(a)   Printable defined format

(b)   Portable document format

(c)   Printable document file

(d)   Principal document format

2.   Find out the most suitable feature of E-journal.

(a)   Online access

(b)   Access by multiple users

(c)   Saves physical storage space

(d)   All of the above

C.   Short Answer Questions

1.   What do you mean by E-journals?

2.   What are pros and cons associated with the e-journals?

3.   What are the main features of e-journals?

Checklist for Assessment Activity

Use the following checklist to see if you have met all the requirements for Assessment Activities.
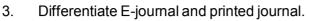
Part-A

1.   Understood the basic concept of e-journal.

2.   Understood features, benefits and drawbacks of E-journal.

3.   Differentiated E-journal and printed journal.

4.   Understood open access journal.

Part-B

1.   What is an E-journal?

2.   What are different features, benefits and drawbacks of E-journal?

3. Differentiate E-journal and printed journal.

4. What is an open access journal?

Part-C

Performance Standards

The performance standards may include, but not limited to:

Performance Standards	Yes	No
Able to explain E-journal.		
Able to identify different features, benefits and drawbacks of E-journal.		
Able to differentiate E-journal and printed journal.		
Able to explain an open access journal.		

(c) E-Newspaper

The E-newspaper is often associated with an existing print newspaper. These days all most all the newspapers publish their electronic version of the same newspaper which is being published in print form. One can access electronic version of any newspaper of the world on internet from anywhere in the world. This version of newspapers become helpful to all in general but specially to those persons who are away from their region or nation but wish to keep track on the news of the their region or nation. Here, a few newspapers from the world has given bellow with their website address for your convenience.

- The Guardian, http://www.theguardian.com
- The Hindu, www.thehindu.com
- The Hindustan Times,http://www.hindustantimes.com/
- The Times London, http://www.thetimes.co.uk
- The Times of India, http://timesofindia.indiatimes.com
- The Washington Post, http://www.washingtonpost.com

Figure 4.5: E-Newspaper

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(d) E-Database

An E-database is an organized collection of information, on a specific subject or multidisciplinary subject area. The information of an E-database can be searched and retrieved electronically with the help of personal computers, tablets, mobile phone, etc. The type of database on the basis of its content may be:

- Bibliographic Database
- Full-text Database
- Numerical and Statistical Databases
- Images Database
- Audio Database
- Video Database
- Multimedia Database

Bibliographic Database

Bibliographic database is a database of bibliographic records, an organized digital collection of references to published literature, including journal and newspaper articles, conference proceedings, reports, government and legal publications, patents, books, etc. In contrast to library catalogue entries, a large proportion of the bibliographic records in bibliographic databases describe analytics (articles, conference papers, etc.) rather than complete monographs, and they generally contain very rich subject descriptions in the form of keywords, subject classification terms, or abstracts.

The Indexing and Abstracting Databases is one of the categories under the bibliographic databases. The database provides bibliographic information along with the abstract of the articles, published in different journals. Such databases are usually subject specific. There are a number of such databases in different subject area. For example, LISA i.e. Library and Information Science Abstract is an international database in the field of Library and Information Science, which index journals, conference proceedings, book reviews, and research reports of the subject from more than 68 countries and in 20 languages. In the field of biomedical science, the National Library of Medicine, United States of America maintains such database known as Medline. It is available on internet as PubMed (http://www.ncbi.nlm.nih.gov/pubmed). You can search the database and see the references. It is free of cost.

Examples:

- **INDMED: Index to Indian Biomedical Journals** (http://indmed.nic.in/) the ICMR-NIC Centre for Biomedical Information (Indian MEDLARS Centre) has designed and developed a bibliographic database from Indian biomedical literature. To start with 75 prominent Indian journals, have been selected to build up the database entitled IndMED. The coverage of database is from 1985.
- **ISID Index to Indian Social Sciences Journals** (http://isid.org.in/) indexes around 125+ Indian Social Science journals enabling users to search for references on the

basis of string (series of characters) either for author's name, or words in titles for selected journals. Most of the journals are indexed from the first volume. Also indexes press clippings taken out from 14 India's English dailies. Access is free with simple registration. [Click on Databases to go to login page].

- **AgEcon** (http://ageconsearch.umn.edu/) search collects, indexes, and electronically distributes full text copies of scholarly research in the broadly defined field of agricultural economics including sub disciplines such as agribusiness, food supply, natural resource economics, environmental economics, policy issues, agricultural trade, and economic development.

- **Agricultural Online Access** (Agricola) (http://agricola.nal.usda.gov/) is an index to all aspects of agricultural sciences.

Figure 4.6: Bibliographic Database Access Portal

Full-Text Databases

The Full-text databases are databases that provide full text of articles published in the journals that they index. The availability of full-text articles depends on whether they are open access (free) or on the Library's subscription agreements with each publisher or aggregator.

Examples:

- **Economic History Encyclopedia Index** (http://eh.net/encyclopedia/) here search can be made for high quality full articles related the area of Economic and Business History.

- **Scientific Electronic Library Online** [SCIELO] (http://www.scielo.org/) is a model for cooperative electronic publishing of scientific journals on the Internet. Especially conceived to meet the scientific communication needs of developing countries, particularly Latin America and the Caribbean countries, it provides an efficient way to assure universal visibility and accessibility to their scientific literature, contributing to overcome the phenomena known as "lost science".

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Figure 4.7: Full Text Database

Numerical and Statistical Databases

The numeric and statistic database contains the numeric data based on some characteristics. For example database census of a nation, database of accounts of an organization, database of the results of an experiment, etc. such databases are needed for reference, planning and decision making, analyses, etc.

Example:

Census of India (http://censusindia.gov.in/): The database is created and maintained by the Office of the Registrar General and Commissioner, India.

Figure 4.8: Numerical & Statistical Database

Images Database

The image database is a collection of images in digital form along with the description about the images. Such databases are being created on the basis of some characteristics and purposes. For example, the database of the images of slides, writers, leaders, sports persons, famous personalities, etc. Some of the libraries also maintain such databases for the members or official use.

Example:

- Kamat Research Database-Old Photographs of India (http://www.kamat.com/database/content/old_photo/).

- Families in British Indian Society, Image Gallery (http://www.gallery.fibis.org/).
- Oriental Bird Images-a database of the Oriental Bird Club (http://orientalbirdimages.org/).

Figure 4.9: Image Database

Audio Database

The audio database is the collection of audio materials as songs, sound of instruments, speeches of leaders, thinkers, scientists, etc, audio books and so on. Each and every record is being created with full details so it can be searched and retrieved from the database. You would oftenly downloading songs from the internet. The organizations providing downloading facilities, maintains the songs in the form of database with complete descriptions as in case of songs from movies then, lyricist, composers, singer, title of the movie, the song filmed on the characters, etc.

Example:

- Indian Music Library-Twaang- a database of Indian Music maintained by the Google play and is freely available for listening. (https://play.google.com/store/apps/details?id=com.twaang.app&hl=en).

Figure 4.10: Music Database

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Video Database

The video database is the collection of videos with descriptions and search ability. You might have seen, and uploaded as well downloaded video from internet. There are a number of organizations to create, maintain and provide access to video databases. For example, a database of Hindi films, documentaries on different subjects or themes, education ware, etc.

Example:

- YouTube (www.youtube.com)
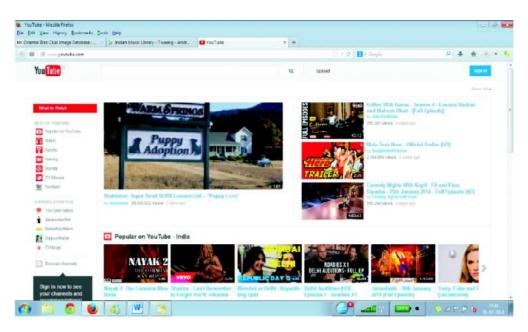
Figure 4.11: Youtube

Multimedia Database

The multimedia is such a content or document which uses media as audio, video, animation, text, images, graphics, drawings, etc. Some of these or all of them may be fussed for the purpose of creating content on a topic or subject. The database of such contents known as Multimedia database. Especially in education sector, such databases are created and provided for engaging students in better way. For example, the Indira Gandhi National Open University and National Council of Education Research and Training, create and maintains maintain such database in the field of education. You can also get such content on www.youtube.com.

Review Questions

A.   Fill in the blanks

1.   One can access electronic version of any newspaper which is being published in _____.

2.   An e-database is an organized collection of _____ on a specific subject or multidisciplinary subject area.

B. Multiple Choice Questions

Tick the correct answer

1. Under which category of database, Indexing and abstracting database fall?
    - (a) Video database
    - (b) Audio database
    - (c) Full text database
    - (d) Bibliographic database

2. Identify a web portal which provides access to multimedia database.
    - (a) www.youtube.com
    - (b) http://isid.org.in
    - (c) www.scielo.org
    - (d) http://censusindia.gov.in

C. Short Answer Questions

1. What do you mean by E-database?
2. What do you mean by bibliographical databases?
3. What do you mean by full text database?

Checklist for Assessment Activity

Use the following checklist to see if you have met all the requirements for Assessment Activities.

Part-A

1. Understood E-newspaper.
2. Explained different types of database.

Part-B

1. What is E-newspaper?
2. What are different kinds of database?

Part-C

Performance Standards

The performance standards may include, but not limited to:

Performance Standards	Yes	No
Able to explain E-newspaper.		
Able to explain different kinds of database.		
Accessed different kinds of database on internet.		

(e) Subject Gateways

Internet with its growing resource base, contains rich information on various subjects, one can even say that the Internet is a living library where one can find up-to-date information on various subject.

However, a major challenge faced by the internet user is lack of proper mechanism to spot the right information from an authentic source. When we search any information from a search engine such as Google (http://www.google.com), it display thousands of results. For reaching to the desired resources, weeding out the unnecessary sites that usually come out of the search process is tiring and time taking job.

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One solution that has been developed to tame this kind of problem and facilitate the users, get the desired information with minimal efforts, is the service known as subject gateways. The common definition describes it as internet-based service; provide unified access to a collection of high quality, evaluated resources in a particular discipline at one place. The users find databases, digital libraries, selected web resources etc, on a given subject or discipline. Resources on subject gateways are selected by editorial review process hence, there is not any problem of authentication.

Salient Features of Subject Gateway

The salient features of the subject gateway may be described as:

Subject Specific: - gateways are subject-centric. They host information related to a particular subject only.

Quality of resources: - a significant feature of a subject gateway is that the selection of resources is based on the scope of the content and its relevance with the subject are of the gateway. The quality of the selected content is high as they are selected on the basis of some criteria such as originality, relevance, etc.

Scientifically organized data: - The resources collected by the gateway subject experts are properly catalogued and classified using data organization and classification schemes.

Example:

- Inflibnet-an Indian organization created by University Grant Commission of India to network the Libraries and Information Centers of Indian universities, institutions of higher studies, etc. It provides subject gateway which can be accessed at http:// infoport.inflibnet.ac.in/index.aspx

- North-Eastern Hill University Library at http://www.nehu.ac.in/library/sig.html

Figure 4.12: Subject Gateway

(f)   Other E-resources

Other than the E-resources discussed above there are a number of documents which are available in electronic format. For example the theses submitted for Ph.D. degrees, Dissertations, different reports, government's documents, judgments of different courts, etc.

Review Questions

A. Fill in the blanks

1. Subject gateway provides access to a collection of high quality, evaluated resources in a particular _____ at one place.

2. The resource collected by the subject gateway are properly _____ and _____ using data organization and classification schemes.

B. Multiple Choice Questions

Tick the correct answer

1. How can a subject gateway be accessed?
   - (a) Through internet
   - (b) On CD-ROM/DVD ROM
   - (c) Through Newspaper
   - (d) Through journals

C. Short Answer Questions

1. What is a subject gateway?
2. What is the purpose of subject gateway?

Checklist for Assessment Activity

Use the following checklist to see if you have met all the requirements for Assessment Activities.

Part-A

1. Understood subject gateways.
2. Accessed different subject gateways on internet.

Part-B

1. What is subject gateway.
2. Identify different features of subject gateway.
3. Access different subject gateway on internet.

Part-C

Performance Standards

The performance standards may include, but not limited to:

Performance Standards	Yes	No
Able to explain subject gateways.		
Identified different features of subject gateways.		
Access different subject gateways.		

4.3 Categories of E-resource on the Basis of Accessibility

On the basis of accessibility, the E-resources can be put in two groups:

(a) On-Line E-Resources

(b) Off-Line E-resources

(a) On-Line E-Resources

The electronic resources accessed with the help of internet or some other network are called On-line E-resources. Such resources could be any things as Books, Journals, Maps, Images, Sound files, Video files, Animation, or multimedia, etc. There are two types of online resources available on internet, one is paid or subscription based and other is open source. The paid resources are those for which the owner of the resources or their vendor charge certain amount for either downloading of browsing online. In the case of open sources, the users are provided the resources free of cost. The greatest feature of the online resources is that the same information can be accessed by many persons simultaneously. These days, the libraries are providing online information to their members through internet. The members log in to the web site of the library through their log in identifier (log in ID) and password and then get access to the on-line E-resources of the library whether they are at the web site of the library or at the vendor or publishers website.

(b) Off-Line E-Resources

The E-resources provided on CD-ROM, DVD or any other storage media for the purpose of access are known as off-line E-resources. These E-resources are accessible within the organization. Technologically, it is possible to provide the access of these off-line resources remotely but the moment it would do so, they will fall in the category of online E-resources.

4.4 Advantages and Disadvantages of E-Resources

Advantages of E-Resources

Under different categories of e-resources, we have discussed category specific advantages to the users as well as libraries. The advantages of the E-resources in comparison with print resources is high. The library gets much more benefits from such resources to provide better and efficient services to its members and also saves its own resources. Some of the benefits are as follows:

(i) **Multiple Access:** Same E-Resources can be accessed by many readers simultaneously.

(ii) **Remote Access:** A reader can read or download E-Resources from the compatible devices as Desktop Computer, Laptop, Tablets, Smart Phone, etc, from his/her own place through the Internet.

(iii) **Speed:** The delivery of E-Resources is fast. It can be accessed from anywhere in the world within a few second, if available on-line.

(iv) **Functionality:** Analysis of the content of E-Resources can be done with the click of mouse. The hyperlinked E-Resources have the facility to navigate through the associated materials, references, etc, if those are also available on-line. The navigation within the document becomes easy when proper hyperlinks are provided.

(v) **Content:** New genre of contents has become easy to design and publish because of this format. For example animation, multimedia, etc. E-Map is one of the important resources, helping people day and night in locating places, natural resources, etc, on the same window with the click of mouse.

(vi) **Space:** The E-Resources saves physical space to store as a large volume of

information can be stored in a very small storage devices like, Hard Disc Drive, Pen Drive, Secured Digital Memory Card(SD Card), etc. Because the storage devices, digital collections are being developed easily and offered to the users.

Disadvantage of the E-resources

The E-Resources having some disadvantages also as:

(i)   **Copy Right:** The copyright is the legal right given to the creator of the content of the information resources, music chord, paintings, or any intellectual properties. This is being provided under the law of any nation. If any information resources, protected by the copyright, then it is always necessary to take permission from the owner of the resources to read, download or browse. If author has not put the resources in free of cost domain then a certain price is to be paid to the owner of the resources.

(ii) **Computer or other Device:** The computer, laptop, smart phone or any other suitable device is needed to read, browse or download E-Resources. Specially, a large population in the developing country are not able to get such devices.

(iii) **Access to Network:** E-Resources are accessible through internet or any other network but, especially in rural areas, a large population of developing countries are not able to get access to network.

(iv) **Skills:** Searching, retrieving and making use of E-Resources require a certain level of skill. Very large population in developing countries are not having such skills.

(v)   **Cost of the Resources:** The cost of E-Resources is very high in comparison to printed resources.

(vi) **Language:** Very less E-Resources are available in vernacular languages.

Review Questions

A.   **Fill in the blanks**

1.   Online E-resources are accessed with the help of _____ or some other networks.

2.   E-resources can be accessed by many readers _____.

B.   **Multiple Choice Questions**

Tick the correct answer

1.   What is the cost of proprietary E-resources in comparison of printed resource?
     (a)   Very high
     (b)   Very low
     (c)   Equal
     (d)   None of the above

2.   The legal right given to the creator of content is known as:
     (a)   Copyright
     (b)   Selling right
     (c)   Printing right
     (d)   Mutual right

INFORMATION STORAGE AND RETRIEVAL

C. Short Answer Questions

1. What do you mean by multiple access?
2. Why does E-resources save physical storage place?

Checklist for Assessment Activity

Use the following checklist to see if you have met all the requirements for assessment activities.

Part-A

1. Understood online and off-line E-resources.
2. Identified advantages and disadvantages of E-resources.

Part-B

1. Differentiate online and off-line resources.
2. Identify the advantages of E-resources over printed resources.
3. What are disadvantages of E-resources?

Part-C

Performance Standards

The performance standards may include, but not limited to:

Performance Standards	Yes	No
Able to explain online and off-line E-resources.		
Able to identify advantages of E-resources over printed resources.		
Able to identify disadvantages of E-resources.		

4.5 Summary

Electronic resources are growing and taking and getting more and more acceptance by the mass. It has become an important resource of the wish list of libraries and the expectations of the users. E-resources and combined with communication technologies provides opportunity to the libraries for providing direct access to resources rather acquire and house them. Access can be directed to a user's home or workplace, allowing end users to make independent choices about what they want, from what sources, and how quickly. User gets more accurate and complete data with less effort in the electronic environment. It is up to librarians to make effective use of the data to provide the right information at the right time at the right cost.

For this purpose, the libraries has a numbers of E-resources to develop it electronic collection and provide better services. All most all the traditional information sources are coming in electronic format. Apart from the traditional sources, new genre of sources have born. These electronic sources has given users, the freedom from time and space in accessing library services.

4.6 Exercise

1. What are different devices through which the E-resources are accessible?
2. Write down the various E-book formats.

3. Write down the difference between E-book and printed book.

4. Write a brief note on advantage of an E-book to a user and a library.

5. How specialized Subject gateways are helpful to the information seekers?

6. Explain online and off-line E-resources.

7. What do you understand about the Open access-journals?

8. What are the advantage and disadvantage of E-resources to both users and a library? Explain.

9. What do you mean by phrase full text versus bibliographic database? Explain.

4.7 Practical

1. Search various kinds of e-databases, and give their name also give some description.

2. Download the freely available e-books in different format.

3. Search the subject gateways available on Internet and prepare a short note on them.

4. Survey some the e-book reader available in the market and write down their features.