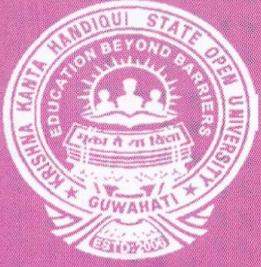


DLIS-03



DIPLOMA IN LIBRARY AND  
INFORMATION SCIENCE

# LIBRARY AND INFORMATION SERVICES



কৃষ্ণকান্ত সন্দিকৈ ৰাজ্যিক মুক্ত বিশ্ববিদ্যালয়  
KRISHNA KANTA HANDIQUI STATE OPEN UNIVERSITY

KKHSOU

# Library and Information Services

Course Material for Diploma in Library and  
Information Science Programme of Krishna  
Kanta Handiqui State Open University

**Badan Barman**

**Krishna Kanta Handiqui State Open University  
2011**

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Housefed Complex, Dispur, Guwahati - 781 006



**COURSE - 03**

**LIBRARY AND INFORMATION SERVICES**

**Diploma in Library and Information Science**

**Library and Information Science**

**Contents**

- Unit 1 : Information and Its Role**
- Unit 2 : Reference and Information Sources**
- Unit 3 : Reference and Information Services in Anticipation.**
- Unit 4 : On Demand Reference and Information Service**
- Unit 5 : Classification with DDC**
- Unit 6 : Cataloguing with AACR 2 (R)**

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# Library and Information Services

## DETAILED SYLLABUS

	<b>Marks</b>	<b>Page no</b>
<b>Unit 1 :</b>		
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Data, information, knowledge and wisdom. Properties of information, Information Transfer Cycle (generation, collection, storage, dissemination). Theories of information. Information need (definition, types). Role of information in different context. Information as a resource and commodity. Information explosion.		
<b>Unit 2 :</b>		
<b>Reference and Information Sources</b>	<b>15</b>	<b>35 – 63</b>
Documentary and Non documentary. Sources of documentary information: Primary, Secondary, Tertiary. Manuscripts, Print, non-print including electronic sources: Nature, characteristics and utility. Reference sources: Dictionaries Encyclopedias, Geographical Sources, Gazetteers, Biographical Sources, Year Book/ Almanac, Directories, Handbook, Manual, Statistical Sources (Salient features and evaluation).		
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Single and multiple authorship.		

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## **COURSE INTRODUCTION**

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This Diploma Programme in Library and Information Science has been developed keeping in view of the requirements of lower category of professionals in the library. It will meet the need of the Library Attendant, Library Clerk, and Library Assistant in the college, university, public and special libraries. It will also help the library-in-charges of school, NGO, Community Information Centre and rural libraries. Besides, this preliminary programme will also help you to go and prepare for higher studies in Library and Information Science.

The library is an essential component of any educational system. This programme will introduce you to this integral and essential part of the educational system, the library resources and services. It will also help you to explore the different sources of information, different library tools and so on.

The Diploma in Library and Information Science shall consist of six courses and are of one year duration. The one year duration of the programme will help you to get insight into all the major areas of library operation.

This is the third course of the Diploma in Library and Information Science (DLIS). This course includes six self-learning units. In units 1-4 the theory are for discussed, while units 5 and 6 are dealt with practical aspect.

While going through the units, you will notice some along-side boxes, which have been included to help you know some of the difficult, unseen terms. Some "Activity" has also been included to help you apply your own thoughts. Again, we have included some relevant concepts in "Let Us Know" along with the text. Some questions are there in the "Check Your Progress". These have been designed to self-check your progress of study. It will be better if you solve the problems put in these boxes immediately after you go through the sections of the units and then match your answers with "Answers to Check Your Progress" given at the end of each unit. Solving the "Probable Questions" will help you to prepare for the term-end exam. The books that are listed under the "Further Readings" have been consulted in the preparation of the concerned unit. Though it is not mandatory but at times you can go through them to further your knowledge about the topic. At last, if you have any point of clarification or suggestion, please feel free to write to us by post or email.

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## **UNIT 1: INFORMATION AND ITS ROLE**

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### **UNIT STRUCTURE**

- 1.1 Learning Objectives
- 1.2 Introduction
- 1.3 Data, Information, Knowledge and Wisdom
- 1.4 Properties of Information
- 1.5 Information Transfer Cycle
- 1.6 Theories of Information
- 1.7 Information Need
- 1.8 Role of Information
- 1.9 Information as a Resource / Commodity
- 1.10 Information Explosion
- 1.11 Let Us Sum Up
- 1.12 Further Readings
- 1.13 Answers to Check Your Progress
- 1.14 Probable Questions

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### **1.1 LEARNING OBJECTIVES**

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After going through this unit you will be able to

- Define Data, Information and Knowledge;
- Establish the relationship among Data, Information, Knowledge and Wisdom;
- Know different properties of Information;
- Know the stages that constitute the Information Transfer Cycle;
- Know the different theories of information;
- Define Information need and the role of information in different contexts.

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## 1.2 INTRODUCTION

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This is the first unit of the third course of the diploma programme on Library and Information Science. Here in this unit we will deal with the Information and its role. This unit will provide an overview of data, information and knowledge. It will describe the properties of information, information transfer cycle and theories of information. It will also give emphasis on the information need of the people and the role of information. Apart from this, the unit will also explore the concept of information explosion and the factors that contribute to information explosion.

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## 1.3 DATA, INFORMATION, KNOWLEDGE AND WISDOM

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Data, Information, Knowledge and Wisdom are the products of the mind. The Data, Information, Knowledge, and Wisdom are evaluated in an ascending scale of values, Data having the least value, Wisdom the greatest.

**a) Data:** The word “data” is Latin in origin, & literally, it means anything that is given. In sum, the term includes facts, figures, letters, symbols, words, charts & graphs that represent an idea, object or condition. Webster’s Third New International Dictionary defines data as “something given or admitted facts or principles granted or presented, that upon which an interference or argument is based, or from which an ideal system of any sort is constructed.” According to Oxford Encyclopaedic English Dictionary, Data are “known facts or things used as a basis for interference or reckoning.” UNESCO defines data as “facts, concepts or instructions in a formalized manner suitable for communication, interpretation or processing by human or automatic means. In simple, Data is a unit of fact and a raw material of information. It is derived by observation and experiences.

By nature, data are either quantitative or qualitative. Quantitative data are numerical and qualitative data are descriptive. It is also possible to transform qualitative data into numerical values. Additionally, in science, data can also be graphic in nature.

The following are the properties of data:

- i) *Amenability to Use*: Data must be amenable to use. The use may differ with the context.
- ii) *Clarity*: Data should necessarily display clarity.
- iii) *Accuracy*: Accuracy is an essential property of data.
- iv) *Essence*: Data should be compressed & refined. Only the refined data can present the essence of value.

**b) Information:** The word “information” is derived from two Latin words “forma” and “formatio”. Both the words convey the notion of giving shape to something and of forming a pattern. Information is the processed data, organized and presented by someone. The data becomes information when these are collected, processed, interpreted, presented or communicated to some one in an organized or in logical form to facilitate a better comprehension of the concern issue. Information is the knowledge concerning some particular fact, subject or events in any communicable form. It is a structured collection of data i.e. sets of data, relation between data. It consists of data that have been retrieved, processed or otherwise used for informative or inference purpose, argument or as a basis for forecasting or decision making. Let us mention some of the definitions of Information-

According to Harrod’s Librarian’s Glossary and Reference book compiled by Ray Prytherch, 7<sup>th</sup> ed, 1990, information is “an assemblage of data in a comprehensible form capable of communication”.

Mikhailov et.al (1966) has cited Brillounin’s definition. According to them “information is the raw material and consists of a mere collection of data”.

Hayes (1969) defines information as “result of data, usually formalized in processing”.

Davis (1974) has defined information as “data that has been processed into a form that is meaningful to the recipient and is of real perceived value in current or prospective decision”.

Stevens (1986) has defined information as “the factual data, ideas and other knowledge emanating from any segment of society that are identified as being of value sometimes gathered on a regular basis, organized in some fashion, transmitted to others and used in some meaningful fashion”.

According to S. C. Blumenthal in “Management Information System” (1969), “information is data, recorded, classified, organized, related or interpreted within context to convey meaning”.

According to A. J. Evans et al, information is a “sensible statement, opinion, fact, concept or idea, or an association of statement, opinions or ideas. It is closely associated with knowledge in that once information has been assimilated, correlated and understood it becomes knowledge”.

- c) Knowledge:** The word “knowledge” means an assured belief or that which is known. It is the information read, heard or seen and understood. It is an organized set of statements of facts or ideas – presenting a reasoned judgments or an experimental result which is transmitted to others through some communication medium in some systematic form. When information is stored in mind, it constitutes knowledge, particularly when relationships are established between items of information.

The Webster’s New International Dictionary of English language defines knowledge as, “Familiarity gained by actual experience, practical skill, technical acquaintance”. It has also been defined by Webster as “Acquaintance with fact; the state of being aware of something or of possessing information; hence scope of information”.

When man knows the entities (things or concepts), knowledge is established. As man knew more and more about entities knowledge grew, in order that knowledge already gathered is not lost from the scope of posterity and it must exist in recorded and stored format. Due to the comparatively larger age of human, living of three generations in a family within society, ability to reason and analyse, ability to transfer

the accumulated knowledge to its posterity increase his/her stock of knowledge.

Knowledge is the ability of an actor to respond to a body of facts and principles accumulated over a period of time. The quality of knowledge depends on the properties of the agent. Knowledge can be viewed in terms of the following

- i) Knowledge is the structure or organization of information including the relationship among items of information.
- ii) Knowledge is created and modified by new information.
- iii) When information is applied by people it becomes knowledge.
- iv) Knowledge is universally regarded as a much wider concept than information, both in the everyday world and within the specialty theory and practice.

Further, knowledge is individual to each person and does not depend upon humans to exist; when it exists apart from information it can only be useful if it becomes a commodity or a resource.

Knowledge can only reside in an organic brain. As soon as it is objectified outside of a biological organism it becomes disembodied information, capable of entering production similar to a manufactured product or commodity. Some of the characteristics of knowledge are

- i) It is dynamic, ever growing and continuing.
- ii) It is contained in the subjective realm.
- iii) It is structured, coherent and often of enduring significance.
- iv) It is a stock, largely resulting from the flow, inputs of information.
- v) It is the basis for action.

**d) Wisdom:** Wisdom is the distilled and integrated knowledge and understanding. It is the most precious human capital in all developmental processes.

Cleveland, Ohio Association for System Management, 1979 has treated raw data from “birth” into evaluated form as information, through maturity as knowledge, to “death” and inclusion in the knowledge base. It may be noted in passing that in common social process, data, information and knowledge are regarded as mutually sustaining

elements at times distinctly different, on occasions overlapping, and interchangeable. Both data and information have intrinsic properties. While information is shareable, knowledge is individual to each person. Again, information depends upon humans to exist but knowledge does not depend upon only humans to exist.

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## 1.4 PROPERTIES OF INFORMATION

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Information has an origin. It is communicated from the origin or from a “source” where information is termed as “message”. The message needs a “medium” for communication. The message is aimed to be communicated to a “recipient”. At each step the information possesses certain characteristics. Some of the characteristics or properties of information are listed below

### a) General Characteristics

- i) *Information is Heterogeneous*: Information is extremely heterogeneous with virtually infinite variation in response to individual conjunctions of supplier, processor, user and channel of communication. It is inter-disciplinary in nature.
- ii) *Information Itself is Valueless*: Information is rarely of value in itself. It always requires a content structure or model within which it can be interpreted.
- iii) *Information is Central*: The role of information in any organization is central and can be viewed as a fundamental factor of production like money and manpower.
- iv) *Protection*: The supplier and the user of information often need special protection by means of government intervention such as copyright and patent laws, privacy legislation, fraud statutes, etc.
- v) *Demand Varies*: Demand for information is a function of such variables as age, perishability, convenience, reliability, source, etc.
- vi) *Un-destroyable*: Information is not consumed in its use.
- vii) *Shareable*: It can be shared by many and can be used simultaneously without any loss to anyone.

viii) *Democratic Resource*: Information is the best democratic resource that can be consumed by the poor and the rich alike depending upon their intake capacity.

**b) Characteristics at the Source of Origin**

i) *Reliable and Genuine Source*: When information is received from a valid, reliable and genuine source then only it should be considered for communication to the recipient or end user.

ii) *Communicability*: Information should be in a communicable form.

**c) Characteristics as a Message**

i) *Accuracy*: Information should be precise and free from error.

ii) *Timeliness*: The information should be timely. To achieve this, modern electronic device can be used.

iii) *Completeness*: Information as a message should include all the relevant information.

iv) *Explicitness*: The message should not leave any doubt in the mind of the user as to its validity, comprehensiveness, etc.

v) *Availability and Accessibility*: Information must be available and readily accessible to the user.

vi) *Verifiability*: The message must be verifiable so that its validity, accuracy, appropriateness, etc can be assessed.

vii) *Biasfree*: Information should be free from any kind of bias.

**d) Characteristics at the end of the Recipient**

i) *Adaptability*: Information should be adaptable for a new use, need, situation, etc.

ii) *Cost Effectiveness*: Information should improve the performance of a system at an acceptable cost or at no cost or should reduce the cost without unduly effecting performance.

iii) *Currency*: The information should be timely available. It should not be obsolete as well. Timely information will be of high value.

iv) *Relevancy*: Information should be relevant to the user.

v) *Conciseness*: Information should summarize the relevant data so that it will be useful for the managers.

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## 1.5 INFORMATION TRANSFER CYCLE

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Cycle means a series of events that are regularly repeated in the same order. Transfer of information from its generation to its end user becomes possible through many processes. These processes are also regularly repeated in the same order. These processes completed a cycle, which is called Information Transfer Cycle (ITC). The ITC comprises generation, collection, storage, communication and retrieval.

- a) Information Creation / Generation:** Information is created with the happening of incidents and activities of humans. If an activity or an incident does not happen, no information is created. Information is mostly created by research and development programmes, government activities, survey and census of population, business and industrial organizations etc. and presented in format by author, scientist, researcher, editor, writer, poets, novelists, dramatist, etc. Over the web, information is produced by the general people irrespective of their background and is not restricted only to academics such as scholars, scientists, etc.
- b) Information Production and Dissemination:** It is the mass production of knowledge through publishing companies or others that will help the mass distribution of knowledge in some physical or electronic form. Previously the information had been disseminated in the form of book. Many conventional and non conventional, printed and non printed sources of information are nowadays available which are different in shape, size, type and format. Over the web, the production is accelerated by posting the information electronically over some kind of websites. It speeds up the transfer of information globally at a rapid rate instead of taking months or years to get published on paper.
- c) Information Storage, Organization, Retrieval and Communication:** The storage is the process by which the information described and presented in the documents are stored. Information is collected and stored by libraries, documentation centers, information analysis centers, data banks, data centres, etc. Computer has been accepted as a boon

for storing of information. It can store a huge amount of information in the form of database. Besides, the computer, disks and CDROMs are the newly developed and very significant tools of storing information.

*Organization* is how that representation of knowledge is found among others of its kind. In the library environment, the classification and catalogue, shelf list, various kinds of guides, etc facilitate the retrieval function. All these tools are equipped with controlled vocabulary. In the computer environment, organization is facilitated by databases, search engines, etc. Knowledge is individual and the users determine its usefulness; so keyword and natural language searching in computer environment is more attractive.

*Retrieval* is a process of getting information from the collection of a library, for providing answer to the queries of the users, etc.

*Communication* is the process of transmission of information from one place to another, from the creator of information to its users. It is necessary for the best use of the same. It is the process of social exchange. In the library environment, communication of information can be made through telephone, CAS services, SDI services, teleconferencing, e-mail, etc. Sometimes the publisher also brings different kinds of information sources to the notice of the user community.

**d) Information Diffusion and Utilization:** Diffusion is viewed as a more targeted flow of information to a particular segment of society. The diffusion of information should find its way to people who actually need it instead of targeting the people who will use it for their own benefit.

Utilization is the adoption and implementation of the knowledge by the user. Information is needed by each and every person of modern society for some purpose or the other. When information is consumed by one person it gives new dimension to his knowledge. This knowledge when he applied to some other purposes it gives birth to new information. Thus the information cycle is continuum in nature.

**e) Information Preservation and Destruction:** The different kinds of libraries, archives are trying to preserve information in different format. Over web, the Internet archive and the cached page of search engines are serving some purpose in this regard.

The information that is less frequently accessed or has met its assigned retention periods may be considered for relocation to an archive. Then from the archive, it needs to be weeded at some time or other by means of appropriate procedure for the content.

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## 1.6 THEORIES OF INFORMATION

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At different times, different people in different context propose various theories of information. Some of them are listed bellow

**a) Communication:** The communication process requires at least three elements - *source*, *message* and *destination*.

i) *Mathematical Theory:* According to Shannon and Weaver, the amount of information in a message is related to the size of the vocabulary. If one is restricted to “yes” or “no” then the recipient has the fifty percent chance of guessing correctly. If the vocabulary has ten signals then the recipient has less chance of guessing and so amount of information in a message is increased.

ii) *Semantic Theory:* Fairthorne proposed the “phlogiston theory of information”. According to this theory, information is something that can be squeezed out like water from a sponge. Information will obviously be affected by the prior state of knowledge of the recipient.

As an alternative to the above theory Y. Barttiller and R. Carnap came out with semantic information theory. They suggested that a prior knowledge may increase information from a message (how precisely do the transmitted symbols convey the desired meaning).

iii) *Information for Decision Making:* M. C. Yovits proposed that “information is data of value to decision making”. Information involves reduction of uncertainty that is what the decision makers accept from the information system.

**b) Commodity:** Information is a commodity that is needed to do a job.

Acquiring, storing and retrieving information are important for our daily life.

i) *Zipf's Law:* George Kingsely Zipf proposes a relationship that exists between the frequency in the use of words and their distribution in books, reports, documents and other printed matter. The Zipf's law was published in the book "Psycho-biology of language: An introduction to dynamic philosophy, Cambridge, Mass MIT press, 1935. According to this law, if the number of different words occurring once in a given sample is taken as X, the number of different words occurring twice, three times, four times, n times in the sample is respectively  $1/2$ ,  $1/3$ ,  $1/4$ ,  $1/n$  of n upto, though not including, few most frequently used words.

ii) *Bradford's Law:* Samuel Clement Bradford in 1948 proposed another law. According to him, if scientific journals are arranged in order of decreasing productivity of articles on a given subject they may be divided into a nucleus of periodicals, more particularly devoted to the subject and several groups of zones containing the same number of articles as the nucleus. When the number of periodicals in the nucleus and successive zones will be as  $1:n:n^2$  where  $n=5$ , that is, the second zones has five times the number of journals of the first zone and the third zones has  $5^2$  or twenty five times the number of journals in the first or nucleus zone. This law was extended by many, notably B. C. Vikery, F. Leimkuhler and B. C. Brookes.

iii) *Lotka's Law:* Alfred J. Lotka produced his law in 1926. Lotka's law states that there is an exponential relationship between the number of items contributed to the literature and the total contribution by those who contributed two, three or more papers. Lotka developed a general formula for the relationship between the frequency of y persons making n contribution as  $x^n y = \text{constant}$ . Finding the value of constant when  $n=2$ , he observed that "the number of persons making 2 contribution is about one fourth of those making one ( $1/$

$2^2$ ), the number making 3 contribution is about  $(1/3^2)$  of those making one. The number making  $n$  contribution is about  $1/n^2$  of those making one, etc.

*iv) Law of Economics:* According to the followers of this theory, information is analogous to energy (Meta energy). So it is also a resource that can be handled as a utility. It can be packaged, stored and distributed in various forms. In this sense, information has value and the laws of economics can be applied to it.

**c) State of Process:** Information represents the state of an organism following the reception of energy from the environment in the form of a symbol or datum. The transformation that takes place between datum and the resulting state, information is part of the function of all organisms. It reaches the highest known competence in the human being through the activities of the central nervous system. Electronics devices such as computer extends these capabilities.

**d) Cognitive Process:** Much of the human behaviour can be seen as information processing. Thinking, memory, learning and perception are in fact the function of processing information. A. Turing proposed automata theory. Scholars have applied this theory to the study of behavior. According to these studies, information can be considered as a process intrinsic to all organism activities and can be replicated by machines.

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## 1.7 INFORMATION NEED

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The information needs; demands and wants have been used interchangeably, although they may not be identical. Information need involves a cognitive process which may operate on different levels of consciousness and, hence, may not be clear even to the inquirer himself / herself.

People in different situations require information on a subject in different forms and with different emphasis and different depth of explanation. Even the same person seeks information in different ways

and forms on various occasions depending on his/her knowledge of the subject and the reasons for wanting the information. So, the information need is very difficult to define and categorize.

**a) Definition:** Information need is seen as a subjective, relative concept existing only in the mind of the experiencing individual. The Librarian's Thesaurus defined information need as "that need which library science and material are intended to satisfy".

Maurice B. Line has defined information need as "what an individual ought to have for his works, his research, his education, his recreation, etc".

According to Brenda Dervin, "an information need is an impediment preventing an individual from moving forward in cognitive time and space. The person is faced with a gap that must be brought by "asking question, creating ideas and for obtaining resources. Such gaps do not occur in the abstract but arise out of a particular critical event and situation".

Faibisoff and Ely (1976) viewed that information need as either shaped by activity such as problem solving or decision making or manifest through a passive reception of information which is stored as knowledge.

Krikelas (1983) has defined it as the "recognition of the existence of uncertainty". While, N. Ford in 1983 defined it as "recognition of the existence of uncertainty and described it as something which prevents an individual from making progress in a difficult situation".

**b) Types:** Information is a power and so it is needed in virtually every field of human thought and action and by everyone for some purpose or the other. According to Carol C. Kuhlthou (1991) in the process of information searching, initially a person first becomes aware of knowledge or understanding, feeling of uncertainty and apprehension. This is the stage showing the need for information. Information need generally varies from individual to individual, according to their working condition, the discipline in which they are working, the time, etc.

Tague has presented the following types of information needs

- i) Social or Pragmatic Information Need: Required to cope with day to day life;
- ii) Recreational information need;
- iii) Professional information need;
- iv) Educational information need.

Krikelas on the basis of information seeking behavior, categorized information need as

- i) Immediate Need;
- ii) Deferred Need.

David Bawden (1986) identifies four kinds of information in particular for aiding the creative process. They are

- i) Interdisciplinary information;
- ii) Peripheral information;
- iii) Exceptions and inconsistencies.

Melvin J. Voigt's (1961) study revealed that the same person could interact with the information system in different ways at different times depending upon his purpose in relation to his works, stage of his works, general interest, amount of information already available to him and so on. According to him, a scientist's use of information arises from three different needs. These are -

- i) *Current Approach*: The need to know what other scientists have recently done or are doing. It keeps up to date with the current progress of a scientist's field.
- ii) *Everyday Approach*: The needs that come to the scientist in course of his work for some specific piece of information. This need is directly connected with the research work or the problem at hand.
- iii) *Exhaustive Approach*: The need to find and check through all the relevant information existing on a given subject.

Later a fourth type of information need was added to the Voigt's types of information need by other workers in the same field.

iv) **Catching up or Brushing up Approach:** A worker may at times need to have a brief but a complete picture of the recent development of a related subject in which he was not very much interested or which did not come within the area of his main interest. In such cases he needs a catching up approach.

The need of the scientist at different levels makes him adopt different approaches to gather the required information.

Information needs also can be categorised as follows

- i) **Information for its Own Sake:** Information for its own sake are live in this world in order to know the world and our surrounding environment. Therefore, no action is necessarily going to be taken on this type of information.
- ii) **Professional Need:** Information is needed to meet the professional need, to cope up and compete with other professionals in the subject. Professionals such as doctors, lawyers, librarians and others need information to pursue their vocations. They cannot afford to ignore new development in their respective fields. Their ignorance about the latest development in the field would affect their performance. Engineers, technologists, business executives need information for solving the problems related to their respective profession.

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## **1.8 ROLE OF INFORMATION**

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From the primitive days of human civilization to the present day, information has always been a component of growth and development and improvement of the living standard. Nowadays, the information has come to occupy the central position to be reckoned as the driving force for all human development. It is clearly interlinked with the growth and development in economic, political, social, occupational, cultural and other sectors of the society. Information and knowledge have become the principal generator of wealth in the form of educational institutions, research and development establishment, scientific and technological centres and other similar knowledge oriented bodies.

The impact of information and knowledge is seen in a number of human activities centering on information. Some of these are as follow, which will give a cursory account of societal changes taking place in a few sectors.

- a) **Education:** Education is the process of acquiring general and specialized knowledge by means of study and learning that develop intellectual power of reasoning and judgment. At no point of time in the life of a person does education really terminate and in real sense it is a continuous process. While IT provides easy and effective access to the different types of educational kits, information is the life blood of education. It is the essential ingredient in new ideas, in course content and curriculum development, and in the creation of material and methods of technology and learning. Students need information for pursuing academic studies; teachers need information for teaching their students.
- b) **Research and Development:** Research is a never ending spiral activity. It aims to provide solution to problems. The inputs as well as the output of research are information. So information is the life blood for research and development. The quality of information content alone will determine the success or growth and development of research. Researchers need information on a continuous basis for conducting research works.
- c) **Management and Decision Making:** We are living in a world of change. We face complexities, uncertainties and risks unknown to our predecessors. The list of activities in our private life and its associated problems are virtually endless. In each of these personal activities decisions are required to be taken and information is needed to support the decision. People need information to make the best possible decision. People with information are likely to have better career opportunities and to be better equipped to make personal decision.

Information provides a means of improving the management of enterprises and services of all kinds. Information is needed by the decision makers in organizations. A common need basic to all decision

makers is an understanding of the purpose of the organization, that is, its policies, programmes, plans and goals. The decisions to be made in an organization do vary and the information needs also vary. A manager needs information to choose the possible alternatives presented in terms of ranges of values of particular attributes. Information provides a wider knowledge base for the solution of any problem; it gives new alternatives and approaches to the solution of technical problems and opinions for minimizing future fault. It improves effectiveness and efficiency of technical activities in the production and service sector. So information is used for better decision making in all sectors and at all levels of responsibilities.

Governmental officials of different levels need information for decision making. They need census, weather and other related information. Legislators need information of different types to argue a point on the floor of the legislature.

- d) Daily Life of a Person:** Naturally, living today is quite different from what life was about a generation ago. Nowadays people in different situations require information on a subject in different forms and with different emphasis and different depth of explanation. An ordinary person in his daily life needs to have access to information on many of his daily activities. It may pertain to the quality, availability or cost of a number of things like articles of foods, health care, education, entertainment, travel, social security, etc. One may need information on cooking, gardening, house decoration and maintenance, and a host of other subjects. In private life one needs information to organize vacation activities, to make intelligent purchases, fertilize a lawn, soup up an engine, prune a shrub, groom a pet, select a garment, vote for a candidate, choose a doctor or lawyer, protest a tax increase, evaluate career opportunities, pick an investment, select a course, make a trip, plan meals and so on. The list of activities in a private life is virtually endless.

- e) Business and Industry:** Information and knowledge are getting their appropriate place in enterprises that are not static, because it is increasingly being recognized today that external information on market, competitors, social and political environment, government regulations and trade and tariffs etc are invaluable if an enterprise is to thrive. It is only the central role of information that business and industries are day by day inclined to invest in R & D to generate new knowledge which would ultimately provide them an edge over their competitors.

In business sector, information helps in telemarketing, better financial management, customer service, training, sales, product development, market intelligence, looking for customers, etc.

In industry, the types of information needed are not limited to production, but cover all aspects of industrial activity. The major types are: identification of product, determination of technical and economic feasibility including the potential for use of indigenous resources; outlets for disposal of waste either as saleable by-products or for further processing, market or marketing, etc.

- f) Scientific Development:** The increase in population has resulted in mounting social pressure for increased production, but as population increases, natural and near natural commodities start depleting. So there is an urgent need for exploitation of new resources, and creation of artificial commodities. All these developments are impossible without the use of proper information and immediate use of new scientific discoveries.

Air transportation, the concept of global village, satellite communication, nuclear energy, exploitation of outer space, improvement in agriculture, health, environment, etc are some of the results due to exclusive use of information in the field of science and technology.

- g) Government:** Information improves the capacity of a country to take advantage of the existing knowledge and “know how” to achieve success in various fields. So, the governments of almost all the

countries of the world are the largest consumers of information and knowledge. All their commitment and responsibilities to create a welfare state, they need information and knowledge on every conceivable subject. They collect, organize and disseminate statistical data on all its activities which constitute the most important and vital information resources for their planning and later implementation and execution.

All ministries of the government need up to date and timely information on the overall management of the country's resources and general administration. Management Information System (MIS), Decision Support System (DDS) are widely used in planning and policy making.

#### **h) Socio-Economic Development**

- i) Entertainment:* With the viewer's complete control over programmes, and interactive television (to watch a missed TV show).
- ii) Health Care:* With information sharing and even diagnosis and treatment by means of interactive video link-up.
- iii) News:* With consumers able to point and click to select information for personally tailored news items.
- iv) Home Shopping:* With a 24 hours a day, virtual global mall accessed by two way video and digitized sales.
- v) Security:* Uses of electronic fingerprint, retina scanning, voice recognition, DNA finger print, signature dynamics.

Today, information has become a great source of power as a principal driving force for the acquisition of wealth, political strength and more knowledge etc. Information-rich countries of today are becoming even more powerful than the colonial powers of the nineteenth and early twentieth centuries, on account of their expertise in creating new information and knowledge and exploiting them for their advantage. Information is not only the source of power but also an effective power in itself if released in appropriate time.

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## 1.9 INFORMATION AS A RESOURCE / COMMODITY

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The concept of information as commodity is wider than that of information as resource, as it incorporates the exchanges of information among the people and related activities as well as its use. The notion of information as a commodity is tied closely to the concept of value chains. With commoditized information gaining in value as it progresses through the various steps of creating, processing, storage, distribution, and use.

**a) Information is a Resource / Commodity:** Information possesses many characteristics that are the same as those of some other commodities. When we consider such characteristics, information can be termed as a resource and a commodity in a broad sense and people at large have accepted this view.

- i) *Information is a Natural Resource:* Many resources were earlier taken for granted as common for all. For example, clean air and water. Information has also been similarly understood. Whoever is interested can get enough information for his daily needs through institutions established for that purpose. But specialized information is made accessible to those who have special needs and can legitimize its claim by status or by money. Just like the maintenance of clean air and water, the proper information demands some cost.
- ii) *Information is a Vital Resource:* Information is looked upon as a resource like manpower, material and money. Information is a resource created by ingenuity of man to be used by man for the benefit of man; it can be used for the opposite also. According to K. J. McGarry, information becomes a resource by analogy with the classic resources of labour, capital and material. Management of these classic resources (man, material and money) now mutates to the “management of information”. It is easy to see how information can be depicted as a resource as essential to productive success as are raw materials and skilled staff. But information needs to be controlled, manipulated and managed.

According to W. L. Saunders, information is that type of resource which is not scarce. It has also economic value as when company used the information effectively the level of trade and revenue are maximized. Information and knowledge become the principal generators of wealth in the form of educational institutions of research and development establishment and science laboratories.

No national development programme can succeed fully without proper information support. As such, it is regarded as a national resource like energy, coal, water, etc. vital for national development. It is an important input for nation building. The impact of fast, reliable and inexpensive information would be as great as that of electricity in national and international economy. IBM, the giant computer company, says that information is like an inexhaustible and renewable source of energy.

*iii) Information is a Major Criterion:* Information is vital for national development. The backwardness or forwardness of any county nowadays is mainly due to the use of adequate information, especially in the field of science and technology. Presently the world is divided on economic consideration into economically developed and economically developing countries. According to Herbert I. Schiller, in future the division will be based on possession of information into information rich or data rich nations and information poor or data poor nations.

*iv) Information as a Thing:* Buckland points out that in order to communicate knowledge it must be expressed or represented in some physical way as a signal, text or communication. Any such expression would, therefore, constitute information as a thing. The notion of information as resource attracts information economics and spreads to such diverse disciplines like management, transport and communication, consolidation and repackaging, pricing, marketing, distribution, exchange, etc.

- v) *Information Satisfies the Economic Principle:* Information satisfies the economic principles of generation or gathering, processing, storage, dissemination, etc.
- *Demand / Market:* Information has a wider market. All people need information for some purpose or the other. There is a heavy demand for information from all around the world, so getting profit out of it; its production rate must increase.
  - *Information Generation:* Information is generated mainly through research activities and research activities are highly price consuming business, which is just like other product whose production or manufacture involves a high cost.
  - *Protection:* Information as a resource has been well established which is evident from the profusion of national and international laws and policies relating to storage, transmission and information related services including trans-border data flow. Just as in the case of various commodities or products, information is also protected by copyright and patent. However, the property right of information is weaker than the property rights of other goods we possess.
  - *Consumption:* Information does not always flow across market. Within some private sectors information produced is entirely consumed within the organization itself, which is in the same line of other goods.
  - *Different Forms of Products:* For the different categories of users, different forms of information are released into the market. In this regard, it is just like any other services provided in the market place. Information is provided through books, magazines, business, news, investment, advice, legal advice, medical advice, consulting services, formal education through school, colleges and universities, etc. So, we do have markets for information and people buy it depending on its perceived value. In this aspect information is like other goods and services.

- *Transportation / Communication*: High cost is involved when we use the information technology for communication and transportation of information just like any other product.
- *Storage*: If information is stored for a long period just like other consumable products it loses its value because particularly in case of science and technology, historical information is generally less valuable.

**b) Information is not a Resource / Commodity:** Judith Jordet complains about the notion that information is a commodity. According to him, this notion will not only interfere with real knowledge creation, it will unravel what knowledge we have! When information is seen as a commodity, the users are seen as customers consuming a commodity identified as information. Users define usefulness. If it is not used, it is not useful. But in reality, how many users use all the information that are the product of large research investment is itself a question. Again, against the view of information as a resource / commodity, the following arguments can be offered.

- i) *Shareable and not Exchangeable (Public Good)*: Most of the goods and services have the property that more for you means less for me; but in case of information, more for you does not mean less for me. Passing of information is not losing it.
- ii) *Assigning Value*: It is very difficult to assign values to ideas because different people need information in different depth.
- iii) *Tax*: Tax is not levied on information generation or its consumption; so it is not a commodity.
- iv) *Publicity*: Before buying any other product or goods people know ahead of time what they are going to buy, but in case of information one will not be able to know the whole thing before buying it. If one knows the whole thing, then they may not feel the need to buy it.
- v) *Expandable and Compressible*: Information increases with use, it can be expanded and compressed i.e it can be summarized, integrated, etc.

- vi) *Non Materiality Problem*: The non-materiality of information creates several problems in respect of measurement, appropriateness, ownership, impact, costing etc.

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## 1.10 INFORMATION EXPLOSION

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There has been a continuous revolution in the generation, transfer and communication of information since the invention of printing. Though information generation is a continuous process yet the two World Wars had a very great impact on the very fast development of various fields of knowledge. Since the 2<sup>nd</sup> World War information, in fact, has been growing at an exponential rate and it is often referred to as “information explosion”.

According to American Educational Association, it had to wait till 1750 since the beginning of the Christian era for human knowledge to double. The second doubling was completed 150 years later in 1900. The third doubling of all man’s knowledge took place in the decade of 1950s, but today it is even growing at a faster speed.

Let us now discuss information explosion in terms of its definition, factors for information explosion, its impact and how it can be controlled. The following sections deal with these aspects-

- a) Definition:** The explosion image conveys the idea of sudden bursting out. The term “information explosion” attempts to describe the exponential increase and diversification of published data and information. “Exponential” is a technical term meaning produced or expressed by multiplying a set of quantities by themselves. The exponent is the sign written above to the right of the number or letter in mathematics to show how many times that quantity is to be multiplied. For example, in  $5^3$ , the number 3 is the exponent. In  $y^m$  the letter “m” is the exponent.
- b) Factors that Lead to Information Explosion:** There are many factors which directly contribute to information explosion. Some of them are -
- i) *Increased Literacy*: Creative contributions are born when a man or woman comes in contact with the light of education. Increased

literacy is a prime factor for information explosion because individual produced new information as he becomes more and more acquainted with knowledge.

- ii) *Increased Number of Scholars:* The art of creativity is confined relatively to a very small proportion of the world's population, who could devise new methods, recognize the existing ideas and offer improved solutions to familiar problems. They set new standards in science and technology, literature, fine arts, business, industry and social leadership. When the society becomes devoid of nature's gift of talents then it would begin to stagnate and will ultimately perish. In 1800, there were 1,000 scientist and engineers in the world which increased to 10,000 in 1850 and in 1900, to 100,000. In 1950s, the numbers swelled to one million. It is this ever increasing number of scientist that accounts for the rapid proliferation of published materials.
- iii) *Increased Research and Development:* The increase in research activities is also one of the factors of the exponential growth of information. Nowadays the scale and level of research funding have changed significantly as the research has become mission-oriented, multidisciplinary and assumed a matrix managed character.
- iv) *Increased Literature:* Literature of a subject is its foundation. It represents a record of achievements of the human race. Literature is diverse, complex and multilingual in nature. It is becoming more and more interdisciplinary. It is growing at a fast pace. In science, it is almost doubling itself in every 5.5 years. In social sciences, it is doubling at the rate of every eight to twelve years and in the documentary media, book production more than double in a decade. According to Rider, American libraries which try to collect everything appearing on a given subject double their size in every 16 years.

- v) *Origin of Different Types of Information Sources:* Earlier information sources are only published media and handwritten manuscripts but today the sources of information are diversified from databases, microforms, online journals, CDROM, DVD, optical disk to hypermedia and hypertext.
- vi) *Growth of Technology:* Technology has multiplied by 10 times every 50 years for over 2800 years but nowadays its growth is very fast. Advancement in the field of communication and technology network has brought down the distances between the person, states, countries and continents throughout the world. Computer and telecommunication are converging very rapidly and its highest impact is felt in the information sector. Actually, the need for creative achievement has never been more recognized and designed than it is today.
- vii) *Development of Society:* Information has been stored in people's mind and it has been updated and modified through social contact and communication. As society has developed and become more complex large quantities of information have been generated, published and disseminated causing an information explosion.
- viii) *Development of Competition:* We will continue to be confronted with competitive forces leading to creation as long as one person strives to advance, as long as one business attempts to increase its share of the total industrial output or to improve its profitability as long as one nation attempts to improve its position in the world. The competitive forces are leading to the demand for more information. As a result, more and more information is produced.
- c) Impact of Information Explosion:** The impact of Information Explosion can be summarized as follows-
- Due to the explosion of information
- i) It has become difficult to keep pace with the proliferation of published materials.
  - ii) It creates a great problem in management of information.
  - iii) It is becoming difficult to locate and pull out specific information.

- iv) It is tremendously contributing towards duplication of information generation. In UK, the estimated cost of unintended duplication in scientific research in the 1960s was Rs. 21.6 million.
- v) It creates a great problem in bibliographic control.

**d) Controlling Information Explosion:** The terrific rate of expanding of knowledge and information can not be slowed down. So, the control of information explosion does not mean the controlling of growth and development of information; rather, it means the development and maintenance of a system of adequate recording, and storing of all forms of information published and unpublished, printed and non printed that add to the sum of human knowledge. So, actually, the control of information explosion means the mastery over information generation.

The need to be aware of different information sources arises from the fact that even a voracious reader is unable to read all the literature on his/her chosen subject. The interdisciplinary nature of subject and the wide variety of their characteristics have added to the confusion. But, for any scholar, it is very essential to keep pace with the all information that is coming day by day in his/her field of specialization.

The design and development of different information system can be a probable measure of keeping an eye on the information explosion. It should be equipped with the necessary databases, indexing and abstracting services. The librarians also have to devise some sort of information service, which may result in bringing out a product which analyses, consolidates, evaluates and disseminates all the latest information.



## CHECK YOUR PROGRESS

### Q 1: Match the Following

- |  |                             |
|--|-----------------------------|
| a) Mathematical Theory of Information.                               | a) George Kingsely Zipf.    |
| b) Psycho-biology of language: An introduction to dynamic philosophy | b) M. C. Yovits.            |
| c) Bradfords Law of Information.                                     | c) Shannon and Weaver.      |
| d) Information is data of value to decision making                   | d) Samuel Clement Bradford. |

### Q 2: Find the True and False Statements.

- Information is a processed data, organized and presented for some purposes.
- Data are facts, figures, letters, symbols, words, charts & graphs that represent an idea, object or condition.
- Knowledge can only reside in an organic brain.
- Melvin J. Voigt categorized information need into current approach, everyday approach, and exhaustive approach.



## 1.11 LET US SUM UP

Information is the aggregation and assemblage of data in a comprehensible form recorded on paper or in some other medium and is capable of communication. Knowledge is the potential for action on information. The information, knowledge and wisdom in their totality constitute valuable human intellectual assets. The information at its origin, at the time of communication as a message and when it reaches the recipient it acquires some characteristics.

The meaning of information cycle relates to that unit of knowledge from where the information is generated and then transmitted to the users with the state of various processes. The whole process of information from its creation to its use is called the information cycle.

Information does not possess each and every property of other general resources or commodities but at the same time we also should not expect it to be. The people at large are favouring the view that information is a resource and a commodity.

New ideas are generated in each and every branch of human activity from time to time. Apart from new ideas, we give new interpretation to known ideas; we also borrow ideas from other disciplines and try to apply them in a new context. As a result, more and more information is produced in a variety of forms leading to information explosion.



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## 1.12 FURTHER READINGS

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- 1) Khanna, J. K. (1987). Library & society. Kurushetra: Res Puban.
- 2) P. S. G. Kumar (2002). A student's manual of library & information science (on the lines of the NET syllabus of UGC). Delhi: B.R. Publishing.
- 3) P. S. G. Kumar (2004). Information & Communication. Delhi: B. R. Publishing.
- 4) Tripathi, S. M., Lal, C. & K. Kumar (2000). Descriptive questions in library & information science. New Delhi: Ess Ess Publication.



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## 1.13 ANSWERS TO CHECK YOUR PROGRESS

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### Ans to Q No 1:

- a) Mathematical Theory of Information.      a) Shannon and Weaver.
- b) Psycho-biology of language: An



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## **UNIT 2: REFERENCE AND INFORMATION SOURCES**

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### **UNIT STRUCTURE**

- 2.1 Learning Objectives
- 2.2 Introduction
- 2.3 Non Documentary Sources of Information
- 2.4 Sources of Documentary Information
  - 2.4.1 Classification of Documentary Sources of Information
  - 2.4.2 Types of Documentary Sources of Information
- 2.5 Reference Sources
  - 2.5.1 Classification of Reference Sources
  - 2.5.2 Types of Reference Sources
- 2.6 Evaluation of Reference Sources
- 2.7 Let Us Sum Up
- 2.8 Further Readings
- 2.9 Answers to Check Your Progress
- 2.10 Probable Questions

### **2.1 LEARNING OBJECTIVES**

After going through this unit you will be able to

- Explain how to categorize different sources of information;
- Know about the different sources of information;
- Define the reference source;
- Know about classification of the reference sources;
- Know about the different types of reference sources of information;

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### **2.2 INTRODUCTION**

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There are mainly two types of information sources. They are: documentary and non documentary. The documents are physical sources of information that are fit for physical handling. The non documentary sources of information are live sources. This unit will discuss the different types of documentary as well as non documentary sources of information

with examples. The different types of reference source that are frequently consulted in providing reference services to the users are also being discussed in this unit.

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### **2.3 NON DOCUMENTARY SOURCES OF INFORMATION**

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The non documentary sources of information are live sources which are extremely important in the process of communication. Very often, if a scientist working on an experiment needs some information, he would turn to his / her colleague working in the same laboratory rather than to a printed page. It is easier to have a dialogue with an expert than to use a bibliography or index or card catalogue or even a consultation with a reference librarian. Non documentary sources of information provide information instantly and it is very easy to handle. The main disadvantage of non documentary sources of information is that it involves high cost when distance between the people is large and that it also demands the use of highly sophisticated techniques i.e. computer system, video conference, telephone etc.

The non documentary sources of information include government establishment, departments, universities, technological institutions, data centres, information centres, referral centres, clearing houses, consultants, technological gatekeeper etc. Non documentary sources of information also include discussion with colleagues, visitors, participants of seminars and conferences etc. The library through the referral service provides access to important non documentary sources of information which may include the following types.

- a) Research Association:** Research association may establish cooperative information centres. In such cases there is a possibility of firm to firm discussion and exchange of information between the members of an association.
- b) Learned Societies and Professional Institutions:** A member of these bodies forms the core of a discipline or profession. The head quarters staff help the members personally on professional matter and

sometimes they may direct the queries to the expert member of the body.

- c) Industrial Liaison Officer:** These officers provide particularly the preliminary information needed to put a firm on the right track and for information which needs to be given personally and supported by practical advice in order to be fully effective. They visit firms, explore their needs and problems and help them to find solutions, sometimes directly on the spot, more often by putting them in touch with specialized sources of information and assistance or refer to some other specialists.
- d) Mass Media:** Mass media is a means of communication of information through broadcasting and telecasting or a combination of these two for the masses, which is more effective than any documentary sources.

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## 2.4 SOURCES OF DOCUMENTARY INFORMATION

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A document constitutes embodied thought which is a record of work on paper or other material fit for physical handling, transport across space and preservation through time. It may include manuscripts, handwritten and engraved materials including printed books, periodical, microform, photograph, gramophone records, tape records etc. The recent advances in science and technology helps to origin another kind of document i.e. computer readable forms that includes C.D., DVD, pen drive, hard disk, web resources etc. All documents are the records of human observation and thought and in its creation direct human intervention is necessary. They provide some information to its readers or users. A library as a gateway of knowledge provides access to a variety of such documentary sources of information.

The sources of documentary information can also be termed as an *information product*. It is generated out of a service to be provided to the user. It is a kind of consolidation and presentation process giving tangibility to information.

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### 2.4.1 Classification of Documentary Sources of Information

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**a) C. W. Hanson Classification:** C. W. Hanson (1971) in the article "Introduction to science Information work" published in ASLIB (previously Association of Special Libraries and Information Bureau but now known as Association for Information Management) divides documentary sources of information into two categories i.e. primary and secondary.

- i) Primary:* The primary documents exist of their own and usually contain original information on the first formulation of any new observation, experiment, ideas etc. Thus, according to C. W. Hanson, a monograph, an article in periodical, text book, and encyclopaedia are all primary documents. An article in encyclopaedia or text book may not contain any new information on the subject but it presents the information in the particular form for the first time. The articles concerned are not a condensation or rewriting in any way of any existing document but has been written specifically for the text book or the encyclopaedia.
- ii) Secondary:* All secondary publications present the contents of primary document in a condensed form or list them in a helpful way so that the existence of a primary document can be known and access to it can be made.
- iii) Primary / Secondary Sources of Information:* Conference proceedings, theses and dissertations, monographs etc have the characteristics of both primary and secondary sources of information. Those of documents representing new facts can be regarded as primary publication and those having the character of reviews can be grouped as secondary publication. As a result of such mixing of primary and secondary sources of information some expert doesn't consider this division to be much practical utility.

**b) Denis Grogan Classification:** Denis Grogan, on the basis of level of reorganization, has classified the documents into three categories. They are: *primary*, *secondary* and *tertiary*.

i) *Primary Sources:* Primary publications are those in which the author for the first time supplies evidence, describes a discovery, makes or drives a new proposition or brings forward new evidence about previous proposition. It was created at or near the time being studied, often by the people being studied. It is a fundamental, authoritative document related to a subject of inquiry, used in the preparation of a later derivative work. Thus, the primary sources of information are basic sources of new information which are not passed through any filtering mechanism like condensation, interpretation or evaluation and are the original work of the author.

UNESCO (1968) defines a primary publication as “original scientific paper describing new research, techniques or apparatus.” Primary does not mean superior. It refers to the creation by the primary players, and is distinguished from a secondary source, which is a historical work, like a scholarly book or article, built up from primary sources.

Primary sources may include periodicals, patent, standard, report, reprint, trade journal, classic book, letters, diaries, and other personal papers, photographs, interviews and transcripts, government and historical records, newspaper clippings, and other original sources. The significance of primary publications is as follows

- A subject becomes a discipline in its own right when independent primary sources begin to be produced in that area. The progress and development of a country directly depend on the primary literature that reports a new discovery.

- The information published in primary sources are newly generated, recent, current, full and up-to-date for all other investigators working in the same field.
- Any research or investigation is first published in primary sources and it becomes the basic and original sources of communication of information and reports quickly to be used by other users.
- Publication of primary sources of information avoids doubling and duplication in the research, thus saves time, money and labour to be spent on it. It also acts as a guide to the researcher engaged in the same field by pointing out what has been done? And up to what level? etc.
- The primary sources of information help in the compilation of secondary and tertiary sources of information. Often primary sources of information may be the only sources of information in existence.

There are certain primary sources of information, which remain unpublished. Very often these may be consulted for historical interest. Such materials include laboratory note book, memoranda, diaries, letters to and from a particular individual, company etc. The library also tries to procure such type of material if it comes within its scope of area or is relevant to its purpose.

- ii) Secondary Sources:* A document concerning a particular subject of inquiry which is derived from or based on the study and analysis of the primary source of information is called the secondary source of information. In the secondary source of information the original information is selected, modified and arranged in a suitable format for the purpose of easy location by the user. The secondary sources of

information thus provide digested information and also serve as bibliographical key to primary sources of information. Secondary publication includes text book, reference book, review of the literature etc.

- iii) *Tertiary Sources*: The tertiary sources of information are last to appear and mostly do not contain subject knowledge. It is designed to provide information about information and so acts as a guide to the primary and secondary sources of information. The main function of tertiary sources is to aid the user in using primary and secondary sources of information. The tertiary sources of information are bibliography of bibliographies, guides to libraries, other organizations, indexing and abstracting periodicals, list of accession, list of research in progress, directories etc.

Eventually there is no rigid line of demarcation between primary, secondary and tertiary sources of information.

- c) **S. R. Ranganathan Classification**: Based on the physical characteristics of documents S. R. Ranganathan classified documentary sources of information into four categories. These also reflect the chronological order of their development. They are:

- i) Conventional: Books, periodicals, Map etc.;
- ii) Neo Conventional: Standards, specification, patent etc.;
- iii) Non Conventional: Audio visual, microcopy etc.;
- iv) Meta Document: Direct records unmediated by human mind.

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#### **2.4.2 Types of Documentary Sources of Information**

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- a) **Newspaper**: Newspapers are usually published as dailies or weeklies. The type of paper they are printed on, called newsprint is not meant to last. They are usually preserved on microfilm for this reason. Libraries usually keep paper copies of

newspapers until the microfilm copies arrive. Nowadays many newspapers are available on the Internet, some for free, and others by subscription.

**b) Periodical:** Periodicals are issued at intervals and numbered consecutively. They are given volume designations, several issues making up a volume. Periodicals include journals and magazines.

*i) Journal:* Journal is a scholarly publication devoted to disseminating current information about research and developments in a specific field or subfield of human knowledge. Journal is usually regularly published at interval. Most journal articles are long and include a paragraph at the beginning, called an abstract which summarizes the main points of the article and at the end a bibliography or list of works cited. The writings of the journals are most often peer-reviewed.

*ii) Magazine:* The magazine usually refers to the non-scholarly publications written for an educated audience and contains popular reading.

**c) Reprint:** Once an article is published in a journal additional copies are taken out separately and provided to the author. A fixed number is generally supplied free of charge. Additional copies are supplied at a cost; these copies are known as reprints and used for exchange with other scientists working in the same field.

**d) House Journal:** It is a publication issued by an organization to inform the public of its performance and style of function and also to know the reaction, opinions of its public. Generally house journals are of two types:

*i) External House Journal:* The external house journal is meant for the external audience of an organization. The external audience of an organization refers to those who

do not work under the roof of the organization, but are interested in it.

ii) *Internal House Journal*: Internal house journals are meant for the employees under the roof of an organization. Broadly speaking, it aims to inform and educate the employees of all levels about the organization's activities, functions, etc.

**e) Newsletter:** Newsletter is a publication issued by an organization often simple in format and crispy in style to provide speedy information for a definite audience. Newsletters are always issued regularly and have a short life span. It is a modest publication containing limited pages say four to eight and a few pictures and illustrations. Generally, the organizations that do not go for house journals find a good substitute in newsletters. While some newsletters are intended for the employees, others are meant for the external public.

**f) Patents:** A patent presents a detailed account of a new manufacturing process or improvement of an existing process, a new product, a new method of testing and control etc. Generally, when some kind of invention is made the manufacturer wants to protect his invention and the patent offices in various countries on the request of the manufacturer generally issue the patent, which provides an exclusive right to the manufacturer on the invention. It takes the form of an official document having the seal of the government attached to it, which confers an exclusive privilege or right over a period of time to the proceeds of an invention.

**g) Standards:** Standards are units or measures in terms of weight, size, length, quality, composition, process of production etc., established by National and International Organizations. Standards are often finalized through testing, research, and study and prescribe the accepted quality or performance value of a product.

- h) Research Report:** Research reports are published as part of the annual report of an organization or as a separate report published at periodical intervals by individual and agencies that obtain research grants and have to produce them as a condition of such grants. The research reports are generally produced in limited number of copies and the distribution is also restricted and controlled.
- i) Trade and Product Bulletin / Journal:** Trade journals contain primary articles but of the nature of applied research. It contains the particulars of goods manufactured by or sold by a firm. Frequently illustrated and containing prices, it also often contains application oriented description rather than theoretical description. These are published by Research and Development Organizations, Trade Associations etc. The original objectives of all trade journals are product advertisement. The complete description, principles and working of a newly developed and highly sophisticated instrument may for quite time be available only in the manufacturer trade journals. Eg.: International Product Finder. Bombay: Business press.
- j) Conference Proceedings:** Many conference proceedings present new findings or results of work for the first time or at least months before they are published in scientific journals. Some times, conference proceedings also include questions from participants and answers and clarifications from the authors of the papers. The conference proceedings generally contain the statement of objectives, opening address or presidential address, list of participants or conference's who's who, resolutions or recommendations etc.
- k) Thesis and Dissertation:** Thesis and dissertation are the results of purely academic pursuit. It reports some original work in a specific field. Among all the primary sources of information

thesis and dissertation are probably least used mainly because their existence is not known in many cases and also due to the limited number of copies of the document.

- l) Treatise:** A treatise provides an exhaustive treatment of a broad subject. It is encyclopaedic in coverage of the subject but different in its treatment. It presents in a systematic and consolidated manner the result of work and research in the field with full reference to the primary sources.
- m) Monograph:** The scope of a monograph is narrower than that of a treatise. Monograph is on a single topic whereas a treatise is on a broad subject. Research monographs are separately published reports on an original research that is too long, too specialized or otherwise unsuitable for publication in one of the standard journals. Each monograph is self contained which frequently summarizes the particular existing theory or practice along with the author's original work.
- n) Review:** A review is actually a narrative account or critical synthesis of the progress of a particular field of study prepared by an expert in the field. It shifts, evaluates and puts each significant contribution into its proper perspective. It indicates interrelationship of ideas, significance and possible areas of application and so on, so that one can easily get an expert view of the subject without having to go through the mass of literature.
- o) Text Book:** A text book is made of continuous exposition, sentences mount into paragraph, paragraphs into chapter, chapters get woven into a single swelling exposition in the continuous pursuit of a single idea, simple or complex, and text books are read consecutively for inspiration, enjoyment or information. There is a link at each stage. There is an element of continuity. According to Grogan, "a text book is a teaching instrument; its primary aim is not to import information about its

subject but to develop understanding of it. It concentrates on demonstrating principles rather than recounting detail”.

- p) State of the Art Report:** These are types of reviews which do not have all embracing scope and historical orientation. These present information assembled from various sources and subjects to the operation of analysis, consolidation, extraction and evaluation in a formal presentation representing the most advanced degree of technical achievement in its field at the present time. Some owe their existence to a specific query while others are issued on a regular basis, in many cases once in a year. State of the Art report emphasizes on the recent and up-to-date ideas.
- q) Trend Report:** Trend report gives an account of the general direction of research in the subject based on a review of the documents on current development.
- r) Technical Digest:** A digest service is directed to executives, engineers, technical workers, etc. working in industries. It provides up to date technical information. It presents descriptive text of information in a condensed form and on the core ideas in brief and orderly form.

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## 2.5 REFERENCE SOURCES

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A reference work / book / source is a compendium of information, usually of a specific type, compiled in a book for easy consultation. The entries are disjointed but arranged in such a way that the intended information can be quickly found when needed or referred to, the sequence of which is determined by the scheme of arrangement chosen for that purpose. It might be alphabetical, classified or some other type of arrangement. Even then the connection between consecutive entries is not as compelling and continuous or as free from jerks as between the paragraphs in an ordinary book. The writing style used in these works is informative; the authors avoid use of the first person and emphasize facts.

Indexes are commonly provided in many types of reference work. Updated editions are published as needed, in some cases annually. Sometimes reference sources are also described as approach material. Broadly speaking, any book can be called a reference book provided the information contained in it is so organized that it becomes readily accessible. It may consist mostly of formulae, statistics, diagrams, tables, maps, charts or list of documents with or without abstracts or annotations or other features. All reference sources are also documentary sources of information.

According to *ALA Glossary*, a reference book has been defined as “a book designed by its arrangement and treatment to be consulted for definite item of information rather than to be read consecutively”. Most of the reference book anticipates a particular need and approach to information. Generally, a reference source bears the following characteristics-

- a) **Consulted for Definite Item of Information:** They are not meant for continuous i.e. cover to cover reading. They are consulted from time to time (occasional) for particular pieces of information.
- b) **Miscellany of Information:** It is miscellany of information or facts and consists of disjointed entries of varying length which are collected from a vast number of sources. One entry in sources may or may not have any relationship with the other entry.
- c) **Bird's Eye View of the Topic:** The books provide only the bird's eye view of the topics and rarely deal with them in depth.
- d) **Item can be Randomly Located:** The arrangement of information is such that it can be conveniently and quickly recalled.

In the library, reference collections are shelved together in a special location separately from circulating items. Ordinarily, the reference collections are not lent out (circulated) or checked out from the library because they contain brief information about the topic in hand and, if needed, can be photocopied and, therefore, do not need to be borrowed by the users. Its availability in the library assures the provision of making it accessible on demand to any user to answer questions immediately. Reference books are also too valuable to permit the borrowers to take them out.

It may be added that the boarder line of demarcation between a reference book and others is not always sharp. The decision as to whether or not to regard a given book as a reference book will some time differ from library to library.

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### 2.5.1 Classification of Reference Sources

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William A. Katz divides the reference sources into two large categories-

- i) *Control Access Directional Type*: It itself does not contain the required information but directs the user to the documents which contain the information. It includes bibliographies, catalogues, indexes, abstracts etc.
- ii) *Work of Sources Type*: It itself contains the information. For example, Encyclopaedia, Dictionary etc.

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### 2.5.2 Types of Reference Sources

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We may generally recognize the following kinds of reference sources based on the internal characteristics.

- a) **Dictionary**: A dictionary contains the words of a language or the terms of a subject, profession or vocation arranged according to some definite order usually alphabetical, giving their meanings, pronunciation, spelling, significance and use. Some times synonyms, antonyms, derivation and history of the words or terms are also given. Many dictionaries also provide grammatical information, etymologies (origin and development of the meaning of the word), usage guidance and examples in phrases or sentences. The word "dictionary" comes from neoclassical Latin word "dicio" meaning simply "word". Therefore, primarily it deals with words and it is produced by lexicographers. A pictorial dictionary includes illustrations of the objects represented by the words listed; some other types of dictionary may also list out characters with their glyphs, or an

alphabetical list of words with corresponding words in other languages. It is most commonly found in the form of a book. However, in recent years some dictionaries are also found in electronic portable handheld devices. Some examples of English language dictionaries are Merriam-Webster Dictionary, Oxford English Dictionary (descriptive), The American Heritage Dictionary of the English Language, Webster's Third New International Dictionary (descriptive).

- i) *Lexicon*: A dictionary of some ancient language that generally provides more grammatical analysis is known as lexicon.
- ii) *Concordance*: A concordance is an alphabetical list of the principal words used in a book or body of work showing location in the text with immediate contexts. Because of the time and difficulty and expense involved in creating a concordance in the pre-computer era, only works of special importance, such as the Bible, Qur'an or the works of Shakespeare, had concordances prepared for them.
- iii) *Glossary*: A list of difficult terms along with some explanation or definition in a special field. The glossary is sometimes also referred to as Word book.

**b) Thesaurus**: It is designed for drawing distinctions between similar words and assisting in choosing exactly the right word. So entries in a thesaurus should not be taken as a list of synonyms and antonyms. It also does not define words. That work is left to the dictionary. A formal definition of a thesaurus designed for indexing is: a list of every important term (single-word or multi-word) in a given domain of knowledge arranged in a systematic order and manifesting various types of relationship existing between the terms; and a set of related terms for each term in the list. The word "thesaurus" more commonly means a listing of words with similar, related, or

opposite meanings (this new meaning of thesaurus dates back to Roget's Thesaurus). For example, a book of jargon for a specialized field; or more technically a list of subject headings and cross-references used in the filing and retrieval of documents (or indeed papers, certificates, letters, cards, records, texts, files, articles, essays and perhaps even manuscripts), film, sound recordings, machine-readable media, etc. Some examples of thesaurus are *Thesaurus of English Words & Phrases* (ed. P. Roget); *The Synonym Finder* (ed. J. I. Rodale); *Webster's New World Thesaurus* (ed. C. Laird); etc.

- c) Encyclopaedia:** The word encyclopaedia or encyclopedia is derived from two Greek words "Enkyklios" which means "circle" and "Paideia" which means "of learning". The word encyclopaedia itself is synonymous with cyclopedia which means compendium of information or knowledge or a circle of knowledge, a work which represents synthesis of knowledge. It contains comprehensive written information on all branches of knowledge or a particular branch of knowledge, with the entries arranged in alphabetical order. Multi-volume encyclopedias often include an index in the last volume.

The Oxford English Dictionary has defined an encyclopaedia as "a literary work containing extensive information on all branches of knowledge usually arranged in alphabetical order". ALA Glossary of Library Terms define encyclopaedia as "a work containing information articles on subject in every field of knowledge usually arranged in alphabetical order or a similar work limited to a special field of subject".

Four major characteristics of an encyclopaedia are its subject matter, its scope, its method of organization, and its method of production. It attempts to bring some order to the knowledge reflecting the state of knowledge as it exists during the period of its compilation. The included knowledge is related

to kind of readership which an encyclopaedia intends to serve. There have historically been two main methods of organizing printed encyclopaedias: the alphabetical method (consisting of a number of separate articles, organized in alphabetical order), or organization by hierarchical categories. The former method is the most common by far, especially for general works. The encyclopaedias are written by a number of employed text writers, usually people with an academic degree but some modern encyclopaedia's articles are collaboratively written by the experts on the subject.

The fluidity of electronic media, however, allows new possibilities for multiple methods of organization of the same content in the encyclopaedias. Further, electronic media offer previously unimaginable capabilities for search, indexing, and cross reference.

Encyclopaedias can be general, containing articles on important topics in every field that describe the total accumulated knowledge on each topic or all that came before them. The general encyclopaedias are larger compendia and often contain guides on how to do a variety of things, as well as embedded dictionaries and gazetteers. Every general encyclopaedic work is, of course, an abridged version of all knowledge discussed in depth. However, the discussion of the included topic represents the opinions and worldviews of a particular time and the target audience is kept in view while discussing the topics. For example, *New Encyclopædia Britannica*, *Encyclopedia Americana*, *Collier's encyclopaedia*, and *German Brockhaus*. The encyclopaedia can also specialize in a particular field such as an encyclopaedia of medicine, philosophy, or law, *Encyclopaedia of Library and Information Science*, *International Encyclopaedia of Social Sciences*, *McGraw Hill Encyclopaedia of Science and Technology*, etc.

- i) *Supplement to Encyclopaedia*: It is an annual or periodical publication issued by the publisher of the encyclopaedia. The purpose of encyclopaedia supplement is to provide up-to-date information about the articles in the basic set and to bring out a summary of the major events, which have taken place during a year. But in reality it only serves as general reading and browsing and for summarizing the significant events. It is extremely useful to determine the trend of development in a particular field during the previous year. Examples: Britannica Book of the Year, Americana Annual, etc.
- d) **Bibliographical Sources**: The term “bibliography” was first used by Louis Jacod de Saint Charles in his *Bibliographia Parisiana*. It is a technique of systematically producing descriptive list of written or published records or in simple writing and transcription of books. A bibliography is a systematic listing of the records of human communication. In its most general sense it is the study and description of books or other multimedia material. Bibliographical works are almost always considered tertiary sources of information. They differ from library catalogues by including all relevant publications rather than the items actually found in a particular library. However, the catalogues of some national libraries also serve as national bibliographies, as they contain almost all the publications of the concerned country. Standard citation formats are used in writing the bibliographies. The main advantages of bibliographic entries are that they contain enough information for readers to locate the materials and are presented in a consistent format. In many cases bibliography is the end result of any literature search. The example of bibliography includes Indian National Bibliography, Indian Books in Print, etc.

i) *Bibliography of Bibliographies*: A bibliography of bibliographies lists the bibliographies which direct the reader to useful bibliographies through subject, place, institution etc. The bibliographies referred to may be in the form of a separately published book or part of the book or part of the periodical article or some other type of document. Bibliography of bibliographies is highly selective in nature. For example, Bibliographic Index.

e) **Indexing and Abstracting Periodicals**: An index is a systematic guide to i) item contained in or ii) concept derived from a collection. These items and derived concepts are represented by entries arranged in a known or stated searchable order. According to Allen Kant, "an abstract is a summary of a publication or articles accompanied by an adequate bibliographical description to enable the publication or article to be traced".

The indexing and abstracting periodicals present a condensed form of the literature of the subject and provide a scientific or specialist bird's eye view of the progress and development of the subject so that the inquirer can select the most relevant documents relating to his work in the hand. An indexing and abstracting periodical helps to find out specific information in the literature of a subject.

i) *Citation Index*: A citation index is an index of citations between publications. It allows the user to easily establish as to which later documents cite which earlier documents. It is an ordered list of cited articles each of which is accompanied by a list of citing articles. The cited articles are identified as references and the citing articles as source. In a simple way it can be said that cited articles are ancestors and the citing articles are descendants and this descending relation of subjects is reflected through the citation index.

Citations provide a further reading list besides paying homage to the pioneers and giving credit for their work; sometimes it also criticises, corrects and disputes the previous contributions. The first citation indices were legal citators such as Shepard's Citations (1873). In 1960, Eugene Garfield's Institute for Scientific Information (ISI) introduced the first citation index for papers published in academic journals, starting with the Science Citation Index (SCI), and later expanding to produce the Social Sciences Citation Index (SSCI) and the Arts and Humanities Citation Index (AHCI). Examples include ISI citation indexes (available online under the name "Web of Science"), Scopus published by Elsevier publishers (available online only), CiteSeer system, Google Scholar (GS) etc.

**f) Geographical Sources:** Geography is the study of the Earth's surface and its lands, features, inhabitants, and phenomena, people's responses to topography and climate, and soil and vegetation. Geographical sources of information can be of the following types:

- i) *Gazetteer:* A gazetteer is a geographical dictionary, an important reference for information about places and place-names, used in conjunction with an atlas. It typically contains information concerning the geographical makeup of a country, region or continent, the social statistics and physical features, such as mountains, waterways, or roads. It also includes information about the location of places, dimensions of physical features, population, GDP, literacy rate, etc. World gazetteers usually consist of an alphabetical listing of countries, with pertinent statistics for each one, with some gazetteers listing information on individual cities, towns, villages and other settlements of varying sizes. Examples include The World Gazetteer, Worldwide Index etc.

- ii) *Guides*: According to ALA Glossary of Library Terms, a guide book has been defined as handbook of traveller that gives information about a city, region or country or a similar handbook about a building, museum, etc.

A guide to the literature assists a user to use literature of a specific subject. It helps to evaluate and introduce literature. It lays emphasis on the literature of a subject rather than its content and covers secondary and tertiary sources. It presents a detailed account of the bibliographical apparatus and tools, basic literature, agencies etc through which it is possible to follow the development, status and progress of a subject. It gives the broadest bibliographical view of the subject. A guide to the professional organization gives the address and a brief description of the organizations engaged in a particular field at the national or international level. Guides generally include guides to the literature of a subject, guides to the libraries, guides to organization etc.

- iii) *Map*: A map is defined as “a representation of a part or the whole of the surface of the earth or a celestial body delineated on a plain surface, earth points in the drawing intended to correspond to a geographical or a celestial position”. It represents the outer boundaries of a part of the earth or the earth as a whole on a plain surface. In simple, it is a simplified depiction of a space which highlights relations between components (objects, regions) of that space. Most usually a map is a two-dimensional, geometrically accurate representation, normally to scale, of all or a portion of the three-dimensional earth’s surface or of the heavens, or another celestial body. More generally, maps can be devised to represent any local property of the world or part of it. Maps are usually stored in specially designed cases which allow them to lie flat.

- iv) *Atlas*: An atlas is a collection of maps, traditionally bound into book form, but also found in multimedia formats. It gives geographic features, political boundaries and some time geopolitical, social, religious and economic statistics. ALA Glossary defines atlas as “a volume of map, plates, engraving, tables, etc with or without descriptive letterpress”. It may be an independent publication or it may have been issued to accompany one or more volume of text. Some cartographically or commercially important atlases include Times Atlas of the World (United Kingdom, 1920-present); Atlas Mira (Russia, 1937-present); National Geographic Atlas of the World (United States, 1963-present); Historical Atlas of China (China). Some other atlases are thematic. Example: The Times Atlas of World Exploration.
- v) *Globe*: A globe is a three-dimensional scale model of Earth (terrestrial globe) or other spheroid celestial body such as a planet, star, or moon. It may also refer to a spherical representation of the celestial sphere, showing the apparent positions of the stars and constellations in the sky (celestial globe).
- g) Biographical Sources:** A biography is a description or account of the series of events making up of someone’s life, which is usually published in the form of a book or an essay, or in some other form, such as a film. An autobiography is a biography of a person’s life written or told by that same person. The biographical information also can be obtained from almanacs, biographical dictionary, directories, encyclopaedias, etc. Examples include International Who’s Who, Dictionary of National Biography, etc.
- h) Current Sources:** Current sources of information are brought out on annual basis that depicts some important happening in the previous year. It may take the form of the following:
- i) *Year Book*: A year book is an annual compendium of current information which may be sometimes restricted by subject

or country or region. It is mostly used for answering questions involving the recent trends and current developments. J. K. Cates defines a year book as “a publication which is issued annually for the purpose of current information in narrative, statistical or descriptive form”. According to ALA Glossary, a yearbook is “an annual volume of current information in descriptive and or statistical form, sometimes limited to a special field”.

- ii) *Almanac*: The word almanac (also spelled almanack) is an annual publication containing tabular information in a particular field (mostly covering information about rising and setting of moons, periods of low and high tides, climate or weather related information) often arranged according to the calendar. According to the ALA Glossary, an almanac is a) an annual publication containing a calendar frequently accompanied by astronomical data and other information or b) An annual year book of statistics and other information sometimes in a particular field. It records most of the astronomical data and various statistics, such as the times of the rising and setting of the sun and moon, eclipses, hours of full tide, stated religious festivals, terms of courts, etc. Contents also include discussions of topical developments and a summary of recent historical events. Major topics covered by almanacs (reflected by their tables of contents) include: geography, government, demographics, agriculture, economics and business, health and medicine, religion, mass media, transportation, science and technology, sport, and awards/prizes. Sometimes almanac is grouped with yearbooks as this is also an annual publication giving current events, developments, statistics, etc. Example: World Almanac and Books of Facts, Whitaker’s Almanack, Information Please Almanac, The Old Farmer’s Almanac etc.

- i) **Directory:** A directory is a list of names and addresses of persons, organizations, manufacturers or periodicals. It may list information in a way which best serves the requirements of its user so as to enable them to get the required information readily. S. R. Ranganathan defines a directory as “a book containing the names, address, occupation, etc of the inhabitants of a town or a district, a list of the user of a telephone system or of the members of a particular profession or trade or a descriptive list of institution, enterprises or trade”. ALA Glossary of library terms defines a directory as “a list of persons or organizations, systematically arranged usually in alphabetical or classified order giving address, affiliation etc. for individual and address, officers, functions and such data for organization”. In a wider sense, even a list of periodicals or newspapers or places may also be termed a directory. Example: Times of India Directory and Yearbook including Who’s Who, Bowker Annual of Library and Book Trade Information, World of Learning, Universities Handbook, etc.
- j) **List of Research in Progress:** A list or directory of research in progress covers the research activities of a single institution, a laboratory or a group of institutions i.e. universities. The information content usually is a short description of projects, names of investigators, period of investigation, and names of funding agencies and, in some cases, reference to sources where preliminary results have already been published or likely sources of publication of results.

List of research in progress helps an individual information seeker to get in touch with the investigation, to get additional information about the work or can anticipate as to when and where to get the full report or results of an investigation and thus to avoid duplication in research. Example: Current research project in CSIR Laboratories, 1972 and 1976 compiled by INSDOC, R and D Projects in Documentation and Librarianship of FID.

- k) Notification of Forthcoming Conferences:** The knowledge of forth-coming meetings, conferences, symposia, seminar etc. on a specific field should be notified to the members belonging to that specific domain. Keeping this purpose in view some organizations publish small booklets giving essential general information about forth-coming seminar, conference and workshop in a specific field. Example: Forthcoming International Scientific and Technical Conference, Quarterly published by ASLIB.
- l) Handbook:** The term “hand book” literally comes from the German word “handbuch” i.e. a book which can be held in the hand comfortably. It is a compilation of miscellaneous information in a compact and handy form. It is a small manual, reference work or other collection of instructions, intended to provide ready reference regarding procedures, principles, etc. Table, graph, diagram and illustration are also provided. Louis Shores has defined handbook as “a reference book of miscellaneous facts and figures on one or many subjects assembled for ready use in response to popular interest or to a specific need for concise handy information”.
- m) Manual:** The word “manual” is derived from the Latin term “manualis” which means a guide book or instruction book to pursue an occupation, art or study. The term “manual” in common parlances refers to instruction to do something with the aid of very explicit step by step directions. It gives instruction by means of specific and clear direction. Louis Shores opined that “manuals are sources that contain instruction for doing”. ALA Glossary defines a manual as a) a compact book, a handbook b) a book of rules for guidance or instructions in how to perform a task, process etc. or make some physical subjects. Example: Fay, G.S. (1972). Rockhound’s Manual. New York: Harper and Row.

- n) **Statistical Sources:** The statistical information is distributed in other reference sources. The dictionaries may contain population statistics. The encyclopedia may provide socio-economic data about large geographical areas, which may be updated by their yearbook; the statistical yearbook may provide some other kinds of statistics over a longer period of time, and so on. Example includes Demographic Yearbook, Statesman's Yearbook, etc.
- o) **Mathematical Table:** In early days before calculators were cheap and plentiful, people were using mathematical table i.e lists of numbers showing the results of calculation with varying arguments to simplify and drastically speed up computation. The most common are multiplication tables, which most people know from their early Maths classes. Nowadays, people use logarithm tables and so on.

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## 2.6 EVALUATION OF REFERENCE SOURCES

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The checklists for evaluation of reference sources are more or less same for all types of work. They can be applied to all sources with slight modification. In general, they include the following

- a) **Authority:** The work should be authoritative. The authority should be judged on the basis of the reputation of the author(s), editor(s), compiler(s), sponsoring bodies and the publishers.
- b) **Scope and Coverage:** The kind of information included would depend upon the scope of the work. Some work may cover a particular country or the whole world or all subjects while others may be restricted to some specific or minute topic only. The date or period covered is an important criterion. Sometimes it may relate to a particular subject, organization also. The content page, preface, and introduction may give an idea of the information contained in the work.
- c) **Treatment:** It is to be ascertained whether the information is reliable and accurate or not, whether the treatment is biased or unbiased.

- d) Arrangement:** The information must be systematically arranged. It is essential to have a detailed index which should provide for various kinds of approaches.
- e) Uptodateness / Revision:** Though some reference sources may contain some retrospective information, every year it should be thoroughly revised and updated. The time lag is important for current sources.
- f) Format:** All reference works should be a handy volume easy to withstand wear and tear. Type face should be clear and legible with suitable headings and subheading in bold types for the guidance of the readers.
- g) Special Features:** The other special features of the work include its total cost and whether the cost can be justified on the basis of its content.



### CHECK YOUR PROGRESS

#### A) Match the Following

- |                                     |                         |
|-------------------------------------|-------------------------|
| a) Primary source of information.   | a) Text book.           |
| b) Secondary source of information. | b) Journal.             |
| c) Reference books in a library     | c) Word book.           |
| d) Another name of glossary         | d) Not for circulation. |
- .....

#### B) Fill in the Blanks

- a) C. W. Hanson divides documentary sources of information into two categories i.e. .... and .....
- b) Denis Grogan classifies the documents into three categories, i.e. primary, ..... and tertiary.
- c) S. R. Ranganathan classified documentary sources of information into Conventional, Neo Conventional, Non Conventional and .....
- d) Reference works are also known as ..... material.



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## 2.7 LET US SUM UP

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The information sources are of two types, documentary and non documentary. Documentary sources are the record in some physical form. The non documentary sources of information are live sources that provide information instantly. The non documentary sources of information include research organizations, societies, industries, government establishment, departments, learned and professional bodies, universities, technological institutions, etc.

Some of the reference sources overlap. For instance a supplement to an encyclopedia can be considered as a part of encyclopedia or separately. Similarly, the sources of statistics can be considered under yearbook or as a separate category. Many of the reference sources are now available in audio- visual format or as an online publication but still they can be included under their respective categories. Besides, the traditional reference sources, Search engine, Meta search engines can also be considered as reference sources of modern times.



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## 2.8 FURTHER READINGS

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- 1) IGNOU (2001). *MLIS-04: Information institutions, products and services, Block 3 (Information Products)*. New Delhi: IGNOU.
- 2) Katz, William A. (1982). *Introduction to reference work*, 4<sup>th</sup> ed. New York, McGraw Hill, V. 1.
- 3) Krishan Kumar (1996). *Reference service*. 5<sup>th</sup> rev. ed., Delhi: Vikas.
- 4) P.S.G. Kumar (2004). *A students manual of library and information science*. 2<sup>nd</sup> ed., Delhi: B.R. publishing corporation.
- 5) Ranganathan, S. R. (1996). *Reference service*. 2<sup>nd</sup> ed., Bangalore: Sarada Ranganathan Endowment for Library Science
- 6) Sharma, Jagdish Saran and Grover D.R. (1987). *Reference service and sources of information*. New Delhi: Ess Ess.
- 7) Tripathi, S.M., Lal, C and K Kumar (2002). *Descriptive questions in Library and Information Science*. New Delhi: Ess Ess.



## 2.9 ANSWERS TO CHECK YOUR PROGRESS

### A) Match the Following

- |                                     |                         |
|-------------------------------------|-------------------------|
| a) Primary source of information.   | a) Journal.             |
| b) Secondary source of information. | b) Text book.           |
| c) Reference books in a library     | c) Not for circulation. |
| d) Another name of glossary         | d) Word book.           |

### B) Fill in the Blanks

- |                        |               |
|------------------------|---------------|
| a) Primary, Secondary. | b) Secondary. |
| c) Meta Document.      | d) Approach   |



## 2.10 PROBABLE QUESTIONS

### A) Short Answer Type Questions

- What are the two types of information sources?
- What is a documentary source of information?
- What is a non documentary source of information?
- What do you mean by reference source?
- Describe the characteristics of a reference book.
- According to William A. Katz what are the two categories of reference books?

### B) Essay Type Questions

- What are the different types of non documentary sources of information?
- Describe the primary and secondary sources of information.
- What are different types of documentary sources of information? Describe some of them.
- Write descriptive notes on different types of reference sources.
- Write a descriptive note on geographical sources of information.
- Write a note on evaluation of a reference source.
- Write a short note on dictionary and encyclopaedia.

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## **UNIT 3: REFERENCE AND INFORMATION SERVICE IN ANTICIPATION**

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### **UNIT STRUCTURE**

- 3.1 Learning Objectives
- 3.2 Introduction
- 3.3 Types of Reference and Information Service
- 3.4 Public Service
  - 3.4.1 General / Universal / Essential Public Service
  - 3.4.2 Enhance / Selective Public Service
- 3.5 Extension Services
- 3.6 Online Services
- 3.7 Let Us Sum Up
- 3.8 Further Readings
- 3.9 Answers to Check Your Progress
- 3.10 Probable Questions

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### **3.1 LEARNING OBJECTIVES**

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After going through this unit you will be able to

- Know about different services provided by libraries;
- Explain the technical services in the library;
- Know about public services in the library;
- Define CAS and SDI services;
- Know about the library extension services.

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### **3.2 INTRODUCTION**

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The library is a service institution. The library services fall into two main categories - information in anticipation and information on demand. Information in anticipation relates to the current awareness / selective dissemination of information service. The information on demand relates to the past information sought by a user and for which there is the provision

of reference and information service known as retrospective searching. The provision of information in anticipation aims to keep the users well informed and up to date in their field of specialization and also in the related subjects. The service in anticipation can be divided into three broad categories - technical services, public services, and public relation and extension services.

Technical services are vital for all other services provided by the library. Any library would find it impossible to provide public service for their patron without the work performed in “the backroom” by technical staff. The Card Catalogue or in a modern library OPAC is the result of the library technical services. Other technical work includes classification, preparation of shelf list, preparation of various kinds of guides, etc.

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### **3.3 TYPES OF REFERENCE AND INFORMATION SERVICE**

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Previously, people used to differentiate the reference service from that of information service, but in reality there is no borderline between the two. The two services cannot be differentiated based on the fact whether the librarian is referring the user to the sources of information or is directly providing the information himself. Even, referring the user to the sources of information itself may serve the function of information service for a particular user. The emergence of web has further changed the whole scenario. Now the reference and information service goes side by side and they cannot be differentiated as it was done earlier. If one however likes to differentiate then the information service can be treated as an extended form of reference service. Infact, the information service is a relatively new term for reference service. Characteristically, information service denotes the ultimate existence of the reference work to all kinds of answers to questions which are based on all sources and which requires the service of the library staff. However, the library services can be differentiated based on the user approach into two i.e service on demand and service in anticipation. In case of service on demand, the staff waits

for the users to approach and make a request. The user gets the answer to their specific inquiries pin pointedly, exhaustively and expeditiously. In the reference and information service in anticipation, the staff goes to the user and the user waits for the staff / document / information. The information provided is of general type mostly referred to the document rather than providing exact information.

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### **3.4 PUBLIC SERVICE**

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The library public service manages the activities that directly assist the end-user. The public service can be grouped into two major headings essential public service and enhanced public service.

Generally, reading room, circulation, list of accession, printed catalogue, etc are treated as essential (general) public services and Current Awareness Service (CAS), Selective Dissemination of Information (SDI) are treated as enhanced (selective) public services. The public service of the library generally depends upon one major factor i.e. whether it provides open access to its collection or it is closed access.

The library public service sometimes is also known as information service. L. M. Harrod defines information service as “service provided by or for any information centre which draws attention to information possessed in its departments in anticipation of demand, this is done by presenting and circulating news sheet, literature surveys, reading lists, abstracts, particulars of articles in current periodicals etc which, it is anticipated, will be of interest to potential users of the service”. The information service is provided directly to the potential user of the service.

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#### **3.4.1 General / Universal / Essential Public Service**

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The following are the general public services

- a) **Collection of Reference Material:** It will include acquisition of dictionaries, encyclopaedias, bibliographies, indexing and abstracting periodicals and so on. The library can also bring out different types of bibliographies, indexing and abstracting of different types on its own to draw the attention of the user.

- b) **Card Catalogue:** The card catalogues are filled in a cabinet containing many drawers. In a large library, the card catalogue often fills a large room.
- c) **Accession List / List of Recent Acquisition:** Here, a list of books newly added to the library is regularly compiled and distributed. These lists provide new books and journals added to the library and are generally indicative, bearing very few details like author, title, publisher, pages, call number and accession number. Sometimes, the library can also display the book jacket of new additions prominently in the library to bring it to the notice of potential users.
- d) **Book Display:** Displaying of library material pertinent to a special interest or illustrating a historic occasion like man's flight to space, and so on can be helpful. This enables the users to keep themselves currently aware of the recent developments.
- e) **Newspaper Clipping Service:** In this type of service the important topics / news published in newspaper are cut and filed subject wise for being provided to the user.

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### 3.4.2 Enhance / Selective Public Service

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The enhance public services are of the following types

- a) **Current Awareness Service (CAS):** The awareness service provides knowledge to the user regarding recent developments in the field of general interest. This type of service is directed towards all users of the services. It does not deal with the exact or specific requirement or interest of the user and is thus distinguished from SDI service.

The CAS helps the user by keeping him up-to-date & well informed with the latest information on a particular field and also in the related field. It indicates what one should read and thereby it saves the time of the reader. It also serves as a rapid survey of retrospective literature. CAS helps the user in the following ways:

- i) *Keeps Well Informed:* Due to great advances made in the field of knowledge, it is becoming more and more difficult for the users to keep themselves up-to-date and well informed in their field of specialization. CAS meets this end for the researcher and others. Otherwise, too much of information would make it difficult for them to use information effectively.
- ii) *Helps the User in Scanning the Literature:* There may be users who do not possess the ability or willingness to do the scanning regularly on their own. CAS provides aid in such situation by widely and regularly scanning the literature and sending to the user the relevant topic of interest.
- iii) *Saves Time:* The Library and Information Centres by scanning the sources of information and notifying the members of the community, saves their valuable time. Again, in case each user scans literature individually then this will lead to unnecessary duplication of effort. So, the CAS can help the user avoid this duplication.
- iv) *Promotes and Supports Library Service:* All services of the library are not free nowadays. So, in this context, it is essential to promote and market library services. CAS is one of the ways to bring the resources of the library / information centre to the notice of the users. This will in turn lead to greater demand for the library service, giving opportunity to the library to prove its value and justification for the money spent on it.

Librarians have been providing the CAS service on manual basis for a long time. But nowadays computers are used to mechanize the procedure. The current awareness service through computer may be provided through E-List (a Web-enabled contemporary reference service offered to the registered members), online groups, blogs, RSS, E-Mail, SMS, etc. The steps involved in CAS may be of the following types

- i) *Creation of User Profile:* The profiles of the user, who are to be given CAS/SDI service, are prepared. A profile consists

of the key words that collectively characterize the subject interest of an individual. The profile can be of a single user or a group working on the same project or some limited subject field. The profile obtained thus must be kept up-to-date. Therefore, if the topic of interest changes then the corresponding profile must also be modified accordingly.

- ii) *Acquisition of Resources:* The different sources of information, periodicals, research papers, which are relevant to the parent body, must be selected and collected from different sources. In the next step, through rapid reading the resources are scanned by the LIS professionals to find out the key concepts.
- iii) *Creation of Document Profile:* The relevant and significant information is recorded in the form of content list for different contexts. The recorded information may be in the form of an abstract or an extract. Depending upon the significance of the document, the bibliographical details and indexing terms and the information itself are stored on the file / magnetic tape / computer document.
- iv) *Matching Profile:* In a regular interval, the user profile should be correlated or matched with the document profile. The computer compares the two inputs; the output is printed out in the form of two cards. One card is called information card that contain either the list of document or the information itself along with bibliographical details of document which also has a tear off strip request note. The other card is called response card.
- v) *Notification / Information Communication:* If there exists any matching between the two profiles then the matching information is sent to the user or group of users, who may require it, through different means of communication in anticipation, like telephone calls, postal mail / email / SMS

with a request to call at the reference desk to get the pertinent information. In case of postal communication, the two cards are sent to the user. The information can also be sent through a messenger.

vi) *Feedback Mechanism*: The user keeps the information card for his use. In case he wants to consult the document, he tears off the request note strip and sends it to the library along with the response card, in which he indicates the degree of interest in the particular document.

vii) *Library Action*: The library takes action on the request note strip to send the document(s) to the concerned user or to keep it in the library for him. The response card helps the library to know about the usefulness of the information provided as well as the shift in the information need. The library accordingly modifies the user profile page for improving performance.

**b) Selective Dissemination of Information (SDI) Service:** SDI is a refinement of CAS service which is directed to individual / personal requirement (personalized). It provides a deeper analysis of literature. If two people exactly match in terms of their interest, then SDI also can be provided to the two people. H.P. Luhn is a pioneer in this field. The steps in providing SDI services are same as that of CAS, the difference is only in the depth of the interest.

The aim of SDI is to see that the user should neither be provided too much of information nor made to miss information essential for his requirements. It should also meet the user need at individual level.

SDI service may take the following forms-

i) *Contents Alerts*: This service is provided by photocopying, scanning the content pages of learned journals and other important publications keeping in view the interest of the users.

ii) *Routine of Periodicals (Automatic Loan)*: In this procedure, the current issues of periodicals are routed. There are two systems of routing the current issues of the periodicals. In the first method, the library sends the current issue to the first person on the list, who passes it on to the next name in the list. The last person in the list returns the periodical to the library. In the second method, the library sends the issue to the first person on the list, who returns it to the library, and then the library sends it to the next person on the list, who again returns it to the library. Next the library sends it to the third person, and the system goes on like this.

iii) *Notification of Forthcoming Conferences, Seminars, etc.*: The information about forthcoming meetings, conferences, symposias, seminars, workshops etc. on a specific field should be notified to the members belonging to that specific domain. Keeping this purpose in view some library provides this kind of service to the user.

c) **Liaison Service**: In Liaison service, the library professionals go to the users to identify the problems encountered by them in course of their activities, analyze their information need, and put them in touch with the information sources or services.

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### 3.5 EXTENSION SERVICES

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Extension work is defined as those activities which are undertaken with the objective of reaching the group of people who might otherwise be unaware of the library services and book stocks. Mc Colvin considers it as means “to increase the number of readers and the volumes of work and later to make the library more useful to more people”. ALA Glossary of Library and Information Science 1983 defines it as “the provision by a library of materials and services (including advisory services) to individuals and organizations outside its regular service area, especially to an area in which library service is not otherwise available.

- a) Objectives:** The main objectives in providing extension services are
- i) To convert a library into a social, cultural and intellectual centre;
  - ii) To convert non reader into reader, non user to user.
  - iii) To bring books and readers together.
  - iv) To inform those who do not use the library services and to attract them to the library services.
  - v) To inform the reader of all the facilities offered by the library.
  - vi) To remind both the reader and the non reader of the library about its resources.
  - vii) As a means of publicity to enlist financial support or otherwise for the libraries.
- b) Prerequisites for Extension Services:** The prerequisites for extension services are as follows
- i) The library should have a good collection to support all extension activities.
  - ii) The trained and experienced staff is obligatory.
  - iii) The library should have a lecture hall, an exhibition hall for holding meeting of different groups.
  - iv) The library should possess audio-video equipment i.e. LCD projector, slide projector and mike arrangement.
  - v) The librarian should be a good organizer, should understand the needs of the different categories of the community and be knowledgeable about the collection of the library.
- c) Forms of Extension Services:** The Library extension services may be of internal or external type. The internal extension service includes orientation programmes and the external extension service includes the mobile library service, publicity programmes etc. Some of the main forms of extension services are as follows
- i) *Library Orientation / Library Tour:* Many potential library patrons do not know how to use a library effectively. This can be due to the lack of early exposure, shyness, or anxiety and fear of displaying ignorance. These problems led to the emergence of the library

instruction, which advocates library user education. Libraries inform the public of what materials are available in their collections and how to access that information. The reference staff may orient the user either in formal way or informally into the library system.

- ii) *Reading Circle, Study Circle*: Persons with common interest may be brought together by the library to a reading circle. Each reading circle should be given necessary facilities regarding the materials and a suitable place to hold the meeting.
- iii) *Forming Friends of the Library Group*: The Library can also think of forming "Friends of the Library Group"; such group can assist the library through fund raising, volunteering, and advocacy.
- iv) *Reading to Illiterates*: Reading hours for adults who cannot read should be arranged by public libraries. Once they become neo-literates the public library then should take upon itself to see to it that they do not lapse into illiteracy again.
- v) *Meeting, Public Lectures and Talks*: A library should organize public lectures and talks by eminent persons and also by library staff.
- vi) *Celebration of Festival and Events and Arranging Cultural Programmes*: It is a good idea to arrange popular festivals and events in the library which may also arrange a drama, a puppet show, a music concert, a film show, a magic show etc. Such cultural programmes can prove great attraction for the community. On such occasions a book exhibition related to the programme should be arranged.
- vii) *Book Fair and Exhibition*: At the time of talk, festival, fair, drama, etc. a book exhibition on the relevant topic may be arranged. Exhibition on local history, local festivals, art, photograph and painting can offer great opportunity to attract the attention of the community.

Periodical exhibition of books which have a bearing on topical theme enhances the chances of books finding their readers. Occasional exhibitions of unused books might prove useful for the reader in getting interested in books and using them.

- viii) *Mobile Service*: Introduction of mobile library services to provide service to citizens without access to central or branch libraries has devised an interesting variety of delivering methods. For offering this service, the time for each locality is to be fixed and notified earlier.
- ix) *Publicity/ Propaganda*: Propaganda through the newspaper, radio, television can be introduced.
- x) *Book by Mail and Telephone Request*: The public library should also provide library lending service through mail and Dial a book and Dial a fact method. A public library can also think of delivering books to any home bound person on a request. Introduction of library website is also a good form of extension service.
- xi) *Publication*: Publications like annual report, reading guide, library magazine / bulletin and other similar publications are also helpful.
- *Library Bulletin*: The library bulletin should not only list fresh books and some important articles published in current issues of journals but should also give brief annotations wherever the content of new material needs. The library bulletin can take the form of indexing or abstracting service or table of content of periodicals received in the library or the list of recent publications or acquisition.
  - *Annual Report*: The annual report is the official document of the library for recording the annual library activities in totality. It is the statement of assessment and evaluation of all the departments of the library. It is the survey of works carried out during the preceding year with summarization of the activities and achievements of the library.

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### **3.6 ONLINE SERVICES**

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Online means the state of being in direct and immediate communication with the computer on which the database is loaded from a remote terminal. It is an interactive system i.e. it allows the user to input instruction, receive responses and then modify or manipulate the retrieved results. Almost all organizations today have shift to the online services by way of the following-

- i) Online Public Access Catalogues (OPAC) / Webcats;
- ii) CD ROM search facility;
- iii) Developing library websites;
- iv) Developing different kinds of databases;
- v) Acquisition of database, e-journal, e-book;
- vi) Building digital library / institutional repository;

To provide access to all the above resources, a modern library offers internet facility to the user. Introduction of digital section in most of the 21<sup>st</sup> century libraries also acts as a base of many modern services.



### CHECK YOUR PROGRESS

#### Q 1 : Match the Following

- |                                 |   |
|---------------------------------|---|
| a) Information in anticipation. | a) OPAC.  |
| b) Information on demand.       | b) On demand reference and information service. |
| c) Staff waits for the user.    | c) Deals with retrospective resources.          |
| d) Online service.              | d) Deals with current information.              |
- .....

#### Q 2 : Find out True and False Sentences

- a) CAS and SDI are examples of information in anticipation service.
- b) CAS deals with the general interest of the reader.
- c) SDI deals with the specific need of the user.
- d) Reference and information service is also known as retrospective searching.
- e) Library orientation is an example of online service.



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### 3.7 LET US SUM UP

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An efficient library service does not merely depend on its stock and staff but also on the awareness and attraction of the clients to the services offered by the library. It is a prime responsibility, therefore, of the librarian to effectively interpret its activities to the public.

Computerized Current awareness services began with bibliographic databases that contained references to periodicals, books, and other documents. Services then were expanded to include online catalogues, CD-ROM sources, networking of libraries and library systems, full text retrieval, and the Internet.

Public relation is as much a part of the daily life of the library as of any business, perhaps more so, as the library is not self supporting and primarily depends even more than the usual business, on the good wishes of its patron. The precisely stated public relation and extension service of the library is the task of lending or delivering books and other forms of information to the users who are distant from a library or who may be relatively near it but somehow unable to travel to it. Staff news sheet, exhibits, guides to exhibit are all part of a library publicity programme. Libraries can also supplement and complement the mass media of communication i.e. Newspaper, Press, Radio, Television, Cinema for public relation.



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### 3.8 FURTHER READINGS

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- 2) IGNOU (1999). *MLIS-02: Information sources, systems & programmes*, block 4, IGNOU.

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### **3.9 ANSWERS TO CHECK YOUR PROGRESS**

#### **Ans to Q No 1:**

- |                                 |   |
|---------------------------------|---|
| a) Information in anticipation. | a) Deals with current information.              |
| b) Information on demand        | b) Deals with retrospective resources.          |
| c) Staff waits for the user     | c) On demand reference and information service. |
| d) Online service               | d) OPAC   |

#### **Ans to Q No 2:**

- |          |           |          |
|----------|-----------|----------|
| a) True. | b) True.  | c) True. |
| d) True. | e) False. |          |



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### 3.10 PROBABLE QUESTIONS

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**A) Short Answer Type Questions**

- a) What are the two main types of information service?
- b) What are three main types of service that are provided in anticipation?
- c) What are the two main type of library public service?
- d) Write a brief note on essential public service.
- e) Write a short note on online services provided by the library.

**B) Essay Type Questions**

- a) Describe the library public services.
- b) Describe the library current awareness service.
- c) Write a descriptive note on library public relation and extension service.

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## **UNIT 4: ON DEMAND REFERENCE AND INFORMATION SERVICE**

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### **UNIT STRUCTURE**

- 4.1 Learning Objectives
- 4.2 Introduction
- 4.3 Definition
- 4.4 Need and Purpose
- 4.5 Strategies in Establishing a Reference and Information Service
- 4.6 Types of Reference and Information Service
- 4.7 General Categorization of Reference and Information Service
- 4.8 Let Us Sum Up
- 4.9 Further Readings
- 4.10 Answers to Check Your Progress
- 4.11 Probable Questions

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### **4.1 LEARNING OBJECTIVES**

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After going through this unit you will be able to

- Define reference and information service;
- Explain the need and purpose of reference and information service;
- Able to establish the reference and information service section in the library;
- Know the different types of reference and information service;
- Know about the different types of reference sources of information.

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### **4.2 INTRODUCTION**

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Reference service in the early years of the twentieth century was limited in general to the instruction and guidance. The implied policy was of minimal assistance and emphasis on the librarian as instructor. Librarians, however, soon found themselves increasingly drawn into “fact finding” and providing direct information service. The need for librarians

to become more expert in diverse fields led eventually to a growing trend towards subject specialization in reference.

The Reference and Information Services Section addresses all aspects of reference works, in all types of libraries, in all regions of the world. Current interests encompass the new electronic environment and the resulting changes in reference work, role of the reference librarian, and the quality of reference services.

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### **4.3 DEFINITION**

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According to Ranganathan, reference service is personal service to each reader in helping him to find the document answering his interest at the moment pin pointedly, exhaustively and expeditiously. It is the process of establishing “contact between the right reader and right book at the right time and in the right personal way”.

According to James I Wayer, reference work is “that part of library administration which deals with the assistance given to readers in their use of the resources of the library”. This definition is too narrow because in these days, the reference librarian assists the readers to use resources outside his/her own library.

Samuel Rothstein defines reference service as “the personal assistance given by the libraries to individual readers in pursuit of information”.

According to Hutchins, “reference work includes the direct, personal aid within a library to persons in search of information for whatever purpose and also various library activities especially aimed at making information as easily available as possible”.

ALA Glossary states, “reference service is that phase of library work which is directly concerned with assistance to readers in securing information and in using the resources of the library in study and research”.

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## **4.4 NEED AND PURPOSE**

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The demand for reference and information services in libraries grew exponentially with the end of World War II and the tremendous growth in higher education that followed. In general, the need and purpose of reference service arises from the following facts

- a) Complex Nature of Library Tools and Techniques:** In order to facilitate the use of the library, the librarian provides various tools like classification numbers, library catalogue (OPAC), shelf list, written guides of various kinds, bibliographies, indexing and abstracting of journals / books, etc. But all these tools are based on complex rules and practices and the users are not supposed to be aware of the ways by which they can be operated. So, there need to be a reference librarian in the library who can serve as a sort of canvassing agent for these tools.
- b) Increase Volume of Information:** A variety of information sources emerged in large numbers. It is so large that it is impossible for the reader to keep track of its variety and its location. So, there is a need of reference service for the selection of the right kind of document at less possible time.
- c) Peculiarities of Sources of Information:** Each kind of information source follows its own practices in the arrangements of entries, provision of subject headings, preparation of indexes, etc. So, it is not always easy to get the desired information out of some sources of information (indexing and abstracting journals, bibliographies, encyclopaedia, etc) without the help of the reference librarian.
- d) Lack of Time:** Information has a value only if they are received in time and put into practice. But many research teams and others do not have the time required to search for information in their parallel development. It is also not desirable to expect from a highly paid research scientist to spend time in search for the literature in libraries. It is also unprofitable for the parent organization. So, the trend is to seek the help of a reference librarian to get the information in time, for

the preparation of bibliographies, indexes, abstracts, and for arranging for translation etc.

- e) **Personal Psychology:** The users may be of shy nature, gentle, aggressive, and meek; they may be less educated or highly educated and so on. They need to be taken care of by a person when they come to a library for the first time. Otherwise, they may feel utterly lost or confused with the result that they may not come again. Even those who come regularly to the library would need occasional personal assistance. All these call for an arrangement for reference and information service on demand.
- f) **Promote and Support Library Service:** A good reference and information service is bound to encourage the use of the library. The satisfied users serve as a friend of the library and can lead to greater library support. After all, the reference service is treated as the hub of all the activities of the library. It may be considered as the ultimate manifestation of the laws of library science.
- g) **National Economy:** Sometimes the questions on a subject or topic are repetitive in nature in the event of some local function. If each answer seekers goes to find the answer on their own, a lot of man – hours will be wasted. So, in this regard reference service helps the national economy by saving the time for the users.

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#### 4.5 STRATEGIES IN ESTABLISHING A REFERENCE AND INFORMATION SERVICE

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For establishing the reference and information service, or to provide the reference and information service, the librarian needs to go through the following steps:

- a) **Determining Aims and Objectives of the Library:** The kind of reference service being provided would vary from library to library. The service being rendered would depend upon the type of library, its aims and objectives, its collection, the objectives of the reference section and the philosophy of the chief librarian. The librarian should

not waste much time in providing answers to the questions that do not come within the scope of the parent organization, and the library.

- b) Staffing:** Library and information science professionals should be appointed to look after the on-demand reference and information service.
- c) Facilities Organization:** In addition to an extensive research/reading room, there is also the need of a multimedia room equipped with high-speed computers with Internet and multimedia capabilities, phone / fax machine in the reference section so that the Reference Librarian can instantly provide the answers sought.
- d) Building Reference Collection:** The maintenance of the print reference collections including dictionaries, directories, and encyclopaedia is a must for any kind of reference service. Compiling bibliographies, establishing and maintaining vertical files, preparing displays, bulletin boards, and exhibits also often fall within the scope of the Reference staff. Some fugitive materials consisting of newspaper-cuttings, magazine clippings, folders and collection of some similar kinds of materials should also be included in the reference section.
- e) Gathering Knowledge of the Subject:** The librarian should have a sound knowledge about all the reference collections in his library. He should also know about the search engine, subject directories and so on.
- f) Marketing/Visibility:** The library reference services should be marketed extensively to get the attention of the library users.
- g) Origin of the Query:** Queries to the Reference Librarian can be made by the library user himself physically, by post, through phone calls, email, online chat, and so on. The Reference Librarian should be in a position to answer the queries in a mode suitable for the user. He should be able to provide answer to the fact-finding question on phone / chat instantly.
- h) Reference Interview:** A user will feel the need for information. He may approach the Information / Reference desk and make a request for information in the form of a specific query. In the first attempt the

Reference Librarian should determine the readers' problem. He should be able to state clearly what the reader wants.

- i) **Initiating the Search:** The Reference Librarian should pick up the keywords to search in bibliographies, indexes, online databases, subject search engines and so on. By using the prior knowledge he/she should be able to decide the order in which each of the various sources available should be consulted and then should follow the possible short-cut method.
- j) **Solving the Query:** The reference librarian finds out and provide the answer to a specific question raised by the library user. The information sought by the enquirer, its quality and level will depend on the query and type of the question. It may take the form of delivering the specific information itself or directs him to appropriate sources of information. The librarian may also get the concerned information translated and provide the translated version of the document. He may provide a self prepared subject bibliography, delivering the result of the literature search and so on. In all cases the reference librarian's answer should be user-centric.
- k) **Ethics and the Provision of High Quality Service:** The library users have different psychological temperaments, some are seek and inert, some have a superiority complex while some are not articulate enough to express their wants or needs correctly or in a precise manner, and some others may be of limited patience. The reference librarian should follow some basic ethics to deal with every one. He should not share his personal experience about the users with others.
- l) **Assimilation:** In the reference service the experience is the most important thing. The librarian should periodically able to absorb information and learn from his experience so that in near future if same type of problem arises his movement should directly lead him to the path most likely to provide the information he wants.
- m) **Sharing Experience with Others:** A reference librarian should try to share his experience with his colleagues in the reference section. During his work, he would discover certain weakness in the collection,

in the library catalogue, in the arrangement of documents, etc. He should make suggestions to his colleagues in various sections of the library to bring about the necessary improvement in the functioning of the library.

The reference librarian would also be dealing with the indexing and abstracting services prepared by outside organization, bibliographies, national and international document service. He should also share and point out the shortcoming of such tools to respective authorities.

- n) Continuing Education of Reference Librarians:** The reference librarian should be regularly sent for training. For him training is essential to find the information he needs. Besides, the emergence of the digital information sources and the rapid changes in technologies make it necessary for the librarians to go for training periodically.

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## 4.6 TYPES OF REFERENCE AND INFORMATION SERVICE

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The emergence of the internet extends the reference librarian's ability to provide diverse and complex services and potentiality to show their real professional expertise to meet the demand put on them.

- a) James I Wyer Theories:** In considering the scope of reference services, James I Wyer proposed three theories of reference service i.e conservative, moderate and liberal. Samuel Rothstein called them minimum, middling, and maximum.
- i) Conservative:* It includes giving occasional personal assistance to the inexperienced and bewildered reader. It limits the help to pointing the way only and so it is traditional in nature.
  - ii) Moderate:* The moderate reference service goes beyond providing mere instruction to actually helping the reader in using the book or finding the document and facts, etc.
  - ii) Liberal:* It includes the provision of the full and direct supply of reliable information to the readers.

- b) Edward B. Reeve's Categories:** Edward B. Reeve and others have categorized the activities of reference staff into the following five categories on the basis of related functions.
- i) *Instructional Activities:* These are characterized by explicit teaching function.
  - ii) *Skill Maintenance Activities:* These are related to up-dating the knowledge of reference tools.
  - iii) *Patron Service Activities:* This deals with providing information to the users of the reference service.
  - iv) *Maintenance Activities:* These are house keeping activities.
  - v) *Surrogate Activities:* These are those activities which the reference staffs perform on behalf of the other departments / sections of the library.
- c) Dr. S. R. Ranganathan's Classification:** Dr. S. R. Ranganathan identified two aspects of reference work - Ready reference service and Long range reference service.
- i) *Ready Reference Service:* Most of the ready reference services are of the nature of fact finding types that can be finished in a very short time – in a moment if possible. The librarian generally uses reference book for providing such kind of services. The need of ready reference services arises from the fact of the complex nature of a reference book, its artificiality, and arrangement of information. The eminent person, foreign dignitaries or scholars generally approach for such type of services. Sometimes some regular customers also need the fact finding reference service because of shortage of time on their part.
  - ii) *Long Range Reference Service:* The long range Reference Service is based on consulting every possible source of information to arrive at the required information; as such, it is not possible to render this type of service immediately. The time needed may range from half an hour to weeks. The search in the long range reference service starts at the reference books and then goes to the ordinary books,

pamphlets, reports, articles in periodicals, etc. If the information is not available in the library then the search can even go to other local libraries and occasionally to the other libraries in the country. The long range reference service provided today can become the ready reference service tomorrow, as by this time the reference librarian will be able to locate the material quickly from his past experience. Slowly, the scope of long range reference service started expanding. Now bibliographical service, referral service, translation service, etc are considered long range reference services.

**d) American Library Association's Categorization:** In 1942, the American Library Association undertook a series of library job analysis. This association has stated the following six functions of Reference Service

- i) *Supervision Function:* This function consists of the proper organization of facilities, reference section, selection of reference materials, direction of personnel, and study of the library clientele.
- ii) *Information Function:* There should be an Information Desk where enquiries are received and routed to proper section. The Reference Librarians should be prepared to answer all types of questions and should be able to produce the sources that would answer the questions.
- iii) *Guidance Function:* The Reference librarian should be able to recommend a good book for respective fields. He should be able to give guidance to the readers regarding higher education, career related information or profession or vocation. He can also give guidance to the readers in the location of the document, in the choice of books and other reading materials.
- iv) *Instruction Function:* The Reference librarian should instruct the readers about the working of the library, the location of the material, the use of the catalogue card, the reference book, etc. An initiation or orientation programme should be arranged to familiarize the readers with the library practices and procedures.

- v) *Bibliographic Function*: There should be a preparation of bibliographies of interest to the readers so that they are able to know about the books and other reading materials required for their respective subjects.
- vi) *Appraisal Function*: The libraries should possess the right kind of materials and reference collections and the staff should be able to get the most out of it.

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#### 4.7 GENERAL CATEGORIZATION OF REFERENCE AND INFORMATION SERVICE

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The focal point of Reference Service is answering questions posed by the library user. Based on the activity that are performed to meet the user demand, the Reference and Information service can be categorised as follows:

- a) **Instructional**: Instruction in using the library and library resources (bibliography, encyclopaedia, OPAC), assisting the end user to locate the appropriate material within and outside the library, etc are an important function associated with the Reference and Information Service of a library. Questions that range from as simple as “Where are the bound volume?” or “Where is the catalogue?” to research questions that may take hours or even days to properly answer are to be dealt with in this category.
- b) **Referral Service**: It directs enquirers to a source of information which may be an organization or an individual expert. Generally, when a library or information centre does not have the material and cannot obtain it from the sources but it knows the exact location of the document / information, then it can refer the user to the sources of information.
- c) **Information Scouting**: Information scouting service consists of keeping abreast of who has what information and where. Then it can refer the request to the appropriate person and place in the organization or outside it or both. Information scouting is an extended form of referral service.

- d) Citation Verification Service:** Citation Verification Service is intended to verify the citations/references and authentication of bibliographical details of books, articles, reports, theses and other published materials obtained from sources other than the authoritative indexing and abstracting services offered by reputed publishers and licensed database producers. The library patrons need this type of service for the preparation of assignments, dissertations, theses, and project proposals.
- e) Literature Search / Bibliographical Survey:** Literature search may be defined as a systematic search for literature in any form on a particular topic. It forms the very first step of a research pursuit. Otherwise, if a research work is duplicated the valuable time, money and labour of the researcher will be wasted. The literature search is also needed to present the latest available facts in writing articles or topic on any theme. Special library and information centres generally provide literature search facilities to its patrons on demand. Later, the result of the literature search is circulated to the enquirers. A sub type of this service is also known as Database Search Service (DBSS), which intends to obtain information critical to the proposed or ongoing dissertations, theses, post-doctoral research and other project work by consulting different online and offline databases.
- f) Preparation of Bibliographies, Indexes and Abstracts on Certain Minute Subject:** If demands come from the research scholar or a research team member of the parent organization, the library prepares the bibliographies, indexes and abstract for him/her to meet the demand. It offers the bibliographies or reading lists on diverse topics relevant to the proposed or ongoing dissertation work, doctoral and post-doctoral research. The compilation of bibliographies is the end product of a literature search. From the bibliographies, the users can find out all the materials on a given subject at a time. It helps the user in selecting the required information by saving time.
- g) Translation Service:** Translation is a process of transforming precisely the information contents of the text in one language into another

language. The former is called the Source language and the latter is called as the Text language. Translation service helps overcome the language barrier.

In the field of science and technology, the National Translation Centre, Chicago, America, International Translation Centre, Delft, Netherlands, British Library Lending Division, Boston and in India, INSDOC, New Delhi have foreign language translation service for all the individuals and organizations, who cannot afford the expensive in-house translation facilities. In case of online, whenever a search result lists a relevant resource in another language, one can check out AltaVista's translation feature. With this service, French, German, Italian, Spanish, and Portuguese websites are translated to English (and vice versa). One can also try with Google Translation to meet this purpose.

- h) Document Delivery Service (DDS):** DDS is concerned with the supply of document to the user on demand, either in original or its photocopies irrespective of the location and form of original documents. DDS may be provided by Photocopying (Xeroxing), scanning the pages, printing from a web document, and so on. Many libraries provide DDS service to the users on no gain no loss basis.
- i) Interlibrary Loan Request:** Interlibrary loan (ILL) is a cooperative activity. In theory, it is capable of expanding the walls of the library to encompass all the world's library collections. The ILL concept is expanded by UNESCO's Universal Availability Publications Program (often called UAP). UAP has the goal of making any publication available to any person anywhere in the world. ILL has practical limits that make its scope smaller but still its potential of expanding customers' access to other libraries' collections is great. The material obtained from ILL may be delivered through different means and avenue (physically, making photocopy or printing, scanning) based on the need of the user.

Processing interlibrary loan request from other library and delivering the material through email / fax / speed post is another duty of the library reference staff.

**j) Consultancy Service:** Consultant can be defined as “an expert who gives professional advice usually on payment basis” and consultancy can be defined as “an organization that provides professional or organization expert advice on payment basis”. In the industrial sector the consultants play a vital role by providing information & advice on production, export, import etc. “Information Consultant” is a term used for those persons or firms involved in various activities including library or information centre design, database design, records management, hardware & software selection & training, etc. The library and information science professionals can effectively discharge their duties as information consultants for various organizations as well as individuals but to perform this duty they should have vast practical experience and in-depth subject knowledge. In this connection the following points are to be noted:

- i) *Tools:* Information consultants have their own unique set of tools, e.g. bibliographies, search and meta search engines, databases, reference collection, etc. The consultants get their work done with the help of these sets of tools, a particular combination & configuration of specialized equipment technique & style in addition to their knowledge base as the organizer of world information to get their job done.
- ii) *Benefits from Information Consultant:* The importance of information consulting profession is directly related with the advancement in micro-computer technology and information explosion in print as well as digital environment. Consulting the information consultant can give four benefits to the clients. These are-
  - It provides objective independent advice in regard to political, religious and other matter;
  - Taking the help of consultants can be highly cost-effective because money can be saved by not going through the vast number of documents and by procuring them and getting the required information;

- The consultant has the necessary knowledge and skill;
- They are easy and convenient but the funding of the organization makes it difficult to employ them for a long or short term basis in the organization.

iii) *Services:* Services rendered by consultants and consulting organization mostly fall within the scope of technical enquiry service, feasibility studies, reviewing some technologies, software, evaluating technologies, marketing of the products, market survey, designing new databases, software to be used in information processing, storage or retrieval, system analysis & management, advice on collection development, doing cataloguing, editorial services like indexing, abstracting, etc.

**k) Information Broker Service:** An information broker (IB) is “an individual or organization who on demand seeks to answer questions using all sources and who is in business for a profit”. They are those individuals or firms who are so professional and experienced enough in their lines that they can gather the requested information with a computer and a telephone within a few minutes or hours. An IB may not simply be a librarian, or simply one who “goes online” and searches for the answers to questions and problems of the patron; or he isn’t someone who “has all the answers”.

The Association of Independent Information Professionals, the first professional association devoted to information brokers, was formed in Milwaukee in 1987. The profession has its roots in 1937 when librarians and other information professionals formed an organization called the American Society for Information Science and Technology in an attempt to establish their professional identity separate from public libraries.

i) *Tools:* IBs use a combination of online, offline, and physical search techniques depending on the clients’ needs. Every assignment is different and the IB determines the appropriate method of obtaining the clients’ requested information, while remaining within the clients’

budget. Once all the required information is located and retrieved, the IB then cleans up the raw information and presents it in the manner most appropriate for his/her client. This may mean summarizing the information or verifying the correctness of it.

- ii) *Importance:* If anyone had a major health problem he would not attempt himself to solve it. He would seek the services of the appropriate professional (a doctor in this case). So, just a person would use an attorney for legal work or a doctor for medical work, they use an Information Broker for access to the needed information. A great impetus for the growth of information broker has come from the recognition that knowledge is a business and information is a commodity and the fact that many people simply are not aware of many of the avenues available to find the needed information. People can locate information in many cases, but it is the experienced IB that knows and has access to more avenues of information retrieval than the average individual or firm. After all, this is the IBs' specialty.
- iii) *Services:* Information broker helps in getting the appropriate information by the end users. It is a cost effective and time saving mechanism. The common uses for the information brokers include market research, patent searches, and any other type of information research, preparation of report on any subject, and so on.



### CHECK YOUR PROGRESS

**Q 1: Match the Following**

- |                     |  |
|---------------------|--|
| a) James I Wyer.    | a) Minimum, Middling, and Maximum theory of Reference service.     |
| b) Samuel Rothstein | b) Conservative, Moderate and Liberal theory of Reference service. |

- |                          |   |
|--------------------------|---|
| c) Dr. S. R. Ranganathan | c) Direct the user to appropriate sources of information. |
| d) Referral service      | d) Ready and long range reference service.                |
- .....

**B) Find out True and False Sentences**

- a) Information Scouting is an extended form of referral service.
- b) Database Search Service (DBSS) is a sub type of Literature/ bibliographical Search.
- c) DDS concerned with referring the user to the document.d) ILL is a narrower form of Document Delivery Service.
- .....



## 4.8 LET US SUM UP

Previously, personal assistance was provided on a part-time and occasional basis. Increased demand for it resulted the reference work to become a specialized function. It eventually gained the status of a separate department in libraries. Personal contact with the client and explaining the policies and services of the library can create a great interest of the reader for the library. Personal appearance of the member of the library staff in front of the groups and individual is also helpful in this regard.

Currently, reference departments in public, academic, and school libraries attempt to offer at least moderate levels of reference and information service in all areas of its scope. It helps the users find information for them, teach and instruct them how to use library resources and how to do library research and by this way increase the popularity of the library and its support by the library users. Departmental, professional school and research institute libraries now tend to offer reference and information service of such a quality and depth that it approaches that of a special library.

The Reference librarian is well aware of the vastness of the world of knowledge and the varieties of intricacies of the information required by the reader at different level. So, he can do much more for his reader. He can set the information seekers in the right track.



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## 4.9 FURTHER READINGS

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- 1) Guha, B. (1983). *Documentation and information: services, techniques and systems*, 2<sup>nd</sup> rev. ed.. Kolkata: World Press.
- 2) IGNOU (2001). *MLIS-04: Information institutions, products and services, Block 2: Information Services*. New Delhi: IGNOU
- 3) IGNOU (2001). *MLIS-04: Information institutions, products and services, Block 1: Information Institutions*. New Delhi: IGNOU.
- 4) Krishan Kumar (1996). *Reference service*. 5<sup>th</sup> rev. ed., Delhi: Vikas
- 5) P. S. G. Kumar (2004). *A student's manual of library & information science (on the lines of the NET syllabus of UGC)*. Delhi: B.R. Publishing.
- 6) Ranganathan, S. R. (1961). *Reference service*. Bangalore: Sarada Ranganathan Endowment for library science.
- 7) Sharma, Jagdish Saran and Grover D.R. (1987). *Reference service and sources of information*. New Delhi: Ess Ess.
- 8) Tripathi, S.M., Lal, C and K Kumar (2002). *Descriptive questions in Library and Information Science*. New Delhi: Ess Ess.



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## 4.10 ANSWERS TO CHECK YOUR PROGRESS

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### Ans to Q No 1:

a) James I Wyer.

a) Conservative, Moderate and Liberal theory of Reference service.

- |                          |  |
|--------------------------|--|
| b) Samuel Rothstein      | b) Minimum, Middling, and Maximum theory of Reference service. |
| c) Dr. S. R. Ranganathan | c) Ready and Long range Reference service.                     |
| d) Referral service      | d) Direct the user to appropriate sources of information.      |

**Ans to Q No 2:**

- a) True.      b) True.      c) False.      d) True.



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**4.11 PROBABLE QUESTIONS**

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**A) Short Answer Type Questions**

- a) What is the American Library Association's Categorization of Reference services?
- b) Define Reference service.
- c) What is the conservative, moderate and liberal theory of Reference service?

**B) Essay Type Questions**

- a) What are the need and purpose of Reference and Information service?
- b) Describe the strategies in establishing Reference and information service.
- c) Describe the Ranganathan's aspect of Reference service.
- d) Write notes on Consultancy, and Information Broker service

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## **UNIT 5: DEWEY DECIMAL CLASSIFICATION (DDC)**

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### **UNIT STRUCTURE**

- 5.1 Learning Objectives
- 5.2 Introduction
- 5.3 Dewey Decimal Classification
- 5.4 Introduction to 22<sup>nd</sup> Edition of DDC
- 5.5 Understanding the Structure of DDC
  - 5.5.1 Tables
  - 5.5.2 Summaries
  - 5.5.3 Schedules
  - 5.5.4 Relative Index
- 5.6 Steps for Classifying with DDC
- 5.7 Examples of Classifying a Document with DDC Summaries
- 5.8 Classification of Document by Using the Web
  - 5.8.1 Classify: An Experimental Classification Web Service
  - 5.8.2 DeweyBrowser
  - 5.8.3 ISBNdb.com
  - 5.8.4 Library of Congress Online Catalogue
- 5.9 Let Us Sum Up
- 5.10 Further Readings
- 5.11 Answers to Check Your Progress
- 5.12 Probable Questions

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### **5.1 LEARNING OBJECTIVES**

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After going through this unit you will be able to

- Know about the basic structure of DDC;
- Classify the document by using printed version of DDC;
- Know the different tools for online classification of the document;
- Find out the ways as to how a document can be classified by using web.

## **5.2 INTRODUCTION**

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This unit will give an overview of the 22<sup>nd</sup> edition of Dewey Decimal Classification (DDC). All the important points of DDC are summarized in this unit. The headings associated with the numbers in the summaries have been edited for browsing purposes, and do not necessarily match the complete headings found in the original schedules of the 22<sup>nd</sup> edition of the DDC. Emphasis is also given to listing out the online tools that can be used for classification of the document.

## **5.3 DEWEY DECIMAL CLASSIFICATION**

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The library classification system provides a system for organizing the knowledge embodied in books, CD, web, etc. It supplied a notation (in case of DDC, it is Arabic numerals) to the document. The Dewey Decimal Classification (DDC) system is a general knowledge organization tool that is continuously revised to keep pace with the development of knowledge. It is the most widely used classification scheme in the world. Libraries in more than 135 countries use the DDC to organize their collection. It is also used over the web for organizing the web resources for the purpose of browsing.

The DDC scheme was conceived by Melvil Dewey in 1873 to arrange the documents of the Amherst College Library. The first edition entitled "A Classification and subject index for cataloguing and arranging the books and pamphlets of a library" was published in 1876. It appeared in the form of a small book of 44 pages. The Decimal Classification Editorial Policy Committee (EPC) was established in 1937 to serve as an advisory body to the Dewey Decimal Classification. In 1988, Online Computer Library Center, Inc (OCLC) acquired the DDC. The editorial headquarters was located at the Library of Congress in the Decimal Classification Division. The editors prepare the proposed schedule revisions and expansions, and forward the proposals to EPC for review and recommended action. Nowadays, DDC is published by Online Computer Library Center, Inc in full and abridged editions. The abridged edition targets the general libraries

having less than 20,000 titles. Both the full and abridged editions are available in print as well as in electronic version.

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## 5.4 INTRODUCTION TO 22<sup>nd</sup> EDITION OF DDC

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The edition 22 is the first edition of the DDC, which is produced in the context of the web environment. DDC 22 is composed of the following major parts in four volumes.

- a) **Volume 1:** It includes special features of edition 22, introduction regarding how to use the DDC, glossary, index to the introduction and glossary, a manual (guide to the use of the DDC), and six numbered tables. It also has the lists that compare editions 21 and 22 with the list of relocated, discontinued and reused numbers.
- b) **Volume 2:** It includes DDC summaries (the top three levels of the DDC), and schedules (from 000-599). The summaries will help you to visualize at a glance the structure and scope of various subjects as laid down in DDC.

The first summary contains ten main classes. The first digit in each three-digit number represents the main class. For example, 600 represents technology.

The second summary contains the hundred divisions, ten for each main class. The second digit in each three-digit number indicates the division. For example, 600 is used for general works on technology, 610 for medicine and health, 620 for engineering, 630 for agriculture. The third summary contains the thousand sections. The third digit in each three-digit number indicates the section. Thus, 610 is used for general works on medicine and health, 611 for human anatomy, 612 for human physiology, 613 for personal health and safety.

- c) **Volume 3:** It includes the organization of knowledge schedules from 600-999.
- d) **Volume 4:** It includes a relative index. The relative index (it relates subjects to discipline) contains an alphabetical list of subjects with the disciplines in which they are treated as sub-arranged alphabetically under each entry.

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## 5.5 UNDERSTANDING THE STRUCTURE OF DDC

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The Dewey Decimal Classification (DDC) system uses simple decimal notation to divide recorded knowledge into 10 main classes at the broadest level which together cover the entire world of knowledge. Each main class is further divided into ten divisions, and each division into ten sections giving 100 divisions and 1,000 sections. All the numbers for the divisions and sections have not been used.

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### 5.5.1 Tables

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The six tables in the DDC are as following

- T1 Standard Subdivisions
- T2 Geographic Areas, Historical Periods, Persons
- T3 Subdivisions for the Arts, for Individual Literatures, for Specific Literary Forms
- T4 Subdivisions of Individual Languages and Language Families
- T5 Ethnic and National Groups
- T6 Languages

The notation from T1 can be added to any numbers unless there is an instruction in the schedules or tables to the contrary. The other table notations may be added only when instructions are given in the schedules or tables.

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### 5.5.2 Summaries

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DDC has three summaries. The first summaries includes 10 main classes, the second summary includes 100 divisions and the third summary includes 1000 sections.

**a) First Summary:** The Main Classes of DDC are

- 000 Computer science, information & general works
- 100 Philosophy & psychology
- 200 Religion
- 300 Social sciences

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400	Language
500	Science
600	Technology
700	Arts & recreation
800	Literature
900	History & geography

A brief explanation of each of the class is given below.

**000:** Class 000 is the most general class. It includes the works that are not limited to any one specific discipline or the works that are related to information and knowledge. It includes encyclopaedias, newspapers, general periodicals, computer science, library and information science, journalism, etc.

**100:** Class 100 covers Philosophy, Parapsychology and occultism, and Psychology.

**200:** Class 200 is devoted to Religion.

**300:** Class 300 covers the social sciences that include Sociology, Anthropology, Statistics, Political science, Economics, Law, Public administration, Social problems and services, Education, Commerce, Communications, Transportation, Custom (including folk literature), etc.

**400:** It comprises languages, linguistics, and specific languages.

**500:** It includes Natural sciences and Mathematics.

**600:** Class 600 includes technology.

**700:** It covers arts in general, fine and decorative arts, music, and the performing arts. It also includes recreation, including sports and games.

**800:** It covers literature, and includes rhetoric, prose, poetry, drama, etc.

**900:** It is devoted to History and Geography.

**b) Second Summary:** Again, each of the 10 Main Classes is subdivided into 10 Divisions resulting in 100 Divisions on the whole. The entire second summary is reproduced bellow for

your reference. You should remember the first and second summary of DDC fully.

000 Computer science, knowledge & systems	450 Italian, Romanian & related languages
010 Bibliographies	460 Spanish & Portuguese languages
020 Library & information sciences	470 Latin & Italic languages
030 Encyclopedias & books of facts	480 Classical & modern Greek languages
040 [Unassigned]	490 Other languages
050 Magazines, journals & serials	
060 Associations, organizations & museums	500 Science
070 News media, journalism & publishing	510 Mathematics
080 Quotations	520 Astronomy
090 Manuscripts & rare books	530 Physics
	540 Chemistry
100 Philosophy	550 Earth sciences & geology
110 Metaphysics	560 Fossils & prehistoric life
120 Epistemology	570 Life science; Biology
130 Parapsychology & occultism	580 Plants (Botany)
140 Philosophical schools of thought	590 Animals (Zoology)
150 Psychology	600 Technology
160 Logic	
170 Ethics	610 Medicine & health
180 Ancient, medieval & eastern philosophy	620 Engineering
190 Modern western philosophy	630 Agriculture
	640 Home & family management
200 Religion	650 Management & public relations
210 Philosophy & theory of religion	660 Chemical engineering
220 The Bible	670 Manufacturing
230 Christianity & Christian theology	680 Manufacture for specific uses
240 Christian practice & observance	690 Building & construction
250 Christian pastoral practice & religious orders	
260 Christian organization, social work & worship	700 Arts
270 History of Christianity	710 Landscaping & area planning
280 Christian denominations	720 Architecture
290 Other religions	730 Sculpture, ceramics & metalwork
	740 Drawing & decorative arts
300 Social sciences, Sociology & Anthropology	750 Painting
310 Statistics	760 Graphic arts
320 Political science	770 Photography & computer art
330 Economics	780 Music
340 Law	790 Sports, games & entertainment
350 Public administration & military science	
360 Social problems & social services	800 Literature, Rhetoric & Criticism
370 Education	810 American literatures in English
380 Commerce, communications & transportation	820 English & Old English literatures
390 Customs, etiquette & folklore	830 German & related literature
400 Language	840 French & related literatures
410 Linguistics	850 Italian, Romanian & related literatures
420 English & Old English languages	860 Spanish & Portuguese literature
430 German & related languages	870 Latin & Italic literatures
440 French & related languages	880 Classical & modern Greek literature
	890 Other literatures

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900	History	950	History of Asia
910	Geography & travel	960	History of Africa
920	Biography & geography	970	History of North America
930	History of ancient world (to ca. 499)	980	History of South America
940	History of Europe	990	History of other areas

**c) Third Summary:** In the third summaries, each one of the 100 divisions is further subdivided into 10 sections resulting in 1000 sections. For the copyright issue, the third summary is not included here in this unit. But, you can find the complete summaries of DDC 22<sup>nd</sup> edition over OCLC website (<http://www.oclc.org/dewey/resources/summaries/default.htm>), and Chopac.org (<http://chopac.org/cgi-bin/tools/ddc22.pl>). The Chopac.org provides the DDC summaries of 22<sup>nd</sup> edition in a very easy to browse, and search structure. You can also use this interface to obtain the main class number of any document. You can also find the Dewey Decimal Classification System (13th Abridged) in the website of Near North District School Board (<http://www-lib.nearnorth.edu.on.ca/dewey/ddc.htm>).

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### 5.5.3 Schedules

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Schedules contain the schedules of Class Numbers assigned in numeric order from 000 to 999. To follow the correct use of the Schedules, it is necessary to understand the various notes and instructions suggested in different entries. So, let's explore the schedule in some details.

Entries in the schedules and tables are composed of DDC number in the left margin, a heading describing the class that the number represents, and often one or more notes. All entries, numbers, headings, and notes should be read in the context of hierarchy. The first three digits of schedule number appears only once, when first used, in the number column. They are repeated at the top of each page where their subdivisions continue. Subordinate numbers appear in the number column, beginning with a decimal

point. The numbers and notes in parentheses provide options to standard practice. Numbers in square brackets represent the topics that have been reallocated or discontinued, or unassigned. Square brackets are also used for standard subdivision concepts that are represented in another location.

Only a fraction of the potential DDC numbers is included in the schedules. It is often necessary to build or synthesize a number that is not specifically listed in the schedules. If you turn the third page of the schedule (Vol 2), you will see that entries start with the notation "000" at the top of the page and a summary of all divisions and sections below it. In the 5<sup>th</sup> page you will see the first entry that is "001" which stands for knowledge, and below it the numbers and descriptions and different notes to arrive at the correct class number of a document.

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#### **5.5.4 Relative Index**

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The volume 4 contains the Relative Index. It is an alphabetical list of all the subjects given in the Schedules and Tables. It is called the Relative Index because it brings together under the name of the subject the various aspects of a subject which are scattered in the schedules according to the disciplines. This index not only arranges the concepts and their terms in an alphabetical sequence but also shows the relation between the terms and the contexts in which the subjects appear in the Schedule. It is a key to the Schedules as well as an independent approach to classification. In the index, all possible subjects are included under main divisions and sub-divisions so that the classifier finds it easy to search out the possible subjects under the alphabetical list of relative index. The numbers that are given for subjects in the index are readymade numbers, but they are not the same as those of the schedule. The classifier has to finally decide the number himself.

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## **5.6 STEPS FOR CLASSIFYING WITH DDC**

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While doing the classification of a document one should proceed to the class number in the following ways

**a) Determine the Subject:** First, try to determine the subject of the book or document in your hand. The title often provides a clue to the subject, but it should never be the sole source of analysis. The subject which the book deals with can be determined by going through the table of contents, chapter headings, the preface or introduction, and the book jacket or the accompanying materials.

If a work includes multiple subjects, class it under the subject that is being acted upon (rule of application). The rule of application takes precedence over any other rule. For instance, class an analytical work dealing with Shakespeare's influence on Keats with the subject Keats. Class a work (book) on two subjects with the subjects receiving fuller treatment. If two subjects receive equal treatment, class the work with the subject whose number comes first in the DDC schedules (first-of-two rule). For example, history dealing equally with the United States and Japan, should be classed under history of Japan, because 952 Japan precedes 973 United States (even if in the title of the work United States appears first, and it is discussed first in the contents of the work). Class a work in which three or more subjects are treated equally but are all subdivisions of a broader subject in the first higher number that includes them all (rule of three). For instance, a history of Portugal (946.9), Sweden (948.5), and Greece (949.5) is classed with the history of Europe (940).

**b) Determine the Discipline:** After determining the subject the classifier should try to determine the disciplinary focus and, if possible, the approach or form of the work.

If a work is dealing with more than one discipline, interdisciplinary number should be provided to the work.

If you are not able to determine the subject and the discipline of the book in hand, you can consult "The Relative Index". It will help by suggesting the discipline(s) in which a subject is normally treated.

- c) Consult the Schedule:** The schedules are the only place where all the information about coverage and use of the numbers may be found. So, once the subject has been determined and information on the discipline has been found, the classifier should turn to the schedules. The summaries, headings and notes within the schedules will provide the necessary guidance to arrive at the appropriate class number.

In the schedule of DDC, special headings, notes, and entries indicate relationships among the topics that violate the notational hierarchy. The notes are usually given at the highest level of application. For example, the scope note at 700 applies to 730 to 736 and to 736.4. So, during the process of classifying a document the classifier has to turn the pages up and down.

Even if the classifier has used "The Relative Index", he should still rely on the structure of the classification schedule to arrive at the proper class number of a work. Even the most promising Relative Index citations must be verified in the schedules.

- d) Close and Broad Classification:** Close classification means that the content of a work is specified by notation to the fullest extent possible. Broad classification means that the work is placed in a broad class by the use of notation that has been logically abridged. For example, a work on French cooking is classed closely at 641.5944 (641.59 Cooking by place + 44 France from the T1), or broadly at 641.5 (Cooking). The DDC provides the basic options of close versus broad classification. A library should choose between these two options based on the size of its collection and the needs of its users. The abridged edition of the DDC is another source for broad classification.
- e) Other Points:** It should be noted that DDC uses the convention that no number should have fewer than three digits; zeros are used to fill in the numbers. A decimal point (or dot) follows the third digit in a class

number, after which division by ten continues to the specific degree of classification needed. The “dot” is not used as a decimal point in the mathematical sense; it is used to ease the transcription and copying of the class numbers.

A number should never end in a zero anywhere to the right of the decimal point. Again, subdivisions beginning with zero should be avoided if there is a choice between zero and 1-9 at the same point in the hierarchy of the notation (rule of zero).

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## 5.7 EXAMPLES OF CLASSIFYING A DOCUMENT WITH DDC SUMMARIES

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Now let's try to classify some general books practically, wherein we do not require to use seven tables and the details about the Schedules. For classification of such books, the three summaries of DDC and the Relative Index will be enough. Now, for example, take a book whose name is “**A Text Book of Geometry**”

Here, in the title, it is very easy and expressive enough to determine the subject. Geometry is the branch of Mathematics and it will come under science. So, go to the first summary wherein you will find “500 Science”, then consult the second summary, wherein under 500 you will find “510 Mathematics”. Now, in the third summary under “510 Mathematics”, you will find “516 Geometry”. Now, consult the schedule for verification. In the schedule also the 516 is for Geometry. So, the class number of the above book will be “516”.

Now, suppose, in lieu of the above approach you want to move from the Relative Index. In such cases, find the word Geometry in the page number 331 of volume 4. Opposite to the word you will find the number “516” in the following format.

Geometry	516
famous problems	516.204

Now consult the schedule for verification. In page number 515 of volume 2, you will find “516 Geometry”, so the class number of the above book will be “516”.

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## 5.8 CLASSIFICATION OF DOCUMENT BY USING THE WEB

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The cost of DDC is very high. Every library in India and in other developing countries cannot afford to have a set of DDC as its own. But the classification of the documents in a library is a must. To meet this end, librarians can use some tools and techniques to have a class number of a document they have procured in their library. There are some excellent tools over the web that share the class numbers. Some of these tools and techniques are discussed below. They will provide the readymade class number of a document and will save the time of the classifier. We may not require to follow these options if we have a set of DDC. We are to only follow the options listed below in the event of not having a set of DDC. We can also follow these options to verify the class number obtained by consulting the DDC on our own.

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### 5.8.1 Classify: An Experimental Classification Web Service

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OCLC Research experimental classification service launched "Classify" (<http://classify.oclc.org/classify2/>) which is targeted to support the assignment of class number and subject heading by using the web. The interface can be used both by a machine as well as human being. It provides access to more than 36 million collectively built records from a large pool of related resources. Each record in the database contains Dewey Decimal Classification (DDC) numbers, Library of Congress Classification (LCC) numbers, or National Library of Medicine (NLM) Classification numbers, and subject headings from the Faceted Application of Subject Terminology (FAST).

In the database of Classify (<http://classify.oclc.org/classify2/>) by inputting any one or in combination of some basic information related to the document, the class number or subject heading can be obtained. The inputted information may be of the following types-

**a) ISBN:** You can use the 10 or 13 digit ISBN. The ISBN should be used without hyphens in between. You can find more about ISBN over: <http://www.isbn-international.org/>

- b) **OCLC #:** Each bibliographic record in the WorldCat has a unique number that range from 1 to 9 digits in length. You can also use this number to find out the information from the database. More about OCLC # is available over: <http://www.worldcat.org/links/default.jsp>
- c) **Barcode / The Universal Product Code (UPC):** You can use the 12 digits UPC number found in the document. You can know more about Barcode over: <http://www.gs1us.org/>
- d) **International Standard Serial Number (ISSN):** You can use the eight digits ISSN with or without hyphen (as it is appeared in the document). You can know more about ISSN over: <http://www.issn.org>
- e) **Title and / or Author:** You can also use full title of the document or some portion of it or its author or both the title and the author as a combined search.
- f) **Faceted Application of Subject Terminology (FAST):** You can also use the FAST controlled vocabulary that is based on the Library of Congress Subject Headings (LCSH). You can collect more information about FAST over: <http://www.oclc.org/research/activities/fast/>

If you go to (<http://classify.oclc.org/>) web address and enter the ISBN / ISSN or any standard number correctly in the interface it sometimes shows a “No data found for the input argument” error. But, if you use the title and some portion of the authors’ name of the same document it shows the result. It happens probably because sometimes people perhaps do not entered those fields in the records of the database, while preparing it.

Entering some portion of the title and the first author’s surname (or sometimes the forename) of the document in the interface mostly leads to the relevant document and class number. You can use this option as your first approach to obtain the class number of the document or its subject heading.

**Classify**  
An experimental classification web service

**Search**

Standard Number ⓘ	Title/Author	Subject Heading
Enter an ISBN, OCLC#, UPC, or ISSN Standard Number: <input type="text"/>	Enter a Title, an Author, or both. Title: <input type="text"/> Author: <input type="text"/>	Enter a FAST Subject Heading ⓘ Subject Heading: <input type="text"/>
<input type="button" value="Search"/>	<input type="button" value="Search"/>	<input type="button" value="Search"/>

**Classify News & Updates**

July 2010 - **Classify Updates**

- Classify's database has been refreshed; it is now current with WorldCat through March 2010.
- Co-authors and contributors are indexed and shown for each work to help you quickly find and identify the correct item. Look for future refinements to this feature.
- You can now share a Classify Summary with others using the permalink in each record.
- A more complete list of formats was added to each Summary.

July 2010 - **Database Refresh**

The Classify database is current through June 2010

Fig. 1 : Screenshot of Classify

### 5.8.2 DeweyBrowser

The DeweyBrowser (<http://deweybrowser.oclc.org>) provides access to approximately 2.5 million records from the OCLC Worldcat database. The DeweyBrowser helps to access those resources. You can also use this interface to obtain readymade class number of a document in your library. Just make a search by entering the complete title of the document in the search box of the site to have its class number.

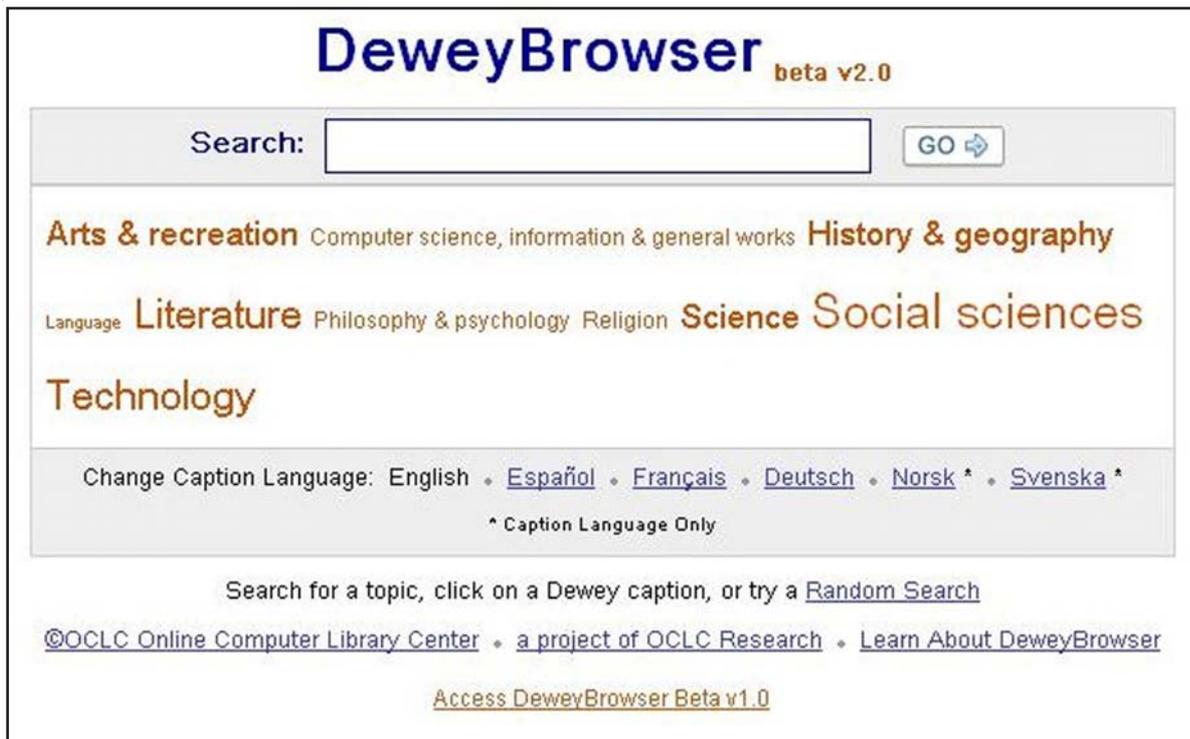


Fig. 2 : Screenshot of DeweyBrowser

### 5.8.3 ISBNdb.com

ISBNdb.com (<http://isbndb.com/>) is a database of books that is built by taking data from hundreds of libraries across the world. It is developed by Andrew Maltsev. He has also a company named Ejelta LLC (<http://ejelta.com/>), based in San Gabriel, CA. This ISBNdb.com is one of the outputs of the company. You can enter the keywords, book title, author, publisher, topic or ISBN of the document in its search box to have its class number. After displaying the result by the interface, click on the most relevant title under the heading of “Books Matching (‘your enter title’)” and consult the “Dewey Class:” under “Classification:” heading. Here you will find the classification number of the document you are looking for.

If you don’t find the heading “Classification:” or you find the heading “Classification:” but don’t find the “Dewey Class:” then

you should move to the appropriate title under “Libraries this book has an entry in:”. Now under the “MARC Record” you should consult the number against: 092: \$a: or 082. This will be your classification number of the document you were looking for.

Fig. 3 : Screenshot of ISBNdb.com

### 5.8.4 Library of Congress Online Catalogue

To classify document by using Library of Congress Online Catalogue (<http://catalog.loc.gov/>), enter the address <http://catalog.loc.gov/> in the address bar of your browser, and then click on “Alternative Interface to the LC Online Catalog (Z39.50)”. It will lead you to a new screen, from where you have to opt for “Advanced Search (multiple terms using Boolean operators)”. In the new page you have arrived at (it will look just like the following) you can search for class numbers by entering different details about the document in your library. Your search term may be the name of the author, title, series, ISBN, ISSN, publisher and many others to choose from. After submission of the details in the interface you have to

click on “Submit Query” and then should navigate to “More on this record”. Now, against the “Dewey No.:", you will find the class number of the document you are searching for. Please note that for some titles you will not be able to find DDC number in this database, as it was mainly designed by using the Library of Congress Classification number.

Advanced Search *Z39.50 Gateway to the*  
Library of Congress Online Catalog

Select Preferred Record Display:  Brief  Full  Tagged

Search terms can be single words or phrases. Enter an author's name in indirect order (i.e., last\_name, first\_name).

Enter Term 1:  Keyword Anywhere

AND  OR  AND NOT

Enter Term 2:  Keyword Anywhere

AND  OR  AND NOT

Enter Term 3:  Keyword Anywhere

Use of this form results in a search of the LC Voyager database (approximately 14 million records). This database contains records in all bibliographic formats (i.e., books, serials, music, maps, manuscripts, computer files, and visual materials), and includes the retrospective, unedited older bibliographic records known as the PreMARC File. LC name and subject authority records cannot be searched.

For simple keyword search, use [Simple Search \(any keyword\)](#)  
For phrase search, use [Left-Anchored Phrase Search](#)  
To search a different database, use [LC WWW/Z39.50 Gateway](#)

 Library of Congress  
Contact Us (April 29, 2003)

Fig. 4 : Screenshot of Library of Congress Online Catalog



## EXERCISE

Type the title, author and ISBN of ten books recently acquired by the central library where your study center is located and classify those titles by following the different online methods listed above.

The WebDewey also offers easy-to-use, World Wide Web-based access to the Dewey Decimal Classification (DDC) and related information, with searching and browsing capabilities. One can also find Library of

Congress Subject Headings (LCSH) intellectually and statistically mapped to Dewey numbers; and links from the mapped LCSH to the corresponding LCSH authority records. It is also an excellent tool for online classification of the document, but the bad thing is that it is a paid service. It costs from \$ 225-\$575 per year.



### CHECK YOUR PROGRESS

#### Q 1: Classify the Following Books

- |                        |                             |
|------------------------|-----------------------------|
| a) System Analysis     | b) Library Operation        |
| c) Critical Philosophy | d) Western Philosophy       |
| e) Christian Theology  | f) Islam                    |
| g) Social Institutions | h) Political Science        |
| i) Applied Linguistics | j) Natural Sciences         |
| k) History of Science  | l) Text Book of Engineering |
| m) Horticulture        | n) Architecture             |
| o) Music               | p) American Poetry          |
| q) World Civilization  | r) Historical Atlases       |



### 5.9 LET US SUM UP

In this unit you have learnt how to classify a document by using the DDC summaries as well as by using different online tools and techniques. Sometimes a book itself may contain the classification number. In such cases, you can simply copy down that classification number from Cataloguing in Publication (CIP) data. The CIP will provide classification number, subject headings, and notes. This type of data is very common in the verso of the title page of many books published from U.S., Australia,

British, and Canada. So, if you have a book published from the above countries, try to find the CIP data and copy it to your document.

The unit takes into account the Dewey Decimal Classification (DDC) that includes the structure of the DDC consisting of Tables, Summaries, Schedules and Relative Index. Classification of document by using the web is another important point of discussion in the unit. In this section the relevant matter includes “Classify”, Dewey Browser, ISBNdb.com and Library of Congress Online Catalog. Each of these concepts has been exercised to give an idea about the use of the web for classification.



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## **5.10 FURTHER READINGS**

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- 1) OCLC (2010). Classify: An experimental classification web service. Available over web at: <http://classify.oclc.org/classify2/>
- 2) OCLC (2003). Dewey Decimal Classification and Relative Index, 22<sup>nd</sup> Edition. Ohio: Online Computer Library Center, Inc.



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## **5.11 ANSWERS TO CHECK YOUR PROGRESS**

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### **Ans to Q No 1:**

- |    |                     |     |
|----|---------------------|-----|
| a) | System Analysis     | 003 |
| b) | Library Operation   | 025 |
| c) | Critical Philosophy | 142 |
| d) | Western Philosophy  | 190 |
| e) | Christian Theology  | 230 |
| f) | Islam               | 297 |
| g) | Social Institutions | 300 |
| h) | Political Science   | 320 |
| i) | Applied Linguistics | 418 |

j)	Natural Sciences	500
k)	History of Science	509
l)	Text Book of Engineering	620
m)	Horticulture	635
n)	Architecture	720
o)	Music	780
p)	American Poetry	811
q)	World Civilization	909
r)	Historical Atlases	911




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## 5.12 PROBABLE QUESTIONS

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### A) Classify the Following Books Using Summaries

- |                          |                                |
|--------------------------|--------------------------------|
| a) Industrial Relation   | b) Social Services             |
| c) Economics             | d) International Economics Law |
| e) Public Administration | f) Co-education                |
| g) Cartography           | h) Textbook of Physics         |
| i) Chemical Physics      | j) Analytical Chemistry        |
| k) Inorganic Chemistry   | l) Organic Chemistry           |
| m) Geo-physics           | n) Economic Geology            |

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## **UNIT 6: CATALOGUING WITH ANGLO-AMERICAN CATALOGUING RULES 2 (R)**

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### **UNIT SREUCTURE**

- 6.1 Learning Objectives
- 6.2 Introduction
- 6.3 Structure of the Anglo-American Cataloguing Rules - II
- 6.4 Card Catalogue
- 6.5 Types of Entries
  - 6.5.1 Type of Information Needed for Cataloguing
  - 6.5.2 Sources of Information Needed for Cataloguing
- 6.6 Rules for Description of Monograph
- 6.7 Works of Single Personal Authorship
- 6.8 Works of Shared Responsibility
- 6.9 Introduction to Resource Description and Access
- 6.10 Let Us Sum Up
- 6.11 Further Readings
- 6.12 Answers to Check Your Progress
- 6.13 Probable Questions

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### **6.1 LEARNING OBJECTIVES**

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After going through this unit you will be able to

- Know about Anglo-American Cataloguing Rules - II (AACR-II);
- Know the different parts of a catalogue card;
- Prepare a catalogue card for single author book;
- Prepare a catalogue card for two or three author book.

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### **6.2 INTRODUCTION**

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In order to provide access to the holdings of a library, an index or list of the materials is always prepared and maintained systematically for the readers. It contains all the essential details about the documents with location mark,

usually in numerical form, by which the documents can be located on the shelves of the library. This list or index or tool is basically called a library catalogue.

A catalogue code is a set of rules for the guidance of cataloguers in preparing entries for catalogues so as to ensure uniformity in treatment. These codes may also include rules for subject heading, filing and arranging of entries. Classified catalogue code by S R Ranganathan and Anglo-American Cataloguing Rules (2<sup>nd</sup> edition) are examples of such catalogue codes. In June, 2010, the Resource Description and Access (RDA) was published, which will completely take over the place of AACR-2.

This unit will give a brief account of the Anglo-American Cataloguing Rules (second edition) (AACR-II) and will explore the structure and functions of a dictionary catalogue. Subject headings have been derived from Sears list of subject headings (12<sup>th</sup> Edition). The AACR – 2 has now become outdated because of the launching of RDA, and yet we are going to deal with the AACR-2 in this unit. This is because if you are accustomed with the AACR-2, you will also be able to catch the structure of RDA, as both bear many common characteristics.

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### **6.3 STRUCTURE OF THE ANGLO-AMERICAN CATALOGUING RULES - II**

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AACR- II was jointly prepared by American Library Association, The British Library, The Canadian Committee on Cataloguing, The Library Association, UK, and The Library of Congress. The code was edited by Michael Gorman and Paul W. Winkler. It was published in 1978 by the American Library Association and Canadian Library Association.

There are two parts and four appendices in AACR-II. An index was also provided at the end of the code and it has been compiled by KG B Backwell.

#### **Part I: Description**

1. General Rules for Description
2. Books, Pamphlets and Printed Sheets
3. Cartographic Materials

4. Manuscripts
5. Music
6. Sound Recordings
7. Motion Pictures and Video Recordings
8. Graphic Materials
9. Machine-Readable Data Files
10. Three-Dimensional Artifacts and Realia
11. Microforms
12. Serials
13. Analysis

**Part II: Headings, Uniform Titles and References**

14. Choice of Access Points
15. Headings for Persons
16. Geographic Names
17. Headings for Corporate Bodies
18. References

Appendix A: Contains instructions for Capitalization

Appendix B: Contains list of Standard Abbreviations

Appendix C: Deals with Numerals

Appendix D: Glossary

AACR-2 prescribes three levels of details in the description depending upon the nature and the size of the library. The first level provides a brief cataloguing description just to identify a particular document. It is recommended for a small library. The second level description is recommended for a medium size library, whereas the third level of description includes all the elements prescribed in the AACR-2 and is recommended for the highly specialized libraries or national and research libraries. Here, we will concentrate only on the second level of description.

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## **6.4 CARD CATALOGUE**

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In most of the libraries of India the entries are written on card. The standard size of the card is 12.5 X 7.5 cm or 5"X 3". The catalogue cards

which are used for preparing entries may be ruled, semi-ruled or plain. The ruled cards are very convenient if the entries are prepared by hand, and if the matter is typed then plain cards are more suitable and used. There are different lines on the card, which may be of the following types:  
**First Indentation:** It is the first vertical line that lays nine (9) spaces from left margin. This line is in red ink.

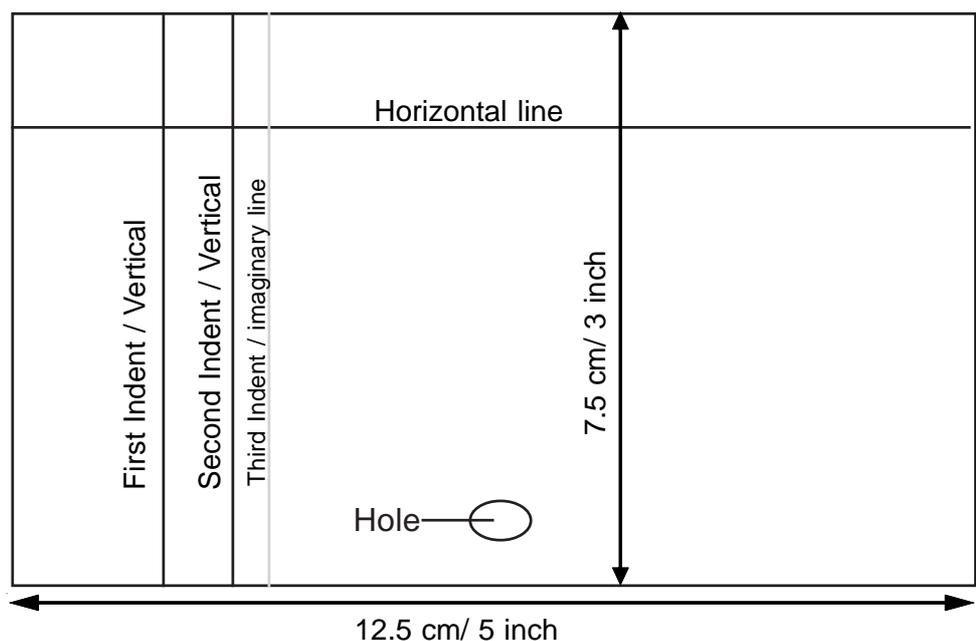
**Second Indentation:** It is the second vertical line that lays thirteen (13) spaces from left margin or four letters space from first indentation. It is also indicated in red ink.

**Third Indentation:** Beyond the second vertical line there is also a third indentation which is an imaginary line. It lays fifteen (15) spaces from left margin. In a reference, referred-from heading continues from third indentation.

**Horizontal Line:** The card has also one horizontal line in the upper section of the catalogue card. It is a bold line and is also indicated in red ink.

**Hole:** The card also contains one hole at the bottom portion at equal distance from both the vertical cores of the cards. A rod of iron or brass is used to support all the cards in the tray through this hole.

The locations of all the above indentions and the hole are shown in the following card



---

## **6.5 TYPES OF ENTRIES**

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Each library prepares various unit records for each document in its holding. These unit records are prepared to meet the various need and approach of the library user to the document. These unit records are called as entries.

AACR1 regards the main entry as “the complete catalogue record of a bibliographical entry, presented in the form by which the entity is to be uniformly identified and cited. The main entry normally includes the tracing of all other headings under which the record is to be represented in the catalogue”.

An added entry is “an entry, additional to the main entry, by which an item is represented in a catalog” (AACR 2, p. 563). The additional entries supplement the main entry by providing an additional approach to the documents listed in the catalogue.

---

### **6.5.1 Type of Information Needed for Cataloguing**

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The cataloguer needs the following information about a document for cataloguing.

Name of the authors

Name of the collaborators

Title, subtitle or alternative title of the document

Edition

Name of the series

Editor of series

Name, place and year of publication

Size and number of pages of the document

Copyright year

ISBN/ISSN

The call number (class number and book number) of the document.

It can be found at the verso of the title page that will be provided by the classifier.

The accession number of the document. It also can be found at the verso of the title page. The accessionist will provide this number.

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### **6.5.2 Sources of Information Needed for Cataloguing**

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The prescribed source of information for the preparation of the card catalogue is the title page. It provides most of the information about the book. It is the next printed page to the cover of the book. Please note here that the cover page of the book is not the title page. The page leaving one or two pages from the beginning and on which the description mentioned below is printed is called the title page. The title page, in upper most part of it, contains the title and subtitle (if any) of the book. The names of authors and collaborators with their working institutions are given in the middle of the page. In the lower part, the name of the publisher, place and year of publication and price etc are given. If there is no title page, one can consult the cover caption or the half title page of the book. In the half title page of the book, only the title of the book, but no author and publication statements, is printed. Sometimes, the name of the series is also printed on this page. The verso / back of the title page contains copyright year, print and reprint, edition, name and address of the publisher, the price, and so on.

Besides the title page, we can also collect information about the book (in order of the following preference)

- i) Accompanying material
- ii) A container
- iii) Another published description of the book or
- iv) Any other available sources.

AACR-2 recommends the following types of entries

- a) Main Entry:** The Main entry is an author entry in AACR-2. If the authorship is diffused or not known the main entry is prepared under the title. The Main Entry is the complete

catalogue record of an item. It also includes the tracing of all other headings under which the record is to be presented in the catalogue.

**b) Added Entry:** An added entry is a secondary entry, additional to the Main Entry, by which an item is represented in a catalogue. S R Ranganathan calls it “entry other than the main entry”. There are different types of added entries. i.e. Joint author(s), Editor(s), Translator(s), Compiler(s), Subject, Title, Series, etc. The number and kind of added entries required by a document depends upon the nature of a particular document and also on the nature of the catalogue used in a library.

**c) Reference:** Reference is a direction from one heading or entry to another. There are different types of references in AACR-2. They are See Reference, See also Reference, Name title Reference, Explanatory Reference, etc. Out of all the references “See” and “See also” type of references are frequently used.

**i) See Reference:** It directs the user of a catalogue from a form of the name of a person or a corporate body or the title of a work to the form that has been chosen as a name heading or a uniform title.

Examples:

Md. Syed Ahmed Khan

see Syed Ahmed Khan

Dhanpat Rai

see Prem Chand

**ii) “See Also” Reference:** The function of a “See also” reference is to direct the user from one name heading or uniform title to another that is related to it. If the works of one person or corporate body are entered under two different headings a “see also” reference is prepared from each heading.

Example:

Home Science

See also Interior decoration

---

## 6.6 RULES FOR DESCRIPTION OF MONOGRAPH

---

The elements to be included in the catalogue entry are divided into the following areas:

- a) **Call Number:** Call number is the combination of class number and book number. It is the first item which should be recorded in the upper left hand corner of the catalogue card with pencil.
- b) **Accession Number:** It should be recorded on the seventh line from the top of the card or fourth line from the bottom.
- c) **Author:** "Author" in the entry is indicated by writing the surname first which is followed by a comma ",", and the remaining parts of the name (i.e. forenames) are given after leaving one space which is followed by the date of birth and / or death of an author in full, if any, and a full stop. This is written from the first indention and continued from the third indention on the next line.
- d) **Title and Statement of Responsibility:** The title proper should be recorded exactly as the wording, order and spelling as it is found in the title page of the document. Capitalization and punctuation should be avoided.

- i) *Alternate Title:* Use the first part of the title with commas, and then the alternate title.

Examples:

Another world watching, or The riddle of the flying saucers

Indian song of songs, or Gita govinda

- ii) *Abridge Title:* Abridge a long title proper only if this can be done without any loss of the essential information. Indicate the omission by the mark of three dots "...".

- iii) *Initial and Acronyms:* If a title proper includes separate letters or initials without full stops between them, record such letters without

spaces between them. If such letters or initials have full stop between them, record them with full stops.

Example:

“ALA Rules for filling catalog cards” and “A.L.A. Rules for filling catalog cards”

iv) *Parallel Title*: Record parallel title in the order indicated by their sequences. If the title appears in two or more languages, choose one of these as the title proper and record the other titles as parallel title. The parallel title appearing outside the chief source of information should be noted in the note section of the catalogue card.

v) *Title in Numerals*: If the title of a document appears in numerals, record it in letters and endorse it in the square brackets.

Example:

“20 [Twenty] – point programme”.

vi) *Other Title Information*: Record other title information (subtitle, etc) appearing in the chief source of information. Use space colon space “ : “ between the title proper and other title information.

Example:

“Cataloguing : theory and practice”.

e) **Statement of Responsibility**: Record statement of responsibility in the form in which they appear in the chief source of information. The statement of responsibility should be preceded by a diagonal slash. If there is more than one statement of responsibility, record them in the order indicated by their sequence on or by the layout of the chief source of information. If the statement of responsibility is taken from outside, enclose it in square brackets.

Example:

“Cataloguing practice / by S R Ranganathan”.

f) **Edition**: This area should be preceded by a full stop, space dash space “. – “. The statement of responsibility should be preceded by a diagonal slash, and then each subsequent statement of responsibility should

be preceded by a semi-colon. The standard abbreviations and numerals in place of words should be used.

Example:

“2<sup>nd</sup> ed”, “3<sup>rd</sup> ed”, “New ed”, “Rev ed”, “Rev and enl ed”.

- g) Place:** If a publisher has many offices in more than one place, always prefer the name of the first place and omit all other places. If the place of publication, distribution, etc is uncertain, give the probable place with a question mark in square brackets.

Example:

“[Delhi?]”.

If, no place or probable place can be given, put the abbreviation sl (Sine loco) in square brackets “[s.l.]”. “Sine loco” means “no place” in Latin.

Example:

“[s.l.]: Vikas, 2001”.

- h) Publisher:** After the place of publication, use the shortest form of the publisher in which it can be understood and identified internationally. If the book has two or more publishers, record the first named place and publisher. If the name of the publisher is not known, the abbreviation sn (sine nomine) is given in square brackets. Example: “[s.n.]”.

- i) Date of Publication:** Give the year of publication in Arabic numerals preceded by a comma.

Example:

“, 2001”.

If there is no date, the copyright date is given.

Example:

“, c 1999”.

If the date of publication is not known then n.d. (no date) is written in square brackets.

Example:

[n.d.]

- j) Physical Description Area:** This paragraph starts from the second indention and continues from the first indention. This area consists of

pagination, illustrative matter and size of the document expressed in cm.

If the volume is without pagination, ascertain the total number of pages and give the number in square brackets. The sequence of describing page information is

“Preliminary pages, Roman pages, Arabic pages.”.

Example:

“xii, 786 p.”.

When preliminary pages are not numbered it should be in the form of : “[xii], 786 p.”.

The connecting symbol between pagination and illustrative matter is a colon “:”. The illustrate printed monograph is described as “Charts”, “Maps”, “Music”, “Plans”, “Portraits”, “Samples”, or simple as “ill”.

Example:

“786 p. ; ill.”.

The connecting symbol between the illustrative matter and the height of the document is semi colon “;”. The height of the document is written in cm.

Example

“786 p. : ill.; 18 cm.”.

- k) Series:** The series are preceded by a full stop space dash space “. - “. Series statement is recorded in circular brackets. The series statement may consist of name of the series, statement of responsibility relating to series and number of series.

Example:

“(Ranganathan series in Library Science; 4)”, “. - (Research monographs / Institute of Economic Affairs; 3)”.

- l) Notes:** Notes may be given to explain the nature, scope or artistic form of the item, language of the item, sources of the title proper, variation in title, accompanying material, contents, etc.

- m) Standard Number:** If the item contains ISBN / ISSN, record International Standard Book Number (ISBN) or International Standard Serial Number (ISSN) for the item. Example: “ISBN : 0-910608-70-9”.

**n) Tracing:** Tracing is the record of the heading under which an item is represented in the catalogue. The information about the added entries should be recorded in a paragraph starting from the second indention.

Before going for tracing, the subjects of the document need to be determined. In the main card, the added entries for subject should be numbered in Arabic numerals (Example "1", "2") whereas, the other entries should be numbered in Roman numerals (Example "I", "II"). Another point to be noted is that, in the added entries for subject, the names of the subject are written in all capital letters. Example: "LIBRARY SCIENCE".

The location of all the areas are shown in the following catalogue card

Class No.		
Book No.	Author's surname, Fore name, d of b – d of d.	
Acc No.	Title = parallel title: sub title / First statement of responsibility; each subsequent statement of responsibility. - Edition statement / First statement of responsibility relating to edition. - First place of publication: First Publisher; Date of Publication. Pages: ill.; size.- (Name of the series) / statement of responsibility relating to series; number of the series). Notes ISBN Tracing	

## 6.7 WORKS OF SINGLE PERSONAL AUTHORSHIP

Enter the main entry of a work, by one personal author under the heading for that person whether named in the work or not.

AACR -2 An introduction to the second edition of Anglo-American Cataloguing Rules Eric Hunter Clive Bingley London 1979
--

*Other Information* : Call No.: 025.32077 HUN, Acc No.: 1265, Pages: 148 p, Size: 22 cm.

**Main Entry**

025.32 HUN	Hunter, Eric.
1265	<p>AACR-2: an introduction to the second edition of Anglo-American Cataloguing Rules / Eric Hunter. - London : Clive Bingley, 1979.</p> <p>148 P.; 22 cm.</p> <p>1. Cataloguing. I. Title</p> <p style="text-align: center;">○</p>

*Please do note:* In the tracing section, the word “cataloguing” start with “1” whereas the title start with “1”.

**Added Entry (Subject)**

025.32 HUN	CATALOGUING Hunter, Eric.
1265	<p>AACR-2: an introduction to the second edition of Anglo-American Cataloguing Rules / Eric Hunter. - London : Clive Bingley, 1979.</p> <p>148 P.; 22 cm.</p> <p>1. Cataloguing. I. Title</p> <p style="text-align: center;">○</p>

**Added Entry (Title)**

025.32 HUN	Hunter, Eric.	AACR-2
1265		AACR-2: an introduction to the second edition of Anglo-American Cataloguing Rules / Eric Hunter. - London : Clive Bingley, 1979. 148 P.; 22 cm. 1. Cataloguing. I. Title 

**6.8 WORKS OF SHARED RESPONSIBILITY**

If the work is the result of two or three authors or persons, the main entry should be prepared under the name of the person or author on whom principal responsibility is attributed by the wording or by the layout in the chief sources of information. Then, the added entries should be prepared for other persons if they are not more than two. For example: In case where the book is written by two or more authors and if the name of one of the authors is printed in bold letters, the main entry is to be made under that author.

If the responsibility is shared between two or three persons and principal responsibility is not attributed to any of them by wording or layout, the main entry should be prepared under the heading for the one name that appears first in the chief source of information that is in the title page. The added entries should be prepared under the heading for others.

Computer and Commonsense By Roger Hunt and John Shelley  Prentice Hall of India Private Limited New Delhi-110001 1979
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*Other Information* : Call No.: 004 HUN, Acc No.: 1274, Pages: ix, 149 p,  
Size: 18 cm. ISBN: 0-87692-061-10

*Notes for your help*: As the principal author is not indicated, the main entry should be made in the name of the first author. The book number given in other information also indicate that.

**Main Entry**

004 HUN	Hunt, Roger	
1265		Computers and commonsense / Roger Hunt and John Shelley. - New Delhi: Prentice-Hall India, 1979. ix, 149 p.; 18cm. ISBN: 0-87692-061-10 1. Computers. I. Shelley, John. II. Title

**Added Entry (Subject)**

004 HUN	Hunt, Roger	COMPUTERS
1265		Computers and commonsense / Roger Hunt and John Shelley .- New Delhi: Prentice-Hall India, 1979. ix, 149 p.; 18cm. ISBN: 0-87692-061-10 1. Computers. I. Shelley, John. II. Title

**Added Entry (Joint Author)**

004 HUN		Shelley, John Hunt, Roger
1265		Computers and commonsense / Roger Hunt and John Shelley. - New Delhi: Prentice-Hall India, 1979. ix, 149 p.; 18cm. ISBN: 0-87692-061-10 1. Computers. I. Shelley, John. II. Title

**Added Entry (Title)**

004 HUN		Computers and Commonsense Hunt, Roger
1265		Computers and commonsense / Roger Hunt and John Shelley. - New Delhi: Prentice-Hall India, 1979. ix, 149 p.; 18cm. ISBN: 0-87692-061-10 1. Computers. I. Shelley, John. II. Title

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## 6.9 INTRODUCTION TO RESOURCE DESCRIPTION AND ACCESS

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RDA is built on the foundations established by the Anglo-American Cataloguing Rules (AACR). Instructions derived from AACR have been reworked to produce RDA which is easier to use, more adaptable, and

more cost-efficient in its application. The RDA has been developed to replace AACR. It has flexible and extensible framework for the description of digital and non-digital resources. The AACR-2 was mainly for the non-digital resources. RDA uses MARC 21 as encoding standard (Format for Bibliographic Data, and Format for Authority Data) and International Standard Bibliographic Description (ISBD) as display standard. ISBD is also used by AACR-2 for display of record. The RDA element set is compatible with ISBD, MARC 21, and Dublin Core.

A key element in the design of RDA is its alignment with the conceptual models for bibliographic and authority data [Functional Requirements for Bibliographic Records (FRBR), and Functional Requirements for Authority Data (FRAD)] developed by the International Federation of Library Associations and Institutions (IFLA).

The Joint Steering Committee for Development of RDA (JSC) is responsible for maintaining “RDA: Resource Description and Access”. JSC was previously responsible for maintenance of the Anglo-American Cataloguing Rules (AACR). The constituent organizations represented on the Joint Steering Committee are The American Library Association, The Australian Committee on Cataloguing, The British Library, The Canadian Committee on Cataloguing, CILIP: Chartered Institute of Library and Information Professionals, and The Library of Congress. The current Chair of JSC is Alan Danskin, the British Library representative. RDA is published by: The American Library Association, The Canadian Library Association, and CILIP: Chartered Institute of Library and Information Professionals.



### CHECK YOUR PROGRESS

- A) Write the Full Form of the Following
- a) AACR.      b) CILIP.      c) FRAD.  
 d) FRBR.      e) ISBD.      f) ISSN.  
 g) RDA.

.....  
 .....



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## 6.10 LET US SUM UP

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The library catalogue is a key to the resources of a library. The field of cataloguing practice is a vast one. Therefore, only typical examples have been dealt with in this unit and complicated cases have been totally avoided. As far as possible, rules for the preparation of entries that are given in the code have been followed strictly.

The cases of four personal authors, works of mixed responsibility, edited book, change of title, pseudonyms, sacred scriptures, multivolume printed monographs, works published by government, seminar and conference volume, serial, etc are avoided in the above sections. AACR-2 has some specific rules related to those type of material.



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## 6.11 FURTHER READINGS

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- 1) Krishan Kumar (1990). An introduction to AACR 2. New Delhi: Vikas Publishing House Pvt Ltd.
- 2) Lal, C. & K. Kumar (2006). Practical cataloguing AACR-2. New Delhi: Ess Ess Publications.
- 3) Sehgal. R. L. (2003). Cataloguing practice. New Delhi: Ess Ess Publications.



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## 6.12 ANSWERS TO CHECK YOUR PROGRESS

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### Ans to Q No 1:

- a) AACR : Anglo-American Cataloguing Rules.

- b) CILIP : Chartered Institute of Library and Information Professionals.
- c) FRAD : Functional Requirements for Authority Data.
- d) FRBR : Functional Requirements for Bibliographic Records.
- e) ISBD : International Standard Bibliographic Description.
- f) ISSN : International Standard Serial Number.
- g) RDA : Resource Description and Access.



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## 6.13 PROBABLE QUESTIONS

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### 1. Catalogue the following documents

a)

Documentation  
Genesis and Development  
By  
S R Ranganathan  
National Research Professor in Library Science  
Documentation Research and Training Centre, Bangalore  
Vikas Publishing House  
Delhi - London

*Other Information* : Call No.: 029 RAN, Acc No.: 1266, Pages: 310 p,  
Size: 23 cm. Series: Sarada Ranganathan Endowment for Library  
Science Series. First edition published in 1973.

*Notes for your help*: The subject of the document will be "Information  
Storage and Retrieval System". Added entries should be in the name of  
subject as well as title and series.

b)

Cage and Aviary Birds  
By  
D H S Risdon

Faber and Faber

London-Boston

1972

*Other Information* : Call No.: 636.686 (determine book number by yourself),  
Acc No.: 166, Pages: 188 p, Size: 18 cm.

c)

Statistical Physics

By

L Landau

E Lifshitz

Translated from the Russian

By

D Shoenberg

Clarendon Press

Oxford

1938

*Other Information*: Call No.: 541.39 LAN, Acc No.: 526, Pages: viii, 280 p,  
Size: 23 cm.

*Notes for your help*: The book number is supplied to you to determine the  
main entry.

d)

Foundations of Set Theory

Y. P. Dhal

And

K. R. BHAL

North Holland Publishing Company

Amsterdam

Holland

1968

*Other Information* : Call No.: BHA, Acc No.: 126, Pages: x, 500 p, Size: 25  
cm. Series: Studies in logic and foundations of mathematics.

*Notes for your help:* As the author indicated at serial number two as principal author (by way of using capital letters), the main entry is to be made under him. The subject of the book will be "Mathematics" and "Aggregates (Mathematics)". Added entries should be in the name of "Mathematics", "Aggregates (Mathematics)", "Dhal, Y. P.", "Title", "Series".

e)

Readings in Guidance

John. E. Barkey

James A. Hans

James L. Maltha

Second Edition

Holt, Rinehart and Winston

New York, Chicago, London

*Other Information:* Call No.: BAR, Acc No.: 54626, Pages: xvii, 800 p, Size: 20 cm. Series: Foundation of Education Series. No. 75, Copyright year 1959.

*Notes for your help:* The subject of the book will be "Counseling".

f)

Library Practice

A Manual and Text Book

J Ritchie

A Standley

J BURKETT

ELM Publications

Cambridge

1977

*Other Information:* Call No.: 025 (find out book number yourself), Acc No.: 5426, Pages: ix, 285 p, Size: 18 cm.

*Notes for your help:* The subject of the book will be "Library Science".

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**For Practice**




**For Practice**




**For Practice**




**For Practice**




**For Practice**



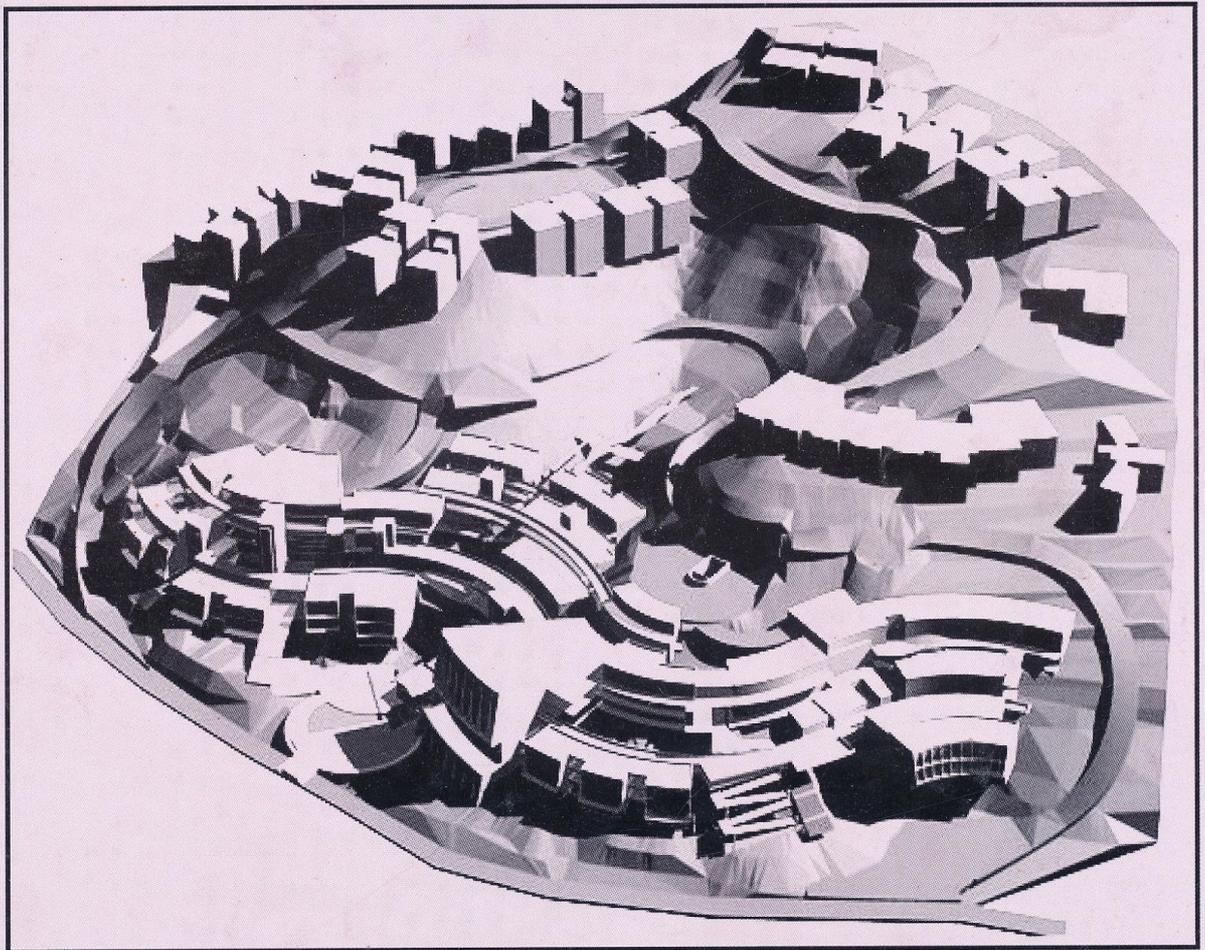

**For Practice**




**For Practice**




**Master Plan  
of  
University's Permanent Campus at Patgaon, Rani  
(Aerial View)**



**Contact : 0361-2235971/2234964/92070-49493/0361-2235398 (Fax)  
[www.kkhsou.org](http://www.kkhsou.org); <http://sites.google.com/site/kkhsou>**