UNIT 3  SECONDARY AND TERTIARY SOURCES

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3.0  OBJECTIVES

After reading this Unit, you will be able to:
• define a secondary source;
• describe various types of secondary sources;
• categorise varieties of secondary sources within each type;
• describe a tertiary source; and
• categorise various types of tertiary sources.

3.1  INTRODUCTION

We have already introduced to you the characteristics of secondary sources in Block 1, Unit 1, Section 1.2.8 of this course. These characteristics guide you as to what makes a publication a secondary source. When you examine a particular type of secondary source, you may be amazed to see that within a particular type there are a large variety of publications. All of you have seen dictionaries. If you visit the reference section of a library, you may find that there are unilingual e.g. English to English, bilingual, e.g. English to Hindi,
and multilingual, e.g. English to Hindi and Sanskrit dictionaries. You may find some huge dictionaries. In fact, they are unabridged dictionaries. Sometimes they are published in several volumes. There are also abridged dictionaries usually available in single volumes. There are pocket dictionaries as well. You can very easily carry them in your pocket. There are dictionaries which are even smaller than pocket dictionaries. For example, Computer Dictionary by Ian Scales and Geof Wheelwright [New Delhi: Galgotia, n.d.] is having the following dimension 2.5” × 2” × 0.5”. You will find dictionaries almost on all important subjects. Dictionaries on phrases and fables, quotations, abbreviations, etc. are also available. From this you can have some idea about the different type of dictionaries. You will also find this sort of variety in the case of encyclopaedias, periodicals, yearbooks, and others. Within the brief scope of this Unit, it is not possible to describe all of them in detail. However, you will get glimpses of many of them. When you will actually work in libraries, you will have the opportunity to handle them and learn about them in much more detail.

### 3.2 SECONDARY SOURCES

While going through the structure of this Unit given above you have got an idea about the wide spectrum of publications that comprise of secondary sources. We shall discuss these sources to give you some basic idea about them.

#### 3.2.1 Secondary Periodicals

A secondary periodical may be defined as a periodic publication that disseminates information, contained in primary sources in various forms such as index, abstract, digest, account, etc. In this section, we shall discuss about express information services, abstracting services, indexing services, reviews of progress, popular periodicals, technical periodicals, trade journals, house journals, etc.

**Express information bulletin** – It is a secondary periodical published mostly in Russia and contains detailed summary of the article along with the mathematical formulae, calculations and illustrations. It resembles an abstracting periodical but contains much more detailed information. Usually four issues are published in a month and they are devoted to narrow areas of science and technology such as computer engineering, informatics and radio engineering.

**Abstracting periodicals** – An abstracting periodical is a periodic publication that contains an abstract of the publication in addition to the bibliographical details. The abstract may be informative or indicative. To give you a clear idea about an abstracting periodical a page from Indian Library Science Abstracts 2000-2005 [Kolkata: IASLIC, 2010] is being reproduced below.

**0X(2,0Z,8e) THE BOOK, GENERAL ASPECT**


The title of the paper is borrowed from a book (a collection of essays which first came out as a thematic issue of the scholarly, Daedalus, vol 125 no. 4, 1996) which is the subject matter of the present paper, i.e. the future of books and libraries. The viewpoint of each author of the book is presented and then the present author
gives his own considered views about the future of libraries and librarianship in the 21st century.

0007 RISWADKAR (M R). Newer media of communication and the book. In Dr. PSG Kumar festchrift- Library and Information Profession in India. V.1,pt.1: Reflections and redemptions. 2004. 38-41

Discusses the trends in communication media and its effect on reading habits. It also examines the effect of these media on book publishing and book trade. Concludes that there is no sign of decline in the book industry and reading scores over viewing.

0008 SHYAMA RAJARAM. The status of books in the foreseeable future. Lib Her 40(2), 2002,99-105

For over 400 years since the printing of Bible by Gutenberg, printing has been the only mass media of communication. Mentions that radio, television, computer, communication satellite and a number of other electronic communication systems appeared only in the 20th century. Points out that owing to this technological explosion that was experienced in the second half of the 20th century, some prophets of the electronic age pronounced the death of books. Attempts to answer the momentous question - what would be the future of books? Concludes that, books certainly would have an enduring appeal even in the foreseeable future, although their impact in certain areas may get diluted.

0Y KNOWLEDGE/UNIVERSE OF SUBJECTS

0009 DAVARPANAH (M R). The face of knowledge in information system. In Information, communication, library and community development (Festschrift in honour of Prof. C P Vashishth), ed. by B. Ramesh Babu and S Gopalakrishnan. 2004, V.1, 39-49

Explains certain ideas used when thinking and discussing the transformation of data (raw facts) to information and knowledge. This has become important as we are in the midst of an economic transition from an area of competitive advantage based on information to one based on knowledge creation.

From the page you may notice that entries are arranged in alphabetical order within the ultimate class. Each entry has a serial number and the bibliographical details of the article. The bibliographical details of the article comprise of author(s), title of the article, and other details that help to locate the document.

An abstracting service is devoted to a particular subject and covers a large number of periodicals in different languages depending on the subject. Chemical Abstracts (CA), [Colombus, Ohio: Chemical Abstracts Service, American Chemical Society, 1907-.Print.] for example, covers articles from more than 10,000 journals, patents, conference proceedings, technical reports, books, dissertations, reviews, meeting abstracts, electronic journals, and web reprints emanating from about 150 countries in more than 50 languages. Three thousand records are added daily to the database called CAplus. (SciFinder Web). CA provides informative abstracts. The first sentence of the abstract highlights the primary findings and the conclusions reported in the original document. The text that follows gives (i) the purpose as well as the scope of the reported work, (ii) new reactions, compounds, materials, techniques, procedures, apparatus, properties and theories that figured in the work, (iii) new applications of established knowledge, if any (iv) the results of the investigation plus the author’s interpretation and conclusion.

Abstracting periodicals generally bring out author and subject indexes. Some abstracting services bring out many more indexes. The indexes brought out by
*Chemical Abstracts* are subject index, numerical patent index, patent concordance index, author index, formula index, ring index, chemical substance index, etc.

These type of periodicals are basically used for carrying out literature search required for conducting research, writing a review article, a monograph, etc.

**Indexing periodicals** — An indexing periodical is a periodic publication that includes the bibliographical details of an article or any other document. It does not provide any abstract. Entries are arranged either under class number or under subject headings. Many of these periodicals also bring out author and subject indexes. It is to be noted that an abstracting periodical is usually devoted to a subject which is not the case with indexing periodicals. They may or may not belong to a particular subject. For example, *Readers’ Guide to Periodical Literature* [New York: Wilson, 1900-. Print.] covers all subjects. On the other hand *Index Medicus* [Washington: National Library of Medicine, 1960-. Print] is devoted to medicine only.

There are several types of indexing periodicals. In most of the indexing periodicals entries are arranged according to subjects. The subjects are represented either with subject headings or with class numbers. However, in some indexing periodicals only the content pages are reproduced and they are arranged according to the titles of the periodicals. This type of indexing periodicals are of *Current Contents* type. Institute of Scientific Information (ISI) started this type of indexing periodicals way back in 1961. Even now, they are being published by Thomson Reuters in seven series from New York. ISI started publishing another type of indexing periodical called citation indexes. *Science Citation Index* was the first to come out. It appeared in 1963. Subsequently two more major indexes started i.e. *Social Science Citation Index* [New York: Thomson Reuters, 1972-.] and *Arts and Humanities Citation Index* [New York: Thomson Reuters, 1978-]. In these indexes entries are arranged according to cited authors.

Different types of indexing periodicals are used differently. *Index Medicus* is generally used for compiling bibliographies on medical topics required for conducting research, writing a paper, a book or a monograph, etc. An active researcher always looks for latest articles on her/his area of research. For this purpose s/he usually scans the content pages of a few periodicals devoted to her/his topic. *Current Contents* [New York: Thomson Reuters, 1961-] helps a researcher to scan the content pages of the periodicals of her/his choice. Citation indexes are used for depicting the citation scenario of the papers written by scientists, scholars, etc. generation of bibliometric indicators like impact factor, immediacy index, etc. of journals, and compilation of bibliographies using source index.

**Reviews of progress** — A researcher before undertaking a research work intends to be sure about the work that has already been done in her/his chosen field. For this purpose, first of all, s/he compiles a comprehensive bibliography of research documents that have been published in the past years in various countries of the world, in the chosen field, in diverse languages. After the compilation of the bibliography s/he procures all these documents from different libraries and documentation centres. Some of these documents will be in languages which are not known to her/him. Therefore, s/he will have to get them translated. Once the process of compilation of the bibliography, procurements of the documents, and translation of some of them
is complete, s/he can start reading the documents. After reading them carefully s/he knows what research work has already been done on the field and what remains to be done. The process involved is costly, highly laborious, and time consuming. There was a time when procuring a document from the Soviet Union used to take about a year or more and a researcher had to spend about a year or so in just completing the literature search. To obviate the difficulty of the research workers, reviews of progress came into being.

Reviews of progress, or simply called ‘reviews’ are, in fact, articles. They are different from book reviews. A review article is a comprehensive survey of the literature on a narrow field, covering a particular period. The state-of-the-art review informs what all has been done in that field. On the other hand, a critical review provides critical evaluation of new ideas, methods, results and conclusions in the document under review. It is opined that a review article should be long enough to introduce a newcomer to the field and yet short enough to be read for the mere pleasure of exploration’. Every review article is accompanied with a comprehensive bibliography that saves time and labour of a researcher in respect of the compilation of a bibliography.

Review articles are published in journals like *Nature* [London: Macmillan, 1869-] and *Current Science* [Bangalore: Current Science Association, 1932]. There are many serial publications that publish only review articles. Two such examples are:


**Popular periodicals** – A popular periodical, as the name suggests, is a periodic publication that usually serves common people, students, technicians, teachers, and others. These periodicals contain popular articles written in a lucid style on a particular area of knowledge. Learned or pedantic articles are generally not included. Some of the other features of these periodicals are as follows:

i) They are brought out by governments, societies, commercial publishers and even private individuals.

ii) Usually popular description of scientific discoveries, inventions, facts, latest developments in various fields, etc. are included in them.

iii) Articles are not usually refereed and their standards vary.

iv) The address of the author is not always mentioned.

v) The date of the receipt of the article is usually not given.

vi) In many articles the list of references may be absent.

vii) They are usually not abstracted or indexed.

viii) Apart from popular articles on various subjects, they usually contain editorials, notes and news, book reviews, obituaries, letters to the editors, biographical sketches, etc.

ix) One of the prime objects of a popular scientific periodical is popularisation of science.
Examples of two popular periodicals are:


*Vijnan* [Hindi]. Allahabad: Vijnan Parishad, 1915-. Print.

**Technical periodicals** – A technical periodical is a periodic publication devoted to a technical subject. In many cases, a technical periodical embraces the features of both a primary periodical and a secondary periodical. Some of the salient features are enumerated below. These periodicals

1. are usually brought out by commercial organisations,
2. are devoted to a particular branch of technology and are meant for technologists, sales and commercial personnel,
3. cater to the information needs of industry by gleaning information from primary sources and presenting it in a lucid form,
4. report new technology developed within the industry or outside,
5. contain illustrated papers (sometimes scholarly) on new processes, equipment, products and materials,
6. include editorials providing background information,
7. have sections like News Columns, Letters to the Editor, Announcements, Obituaries, Personalia, Book Reviews, Abstracts of Papers/Patents/Standards, New Plants, Processes, Products, Equipment and Materials,
8. publish numerous advertisements, (many of them colourful) and also index to advertisers,
9. some are printed on art paper, and
10. a few of them bring out buyers guide, yearbooks, and directories.


**Trade journals** – As the name implies, these journals are meant for persons related to trade and contain matters of trade interest. The technical journals also provide a great deal of trade information creating at times difficulty in drawing a sharp line of distinction between them. However, it can be stated that trade journals are more commercial than technical, and more news-oriented. They provide market news (commodity and share prices), company news (forecasts, dividends, merger), trade announcements, value of currency, etc. In many cases they are available free. The format of these journals varies widely. Some are published in tabloid size.


**House journals** – Often, an industrial house, a scientific organisation, an educational institution or other bodies bring out different categories of periodicals reflecting mainly the various activities of the house. These periodicals are usually called **house journals** and appear in various forms. Take for example *NBT Newsletter* [New Delhi: National Book Trust, 1985--], it includes information about book release, book fairs, training courses on
It should be remembered that apart from newsletters, many industrial houses bring out learned periodicals as well.

You might have noticed that **magazines** have neither been described under primary sources, nor under secondary sources. This is because categorisation of documents in primary, secondary and tertiary sources is mostly applicable to scientific literature. Magazines generally pertain to arts, hence they have not been covered here.

**Self Check Exercise**

**Note:**

i) Write your answers in the space given below.

   ii) Check your answers with the answers given at the end of this Unit.

1) Briefly describe *Chemical Abstracts*.

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2) Write some of the features of a popular periodical.

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3.2.2 Bibliographies

A bibliography is a list of documents arranged in systematic order. Each entry provides the bibliographical details of the document.

**Universal bibliography** – A universal bibliography is that ‘which lists all documents of all kinds of materials, produced in all countries, in every language, at any time, and on all themes’ (Krishan Kumar). From 16th century onwards, various attempts have been made towards the compilation of universal bibliographies. No doubt, all attempts resulted in some
bibliographies, but none of which was a universal bibliography in the true sense of the term. It has, so far, remained a distant dream there is little possibility that such a bibliography will be compiled in near future.

**National bibliography** – A national bibliography lists the publications produced from a nation. They may appear in the form of a book or a periodical. It does not, however, list all sorts of publications. For example, *Indian National Bibliography* does not cover maps, musical scores, periodicals (except the first issue), keys and guides to textbooks, ephemeral publications, etc.

**Examples:**

i) *Indian National Bibliography*. Kolkata: Central Reference Library, 1957-.


**Trade bibliography** – Trade bibliographies are brought out by commercial publishers, booksellers, distributors, printers and others. Normally these bibliographies list books which are meant for sale. Theses, reports, patents, standards, etc. are excluded. Limited bibliographical details are provided in the entries along with the price. The scope of these bibliographies is generally national. Some of them are also international. Usually they cover all subjects and are arranged alphabetically subject-wise. They are mostly used as book selection tools.

**Examples:**


ii) *Books in Print*. New York: Bowker, 1948-.

iii) *Indian Books in Print: A Select Bibliography of English Books Published in India*. Delhi: Indian Bureau of Bibliographies, 1969-.

**Selective bibliography** – A selective bibliography does not cover all the documents on the topic. They are selected on the basis of some criteria. These bibliographies may appear in the form of a book, or a periodical.

**Examples:**


**Bibliography of early printed books** – These bibliographies generally include incunabula, books published in 15th or 16th centuries, rare books, etc.

**Example:**

Bibliography of anonymous and pseudonymous works – These bibliographies include books by anonymous authors (i.e. books that do not indicate the names of the authors), and pseudonymous authors (i.e. books that indicate the pen names of the authors and not the real names).

Example:


List of periodicals – The list of periodicals appears in the form of directories, union catalogues, alphabetical lists, etc. The bibliographical details of each entry vary according to the category. Maximum details are given in the entries of the directories.

Examples:


List of theses/dissertations – These publications list theses/dissertations produced by an institution – national and international. The arrangement of entries within the publication vary. It may be alphabetical, chronological, subject-wise, etc. Sometimes the entries are accompanied with abstracts.

Examples of all the types are given below:


Subject bibliography – A subject bibliography lists the documents on a given subject. The subject may be a place, person or any other topic. The arrangement of the entries may be date-wise, author-wise, or classified. It may be in the form of a book or a periodical.

Examples of some of the types are given below:


**Author bibliography** – An author bibliography is also known as biobibliography or individual bibliography. It lists the works of a single author. It is to be noted that a bibliography of the works *on* a particular author is a subject bibliography, and *by* a particular author is author bibliography. Sometimes an author bibliography includes the works by the author as well as on the author, e.g. see the 2nd example given below:

**Examples:**


**Self Check Exercise**

**Note:**  
1) Write your answer in the space given below.
2) Check your answer with the answers given at the end of this Unit.
3) Write some of the features of trade bibliographies with examples.

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**3.2.3 Lists of Research in Progress**

In research laboratories, universities, institutes of higher learning, researchers are engaged in research projects. If researchers in the world remain unaware of these projects, it is quite likely that there will be some duplication in research work. To minimise the duplication, a new type of publication has evolved that lists the research projects providing information about the name of the researchers, the name of the institute where the research work is going on, the title of the project, when the work has started, when it is likely to be finished, etc. In addition an informative abstract of the work is given. It is an attempt to have some sort of bibliographical control on the research work in progress.

The categorisation of this type of publication has presented a problem. The information given in the publication is primary since nothing has been published about these projects before. The listing gives the publication the shape of a reference book. Grogan has considered it as tertiary source. It cannot be considered tertiary source since the publication is not based on any secondary publication. Neither it is key to primary or secondary sources. We have placed it under secondary sources as the publications act as reference sources.
Such publications being few in number, are not comprehensively reflected in the literature. Given below are some of the examples:


### 3.2.4 Reference Sources

Reference sources are meant for ready reference. The purpose of these sources is to provide information practically on any topic readily. There are many types of reference sources. Some of them are described below:

**Encyclopaedias** – Encyclopaedias are sources that provide information on any topic in such a way whereby one can get a holistic view of the topic. Articles contained in them are informative and of varying length, ranging from a few lines to one hundred pages or more. That is why encyclopaedias are used not only as reference sources but also for self-education. Broadly, there are two types of encyclopaedias – general encyclopaedias and subject encyclopaedias. General encyclopaedias are again categorised by volume, subject and user.

There are many single volume encyclopaedias in the world such as *The New Webster’s International Encyclopedia* [Naples, FL: Trident, 1996]. The 1996 edition of the encyclopaedia contains 17,000 entries, around 7,000 cross references, more than 3,800 coloured illustrations, and a map section. It is meant for students and general readers.

Multi-volume encyclopaedias are also numerous. *The New Encyclopaedia Britannica* [15th ed, Chicago: Encyclopaedia Britannica, 1985] is one of the best examples of multi-volume encyclopaedias. It is in 32 volumes and includes more than 4,200 lengthy articles in Macropaedia and 100,000 brief entries in Micropaedia. This is also a general encyclopaedia and includes articles on all areas of knowledge.

On the Internet, you find *Wikipedia*. It is a free general encyclopaedia and by far the biggest of all. As on 24th September 2012, it was having as many as 4,060,383 articles (Wikipedia). This is an electronic encyclopaedia and there is no printed version. It is being updated continuously. As far as the articles are concerned, many a times they are incomplete, lacking references and authentication. However, you must remember that when you are not getting any information on a topic from printed sources, it is quite likely that you will get some information from this encyclopaedia. For consulting this encyclopaedia you do not require any password or money. You can easily consult it using the Internet.
Subject encyclopaedias are also plenty. A subject encyclopaedia is devoted to a particular subject like physics or more than one subject like science and technology. Some of these encyclopaedias are in one volume and some are in two or more volumes. *Mcgraw-Hill Encyclopedia of Science and Technology* [8th ed. New York: McGraw, 1997] is a multi-volume encyclopaedia. It is in 20 volumes and includes about 8,000 articles. *The Encyclopedia of Physics* [3rd ed. New York: Van Nostrand, 1985] is a single-volume encyclopaedia containing about 300 well-written articles by around 250 experts.

Encyclopaedias have also been brought out for children. Articles in these encyclopaedias are written in simple language, jargons are explained in simple terms, black and white and coloured illustrations are added whenever necessary to make the article comprehensible to the children. *Children’s Britannica* [4th ed. Chicago: Encyclopaedia Britannica, 1988] is a good example of children’s encyclopaedia. It is in 20 volumes and contains 4200-articles enriched with about 5,000 photographs and 1,500 diagrams.

Dictionaries – A dictionary, as you know, provides ‘a list of words of a language in alphabetical order and explains what they mean or gives a word for them in a foreign language’. Dictionaries are broadly divided into two categories – general dictionaries and subject dictionaries. General dictionaries include words from all subjects, and subject dictionaries include words from that particular subject to which the dictionary is devoted. General dictionaries, in terms of language can be categorised as follows – monolingual, bilingual and multilingual. In a monolingual dictionary, you get the meaning, definition, explanation, etc. of a word in the same language in which the dictionary is written. For example, in *Longman Dictionary in Contemporary English* [3rd ed. Essex: Longman, 1995] you get the definition of information in English only. In a bilingual dictionary like *Samsad English-Bengali Dictionary* [5th ed. Calcutta: Samsad, 1980], you get the meaning of English words in Bengali. When you consult *The Collins German Dictionary: German-English/English-German* [New York: Harper Collins, 2008] you get the equivalents of German words in English and vice-versa. Sometimes you find a dictionary providing equivalent terms in three or more languages. These type of dictionaries are called multilingual dictionaries. For example, *Elsevier’s Dictionary of Library Science, Information and Documentation* [2nd ed. Amsterdam: Elsevier, 1976] is in six languages i.e. English/American, French, Spanish, Italian, Dutch and German. Bilingual and multilingual dictionaries are often used by translators. Hence, they are at times called translator’s dictionaries.

Dictionaries are also categorised according to coverage of words. Unabridged or comprehensive dictionaries attempt to cover almost all words, phrases, idioms, etc. of a language. For example, the unabridged edition of *Webster’s Third New International Dictionary of the English Language* [2nd ed. Springfield: Webster, 1971] has about 450,000 entries. On the other hand, *The Concise Oxford Dictionary* [8th ed. Oxford: UP, 1990], a desk dictionary, has about 120,000 entries and 190,000 definitions. Pocket dictionaries are even smaller.

Dictionaries devoted to specific subjects are called subject dictionaries. They are mainly used by subject specialists, students, etc. *Harrod’s Librarian’s Glossary* [10th ed. Hants: Ashgate, 2005] is a dictionary of this type. It has more than 10,000 entries and is used by librarians, documentalists, information scientists, library and information science (LIS) students and
Documentary Sources


There are other types of dictionaries which include among others, glossaries, thesaurus, dictionaries of abbreviations, phrases, slangs, usage, synonyms, antonyms and homonyms.

**Handbooks** – To comprehensively define a handbook is an arduous task. In *Harrod’s Librarians’ Glossary* a handbook has been defined as ‘a treatise on a special subject, often nowadays a simple but all-embracing treatment, containing concise information, and being small enough to be held in the hand, but strictly a book written primarily for practitioners and serving for constant … or references’. It is also called a ‘Manual’ (Prytherch).

We have already seen that a treatise is a serious piece of writing and is meant for advanced learners, on the other hand, a handbook is meant for practitioners and includes formulas, definitions, values of various constants, which are often required by practitioners in their day-to-day activities. Hence, a handbook can never be equated with a treatise. The above definition has equated a handbook with a manual also. We shall treat them separately and show that they are different.

It is to be noted that there is no general handbook. A handbook is always devoted to a particular subject or subjects. For getting the feel of a handbook, you should go through its content and find out what it is. Take for example *Machinery’s Handbook* [23rd ed. New York: Industrial Press, 1988]. It contains more than 2,500 pages and includes chapters on mathematics, mechanics, strength of materials, properties, treatment, and testing of materials, dimensioning, gauging and measuring, tools and tool making, machining operations, manufacturing processes, fasteners, threads and threading, gears, splines and cams, bearings and other machine elements, and measuring units. The book provides a good deal of information for practising mechanical engineers, designers, manufacturing engineers, draftsmen, toolmakers and machinists which they require in their day-to-day work.

**Manuals** – A manual is ‘a book that gives instructions about how to use a machine’ (Manual). The definition is quite clear and does not create any confusion with handbooks. However, the definition is narrow as manuals give instructions not only for the use of a machine but for other things as well. For example, *A Manual of Engineering Drawing Practice / Colin Simmons and Denis Maguire*. [London, English UP, 1974] provides useful instructions as to engineering drawing. *Manual of Map Reading, Air Photo Reading and Field Sketching* [London: HMSO, 1956-1962] provides guidance as to how a map and air photo should be read and field sketching should be done.

A manual may be in the form of a leaflet, a pamphlet, or a book. Most of them are monolingual. However, bilingual and multilingual manuals are not uncommon. When you purchase a cell phone, a sophisticated calculator, a multifunctional watch, etc. you are always given a manual, using which you can operate the gadget properly.
Secondary and Tertiary Sources

Indexes – We have already discussed indexing periodicals. Indexes are another species of reference sources. You all have read newspapers. Each day newspapers contain a huge number of articles, editorials, biographical sketches and obituaries. Suppose, you have read in a newspaper about a particular person sometime ago. Today, if you want to find out that information from that newspaper, it will be a gigantic task. To obviate this problem, some newspapers bring out indexes. For example, Index to the Times of India [Bombay: Times of India, 1973-] is index to the articles, profiles, obituaries, editorials, etc. published in the Mumbai city edition of Times of India. Numerous biographical sketches are published in daily newspapers. To have a bibliographical control of such items, sometimes biographical indexes are brought out by some publishers, whereby a particular biography can be easily located. Biography Indexes: A Cumulative Index to Biographical Material in Books and Magazines [New York: Wilson, 1947-] is a very good example of this type of publication.

Data books and tables – Statistical and meteorological publications contain mostly data in tabular form. Yearbooks and handbooks also present plenty of information in tabular form. International Critical Tables of Numerical Data, Physics, Chemistry and Technology [New York: McGraw, 1926-33], published in eight volumes, includes only numerical data. We all know that once in ten years the Government of India undertakes census operations throughout the country. The last census operation was undertaken in 2011. Thousands and thousands of enumerators were involved in data collection. Once the data is centrally processed, census publications are brought out in hundreds of volumes containing thousands of tables. Every year India Meteorological Department brings out a large number of publications providing meteorological data. Railway time tables like Trains at a Glance [New Delhi: Ministry of Railways, Nov. 2009] also provide information in tabular form of all the passenger trains running in India. Five-Figure Logarithmic and Other Tables/ Frank Castle [London: Macmillan, 1909] provides purely numerical data.

Directories – A directory lists names of persons, institutions or organisations of a particular area. The area may be a locality (e.g. Residents’ directory), a town (e.g. Telephone directory), a country [e.g. Directory of British Associations and Associations in Ireland. Beckenham, Kent: CBD Research Ltd, 1974-], or the world [e.g. The World of Learning. London: Europa, 1947-]. A directory may include very brief information such as the name, address and the telephone number as we normally see in a telephone directory. At times, a directory contains a lot more information. For example, Directory of Scientific Research Institutions in India. [2nd ed. New Delhi: INSDOC, 1989] provides the following information about an institution: name, name of the head, history, address, names of the divisions and divisional heads, field stations, objectives/functions, areas of research, achievements, special facilities (consultancy, extension, training, etc.), library and information services, other activities, and publications.

Some directories are published annually, and others at regular or irregular intervals. Of course, there are directories that did not publish more than once.

Yearbooks – A yearbook, as the name suggests, appears annually, and updates information every year. Yearbooks are of various types and can be categorised as, general and subject-oriented, or as national, regional and international. The Statesman’s Yearbook [London: Macmillan, 1864-], The
As we have general yearbooks, we also have subject yearbooks. The yearbooks portray the development in the particular subject during the preceding year. Some of the notable subject yearbooks are: The Bowker Annual Library and Book Trade Almanac [New York: Bowker, 1956-], Unesco Statistical Yearbook [Paris: UNESCO, 1964-], and FAO Production Yearbook [Rome: FAO, 1947-].

Regional yearbooks usually cover a particular region. The general yearbooks that we have already talked about are, in fact, international yearbooks. Several yearbooks are brought out covering a particular region. A few examples of such yearbook are: Central and South-Eastern Europe [10th ed. London: Routledge, 2010], The Far East and Australasia. 2010 [41st ed. London: Europa, 2010], and Western Europe 2010 [12th ed. London: Europa, 2010]. Usually these yearbooks portray the economic and political survey of the region. The country survey includes among others, geography, history, economy, statistical survey and directory that embraces the constitution, government, legislature, political organisations, diplomatic representation, judicial system, religion, press, publishers, radio and television, finance, trade and industry, transport, tourism, atomic energy, defence and education.

Many countries of the world bring out national yearbooks such as India: A Reference Annual [New Delhi: Publications Division, 1953-]. Many of these yearbooks are brought out by the government and hence the information given in them is considered authentic. India: A Reference Annual provides information on land and people, national symbols, the polity, agriculture, art and culture, basic economic data, commerce, communications, defence, education, energy, environment, finance, food and civil supplies, foreign relations, health and family welfare, housing, industry, justice and law, labour, mass communication, planning, rural development, scientific and technological development, transport, water resource, states and union territories, welfare, youth affairs and sports, diary of national events, and general information. Other national yearbooks also provide similar information.

Almanacs – By definition, an almanac is ‘an annual calendar containing important dates and statistical information such as astronomical data’. The various almanacs published in our country, usually called panchang provide data in chronological order of all the days of the year. Under each date the information given includes the date according to Indian calendars such as Sambat, Christian calendar, Muslim calendar, etc. name of the day (e. g. Sunday), time of sunrise and sunset, day of the lunar fortnight (e. g. ekadashi,
purnima), zodiac sign, auspicious time, inauspicious time, specific time for various religious works like marriage, mundan, etc., religious event of the day (e.g. Good Friday, Lakshmi Puja), astronomical event (e.g. lunar eclipse, solar eclipse) if it falls on that day, etc.

International almanacs like *Whitaker’s Almanac* [London: Whitaker, 1868-], and *World Almanac and Book of Facts* [New York: Newspaper Enterprise Assoc., 1868-] are more like yearbooks than almanacs. For example, *Whitaker’s Almanac* 2002 provides up-to-date information about government and social structure of the United Kingdom and the rest of the world. In addition, it brings together a wide range of facts, figures and directory information. Only a small portion of the book is devoted to astronomical data like the time of sunrise, sunset, moonrise, moonset, lunar and solar eclipses, etc.

Maps – A map is a sheet of paper or similar material on which the earth’s surface, or part of it is shown indicating countries, oceans, seas, mountains, rivers, deserts, roads, etc. You will find a single-sheet map of all major cities of the world. Take for example, *Delhi Tourist Road Map* [Delhi: Delhi Tourist Publications, n.d.] of 50.5cm x 75cm size depicts the roads of all the areas of Delhi and adjacent states. In the inset it shows, Connaught Place, Chanakyapuri and Delhi Metro. As we have maps of the earth, we also have the maps of the moon, the sky. A sky map shows among others the position of the stars, constellations, zodiac as they are seen at various time of the year.

Atlases – An atlas is a book that usually contains maps and an index of places and other geographical entities indicating their locations in particular maps. Generally, by the term atlas, we mean only geographical atlases. However, there are non-geographical atlases as well.


Non-geographical atlases also cover a number of areas such as economics, astronomy, medicine, and history.

**Examples:**


Globes – A globe is a sphere, the surface of which shows countries, oceans, seas, mountains, rivers, deserts, etc. just like a map. It is mounted on a stand and can be rotated around its axis. The surface of globes is generally plain.
However, there are also globes with raised surfaces indicating the presence of mountains. Nowadays, the globe of the moon is also available. The moon globe brought out by National Aeronautics and Space Administration of the United States is a standard one. **Examples** of some of the globes available with Britannica Store, Chicago are as follows:

i) *10" Illuminated Globe for Kids.*

ii) *Crystal Marquise Blue Land Globe.*

iii) *Official NASA Moon Globe.*

**Gazetteers** – A gazetteer is a dictionary of place names and other geographical entities with descriptive, statistical, economical, geographical and historical information. Sometimes a gazetteer is called a geographical dictionary, e.g. *Webster’s New Geographical Dictionary* [Rev. ed. Springfield: Webster, 1984]. Other geographical dictionaries provide meanings and definitions of geographical terms. Gazetteers can be categorised as international, national, state, and district. **Examples** of various gazetteers are as follows:


**Guidebooks** – Guidebooks are usually meant for tourists and provide various information usually required by them. For a place of tourist’s interest these books provide such information as when to go, how to go, where to stay, what to see, what to eat, where to shop, etc. In addition, information regarding visa, money exchange, weather, etc. is also given. Usually guidebooks cover a region, a country, or a city. *Fodor’s* guides are the famous. It has published guidebooks for a large number of countries of the world and a few major cities. These guidebooks are updated quite frequently. *Lonely Planet* is also a famous publisher of guidebooks. Some examples are given below.


**Biographical sources** – A biography is an account of someone’s life. Biographical sources appear in the form of biographical dictionaries and individual biographies. **Biographical dictionaries** are of three types: Who is Who, Who was Who, and a combination of both. These are all general in nature. There are also biographical dictionaries devoted to various subjects.

**Who is who** provides biographical information about various persons who are living. For example, *International Who’s Who* [London: Europa, 1935-] covers only internationally known living celebrities and includes information...
date of birth, nationality, education, profession, career, present position, honours, awards, present address, etc.

**Who was who** as the name suggests includes only those personalities who are dead. A good example of this type of biographical dictionary is *Who was Who* [London: Black, 1929-.] It includes biographical sketches of only those personalities who are dead.

*Webster's Biographical Dictionary* [Springfield: Webster, 1972] falls under the third category. It includes biographical sketches of both living and dead persons.

A number of **subject biographical dictionaries** are also available. *American Men and Women of Science* [22nd ed. New York: Bowker, 2004] is a good example of a subject biographical dictionary. It includes biographical sketches of about 120,000 living scientists belonging to physical, biological and related sciences residing in North America.

Biographical dictionaries can also be categorised according to the area they cover. Thus, they can be categorised as international, regional and national. *International Who's Who, Who was Who, and Webster's Biographical Dictionary* are all international in scope. *American Men and Women of Science* is regional as it covers scientists both from USA and Canada. *Dictionary of National Biography* ed. by S N Sen [Kolkata: Institute of Historical Studies, 1972-74. 4 vols.], *India Who's Who* [New Delhi: INFA, 1969-.] are national biographical dictionaries.


### 3.2.5 Treatises


### 3.2.6 Textbooks

A textbook is a book that is ‘used by students as a standard work for a particular branch of study’. Throughout our educational career we have studied textbooks to gain knowledge on various subjects. In student life the textbook act as a major source of information for students. Teachers in schools, colleges, universities also use textbooks to update their knowledge, prepare class notes, clarify doubts, etc. Some textbooks like *Gray’s Anatomy*

### 3.2.7 Translations

A primary source when translated into another language becomes a secondary source. Many Russian primary journals are translated into English. For example, *Soviet Geology* is a cover-to-cover translation of Russian journal *Sovetskaya Geologiya*. Books are also translated from one language to another. For example, *Ramayana* by Valmiki was translated into Hindi by Tulsidas as *Ramcharitamanas*. Here Valmiki *Ramayana* is the primary source, and *Ramcharitamanas* is the secondary source. You will be interested to know that *Index Translationum* [Paris: UNESCO, 1932-] published every year is a world bibliography of translations. ‘The database contains cumulative bibliographical information on books translated and published in about one hundred of the UNESCO Member States since 1979 and totals more than 1,800,000 entries in all disciplines: literature, social and human sciences, natural and exact sciences, art, history. It is planned to update the work every four months and provides bibliographical details of all books translated in the world’ (*Index Translationum*).

### 3.2.8 Computer Files

A computer file is a collection of records or programs stored under a single filename. For computerisation of a library catalogue, we create a record for each and every book in a computer. All these records are stored in a computer under a single name. The collection of these records constitutes a file and the name given to it is called filename. The digitised form of a book, a periodical, a thesis, etc. can be a computer file. Depending on the content, a computer file can be a primary, secondary or a tertiary source.

### 3.2.9 Bibliographic Databases

A database is a collection of cross-referenced files designed to retrieve information from a number of access points. A large number of indexing and abstracting services in the world have created their own databases which can be searched from any part of the world on payment basis to retrieve desired information. For example, *Medline* is the database of the indexing service called *Index Medicus*, *CAPlus* is the database of the secondary service called *Chemical Abstracts*, etc.

### 3.2.10 Databanks

There are a number of vendors that possess a large collection of online databases. The collection is sometimes referred to as databanks. After obtaining a password from the vendor one can search all these databases from a single access point. For example, DIALOG, a service of The Dialog Corporation, has been serving users since 1972. Its collection of over 900 databases handles more than 700,000 searches and delivers over 17 million document page views per month. (Dialog)

### 3.2.11 CD-ROMs

A CD-ROM becomes a source of information only when it contains data. The amount of data that a CD-ROM can contain may be gauged from the fact that Compton’s Reference Collection harbours in a single CD-ROM, 24 volumes
of Compton’s Concise Encyclopedia, Compton’s World Atlas, The New York Public Library Desk Reference, The Macmillan Dictionary of Quotations, Webster’s New World Dictionary, Webster’s New World Thesaurus, and five other business reference works. The data accommodated on CD-ROMs may include colourful pictures, sound, animation, and facility for interaction. Many a times, the matter on CD-ROM is in hypertext that facilitates surfing from one item to another with ease.

Self Check Exercise

Note: i) Write your answers in the space given below.

   iii) Check your answers with the answers given at the end of this Unit.

4) Give a brief description of Wikipedia.

5) What is an almanac? Briefly describe with examples.

3.3 TERTIARY SOURCES

3.3.1 Library Catalogues

Bibliographies have been categorised under secondary sources, and bibliography of bibliographies under tertiary sources. You may note that both the types are bibliographies. Library catalogues are also bibliographies
reflecting the collection of a particular library or a group of libraries i.e. union catalogue. They are being placed here since in a library catalogue you will find documents belonging to primary sources, i.e. a thesis, secondary sources, i.e. a treatise, and tertiary sources, i.e. guides to reference books.

All of you are familiar with library catalogues in card form, printed form and digitised form. Here a few examples are being given of printed form.


### 3.3.2 Bibliography of Bibliographies

A bibliography of bibliographies is a list of bibliographies. They may be classified, or arranged alphabetically subject-wise or otherwise. Most of them are in book form. However, there are some which are issued periodically. In the examples given below, the first one is issued periodically. The other two are in the book form.


### 3.3.3 Guides to Literature

A guide to literature helps a researcher, reader and the like to find the primary, secondary and tertiary sources of literature on a specific subject. These guides are in the form of books, and are available for many fields. It should be noted that these ‘guides to literature’ are totally different from ‘guidebooks for tourists’ which we have already dealt with earlier. Guides to literature are available for fields like social sciences, history, biology, and others. A few examples are given below:


### 3.3.4 Directory of Directories

A ‘directory of directories’ lists the directories available on a particular topic or pertaining to a particular area. For example, *Guide to American and Scientific and Technical Directories* [2nd ed. New York: Todd, 1975]

### 3.3.5 Guides to Reference Sources

Various types of reference sources have been discussed above. Guides to reference sources list reference books of all types usually subject-wise. Given below are the examples of two most important guides to reference sources.


### 3.4 SUMMARY

This Unit discusses the secondary and tertiary sources of information with the help of appropriate examples. Under secondary sources, secondary periodicals have been described that included express information bulletins, abstracting periodicals, indexing periodicals, reviews of progress, popular periodicals, technical periodicals, trade journals, and house journals. In all cases examples have been provided.

While describing bibliographies, universal bibliography, national bibliography, trade bibliography, selective bibliography, bibliography of early printed books, bibliography of anonymous and pseudonymous works, list of periodicals, list of theses and dissertations, subject bibliography, and author bibliography have been covered.

List of research in progress has been treated separately as it is neither a bibliography nor an abstracting periodical. Bibliography is a list of documents. This type of publication lists research projects not documents.

In this Unit under reference sources we have also covered various types of encyclopaedias, different types of dictionaries, handbooks, manuals, indexes, data books and tables, directories, yearbooks, almanacs, maps, atlases, globes, gazetteers, guidebooks, and different types of biographical sources.

Treatises, textbooks, translations, computer files, bibliographic databases, databanks, and CD-ROMs have also been covered separately.

Under tertiary sources, library catalogues including union catalogues, bibliography of bibliographies, guides to literature, directory of directories and guides to reference sources have been described.

### 3.5 ANSWERS TO SELF CHECK EXERCISES

1) *Chemical Abstracts* (CA), covers articles from more than 10,000 journals, patents, conference proceedings, technical reports, books, dissertations, reviews, meeting abstracts, electronic journals, and web reprints emanating from about 150 countries in more than 50 languages. Three thousand records are added daily to the database called CAplus.
CA provides informative abstracts. The first sentence of the abstract highlights the primary findings and the conclusions reported in the original document. The text that follows gives (i) the purpose as well as the scope of the reported work, (ii) new reactions, compounds, materials, techniques, procedures, apparatus, properties and theories that figured in the work, (iii) new applications of established knowledge, if any (iv) the results of the investigation plus the author’s interpretation and conclusion.

2) A popular periodical, as the name suggests, is a periodic publication that usually serves common people, students, technicians, teachers, and others. These periodicals contain popular articles written in a lucid style on a particular area of knowledge. Learned or pedantic articles are generally not included. Some of the other features of these periodicals are as follows:

i) They are brought out by governments, societies, commercial publishers and even private individuals.

ii) Usually popular description of scientific discoveries, inventions, facts, latest developments in various fields, etc. are included in them.

iii) Articles are not usually refereed and are of varying standards.

iv) The address of the author is not always mentioned.

v) The date of the receipt of the article is usually not given.

vi) In many articles the list of references may be absent.

vii) They are usually not abstracted or indexed.

viii) Apart from popular articles on various subjects, they usually contain editorials, notes and news, book reviews, obituaries, letters to the editors, biographical sketches, etc.

ix) One of the prime objects of a popular scientific periodical is popularisation of science.

3) Trade bibliographies are brought out by commercial publishers, booksellers, distributors, printers and others. Normally these bibliographies list books which are meant for sale. Theses, reports, patents, standards, etc. are excluded. Limited bibliographical details are provided in the entries along with the price. The scope of these bibliographies is generally national. Some of them are also international. Usually they cover all subjects and arranged alphabetically subject-wise. They are mostly used as book selection tools.

Examples:


4) **Wikipedia** is a free general encyclopaedia and by far the biggest of all. As on 24th September 2012, it was having as many as 4,060,383 articles. It is an electronic encyclopaedia and there is no printed version. It is being updated continuously. As far as the articles are concerned, often most of them are incomplete, without proper references therefore, lacking authentication. However, you must remember that when you are not getting any information on a topic from anywhere, it is quite likely that you will get some information from this encyclopaedia. For consulting this encyclopaedia no password or money is required. One can easily consult it using the Internet.

5) By definition, an almanac is ‘an annual calendar containing important dates and statistical information such as astronomical data’. The various almanacs published in our country, usually called *panchang*, provide data in chronological order of all the days of the year. Under each date the information given includes the date according to Indian calendars such as Samvat, Christian calendar, Muslim calendar, etc., name of the day (e.g. Sunday), time of sunrise and sunset, day of the lunar fortnight (e.g. *ekadashi*, *purnima*), zodiac sign, auspicious time, inauspicious time, specific time for various religious works like marriage and *mundan*, religious event of the day (e.g. Good Friday, *Deepavali*), astronomical event (e.g. lunar eclipse, solar eclipse) if it falls on the day, etc.

   International almanacs like *Whitaker’s* and *Information Please Almanac* are more like yearbooks than almanacs. For example *Whitaker’s Almanac* 2002 provides up-to-date information about government and social structure of the United Kingdom and the rest of the world. In addition, it brings together a wide range of facts, figures and directory information. Only a small portion of the book is devoted to astronomical data like the time of sunrise, sunset, moonrise, moonset, lunar and solar eclipses, etc.

### 3.6 REFERENCES AND FURTHER READING


