UNIT 9  TYPES OF SERVICES: REFERENCE SERVICE, CAS, ETC.

Structure

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9.0  Objectives

In Unit 8 of this Block you have learnt about the information needs of library users and types of services libraries are providing to fulfil these needs. In this Unit, you will learn about the reference and information services offered by libraries and information centres and the impact of information communication technology on the provision of these services.

After reading this Unit, you will be able to:

• discuss the development of reference and information service;
• differentiate between reference and information service;
• describe the importance of Internet as a reference tool;
• identify different types of current awareness services;
• discuss different types of condensation services like abstracts, digests and other value-added services; and
• comprehend the impact of ICT and web technology on the provision of these services.

9.1  Introduction

The library functions that are common to all types of libraries are acquisition, organisation, storage, and retrieval of recorded public knowledge. Earlier, libraries were regarded as mere storehouse of knowledge and books were meant for
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Librarians acted as mere custodians of this knowledge and had no role in promoting the use of library collection by the users. Users were expected to use the library on their own. Librarians concentrated more on the collection and maintenance of library material rather than promoting its use.

Now, present day modern libraries are considered as service institutions. They not only acquire, organise, store, retrieve and disseminate the library material but actively encourage and promote its use among the users. They offer many forms of assistance to library users, which can broadly be grouped as reference and information services. These services promote the use of library material, connect the users with the library resources and meet their information requirements.

In this Unit, you will study the origin, growth and development of reference and information services, the difference between them and range of services offered under each category.

9.2 REFERENCE SERVICE – MEANING AND DEFINITION

To provide a precise definition of reference service is rather difficult. However, let’s discuss some of the formal definitions that have appeared in library science literature from time to time. According to American Library Association’s Glossary of Library Terms, “Reference Service is that phase of library work which is directly concerned with assistance to readers seeking information and in using the resources of library in study and research.” According to Margaret Hutchins “Reference work include the direct personal aid within the library to persons in search of information for whatever purpose, and also various other library activities especially aimed at making information as easily available as possible. Selecting and organizing materials with this end in view is an important part of reference work as their interpretation to the individual reader.” Ranganathan defines it as “Personal service to each reader in helping him to find documents, answering his interest most pin-pointedly, exhaustively and expeditiously.” He further says, “To provide the right book to the right reader, in the right personal way.”

According to William Katz, The reference service, defined by function can be divided into two categories: direct and indirect.

Direct category includes:

a) Reference and information service. Under this category personal assistance is provided to the user in pursuit of information.

b) Formal and informal instructions are given in the use of library and information centres and their resources.

Indirect category includes:

a) Selection of material needed for reference service.

b) Reference administration i.e. organisation and administration of reference service.
c) Interlibrary loan.
d) Evaluation of reference section.
e) Miscellaneous tasks such as photocopying, filing, checking in material, maintaining records and other tasks of reference department from budgeting to preparing reports and publicity material.

According to Grieg Aspnes “the ultimate theoretical (and practical) goal of any reference library or information center must be to supply its users with all the information and only the information, they need at the lowest possible cost.”

The above definitions suggest that the reference service in the library is any assistance provided by library staff to users seeking information. It covers direct services such as searching for information, providing directional guidance, helping in research, etc. and indirect services like selection and maintenance of reference material, preparation of guides and aids to the use of library material, etc.

9.2.1 Reference Service – Origin, Growth and Development

Though informal help to the users in the use of libraries has been provided by the libraries since long, the concept of organised reference service can be traced back to the end of 19th century in public libraries in USA. The public libraries were the first ones to initiate reference service in an organised manner. Main driving force behind this initiative was justification of public funds utilised by the public libraries. The public library financed by public funds had to justify its existence to those who supported it. The librarians therefore had real incentives to look for new ways to demonstrate the utility of their libraries to the authorities. These values they appraised in terms of library use and the services offered. In 1876, at the first conference of the American Library Association, Samuel S. Green, Librarian of Worcester, Massachusetts, Free Public Library presented a paper titled ‘Personal relations between librarians and readers’. He emphasised that furnishing readers with catalogue and reference tools was not sufficient and insisted that ‘interpreting these instruments to public by personal guidance must follow’.

By the end of 19th century and early 20th century the concept of reference service was gradually accepted and implemented by American libraries. The leading advocates of this concept along with Samuel S. Green were Poole, Winsor and Melvil Dewey. In 1883, the first full time reference position was established at Boston Public Library and in 1891 the term ‘reference work’ appeared for the first time in the index to the Library Journal.

In the years that followed, the libraries, public as well as academic, slowly set up reference department, established reference collection, designated one or more library staff to fulfil reference functions which included assisting users in the use of library collection, providing answers to fact finding questions and helping readers to make the best selection from the recorded knowledge.

In India, the credit for setting up full fledged reference service goes to S.R. Ranganathan in Madras University Library in 1930.

The emergence of reference service changed the role of a library from mere storehouse of knowledge to that of an educational institution and the role of a
Types of Services: Reference Service, CAS, etc.

The evolution of the librarian from a mere custodian of recorded knowledge to that of a facilitator and promoter of the use of knowledge for the benefit of the library users.

Growth and subsequent development of reference service was based mainly on four objectives, namely, i) to assist the library users, ii) to develop the role of a library as an educational institution, iii) to help users to make best selection from the universe of recorded knowledge, and iv) to justify the existence of the library by demonstrating its use to the authorities who provided financial support.

Services covered under this category included assistance in the use of library and its tools, assistance in searching and locating documents, ready reference and long range reference service, literature search and compilation of bibliography, document delivery service, referral service, etc. Most of the services provided under this category were of responsive type i.e. the service provided in response to the request from the user.

9.2.2 Information Service – Origin, Growth and Development

Twentieth century witnessed the industrial revolution, tremendous increase in R&D activities in the areas of science and technology and special library movement. Increase in R&D activity resulted in exponential growth of recorded knowledge. Advent of computers and communication technologies, though, helped in organisation, storage, retrieval, and dissemination of information, but increased the complexity of information sources. Scientists and technologists, due to sheer amount of information and complexity of information sources, found it difficult to keep track of published knowledge in their respective fields. To solve this problem, libraries, particularly scientific and technical libraries, expanded the scope of reference service. These libraries not only provided reference service on demand, but started collecting and organising the latest published knowledge on users field of specialisation in anticipation, and bringing to their notice on a regular basis. This service was known as information service. Aim of the service was to keep users well informed and up-to-date in their field of specialisation. To begin with, the service was provided by one of the scientists of the research team of the laboratory, since s/he knew the research area as well as had the subject background. Later, library personnel started providing the service. Subsequently, particularly in special libraries, reference service broadened its scope from mere assistance in the location of books and journals and the provision of simple factual information from limited collection of reference books, to analysis, evaluation, reorganisation and repackaging of information drawn from a variety of sources in order to present it in a form which would be most useful to their users. The professionals in special library and information centres attached to R&D organisations had subject background as well as expertise in information searching. They started providing value-added services to their users. The availability of online bibliographic databases like MEDLARS/MEDLINE, Chemical Abstracts, Biological Abstracts, INSPEC, and many more in almost all disciplines of knowledge, made it possible for them to search these databases online and provide indepth services to their users. The information services which were provided covered current awareness services, abstracting services, value-added services like technical digests, etc. Most of the services provided under this category were anticipatory in nature.
In literature the terms reference service and information service are used synonymously. Some experts refer them as two different kinds of services. The differences are enumerated as follows:

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Reference Service</th>
<th>Information Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Traditional service</td>
<td>Non-traditional service</td>
</tr>
<tr>
<td>2</td>
<td>Emphasis to provide documents</td>
<td>Emphasis to provide information</td>
</tr>
<tr>
<td>3</td>
<td>User is given the material or directed to locate the material</td>
<td>Attempt is made to provide exact information</td>
</tr>
<tr>
<td>4</td>
<td>Aim is to instruct the user</td>
<td>Less concerned towards instructing the user</td>
</tr>
<tr>
<td>5</td>
<td>Service provided on demand</td>
<td>Service provided in anticipation</td>
</tr>
<tr>
<td>6</td>
<td>Passive service: library staff waits for the user to approach and make demand</td>
<td>Active service: library staff does not wait for the user to come but provide service to keep user well informed</td>
</tr>
</tbody>
</table>

Viewed historically, information service is an amplification of reference service and is concerned with providing information, rather than documents, to the users. Information services were developed mainly to meet the information needs of research scientists and technologists. Reference service is concerned with direct, personal assistance to the library users seeking information whereas information service is provided in anticipation of various needs of the users of library and information centres.

Self Check Exercise

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

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

1) What is reference service? Differentiate between reference service and information service.

The reference and information services that libraries offer can be broadly categorised into two groups:

a) Responsive Information Services: The service that is provided in response to a specific request by the user.

b) Anticipatory Information Services: The service that is provided in anticipation of some need.
9.4 RESPONSIVE INFORMATION SERVICES

Responsive information services (also known as passive information services) are provided in response to the requests from the users. The request may come from the users in person, over the telephone, through correspondence, or via e-mail. The technology now allows users to submit their requests to the library at any time from any place in the world. In an effort to reach the users accessing the library via their computers, many libraries and library consortia are extending their reference service to include virtual reference. Virtual reference is a reference service initiated electronically, often in real time, where users employ computers or Internet technology to communicate with reference staff, without being physically present. Communication channels used frequently in virtual reference are chat, videoconferencing, Voice over IP, co-browsing, e-mail, and instant messaging.

Based upon the type of requests or queries, the services offered in the library can be broadly categorised as follows:

- Provision of general information
- Reference Service
  - Ready Reference Service
  - Long Range Reference Service
- Assistance in searching and locating documents
- Literature search and compiling a bibliography
- Assistance in the use of library tools such as catalogue including OPAC, reference books, online databases, etc.
- Document Delivery Service
- Referral Service

You have been already provided with an overview of the above mentioned services in Unit 8 of this course. In this Unit, we will elaborate only on some of these services such as ready reference service, long range reference service and impact of technology on these services.

9.4.1 Reference Service

Reference service is a personal service which is provided in response to the requests from the users. Requests may be for directional guidance, locating answers to fact finding questions, literature search for solving a research problem, or for general help. To provide the service, the librarian may utilise the resources available in the library as well as those available outside the library. Basic aim is to make the information available to the user as early as possible. Depending upon the requirement, librarian may give the information itself or the documents containing information.

i) Ready Reference Service or Short Range Reference Service

This service is concerned with providing answers to fact finding questions, such as what, where, who, when and how. The requested information can be easily located in standard reference books like dictionaries, encyclopaedias, yearbooks,
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almanacs, directories, etc. Time taken to answer these queries is very short ranging from a few minutes to half an hour. That is why this service is known as ready reference service or short range reference service. Ninety per cent of these queries are simple to handle. Only five to ten per cent of the queries may take hours of search to find the answer.

Given below are some of the examples of type of queries and the reference sources where you can find the answers:

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Type of Queries</th>
<th>Corresponding Examples</th>
<th>Type of Reference Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Language e.g. meaning, spelling, pronunciation, etymology of words</td>
<td>How do I pronounce a word ‘Schedule’? Is there a better word for ‘nice’? Is ‘juggernaut’ an English word?</td>
<td>Language dictionaries, Thesauri.</td>
</tr>
<tr>
<td>2</td>
<td>Background information of a topic</td>
<td>When was world war II declared? Who were primary political personalities involved in the war? How did the war come to an end?</td>
<td>General encyclopaedia.</td>
</tr>
<tr>
<td>3</td>
<td>Trends</td>
<td>What developments took place in the field of ‘Information Technology’ last year?</td>
<td>Yearbook.</td>
</tr>
<tr>
<td>5</td>
<td>Places</td>
<td>What countries surround Austria? What is the present name of the country ‘Burma’? Where is ‘Sofia’ located?</td>
<td>Geographical sources like Maps, Atlas, and Gazetteers.</td>
</tr>
<tr>
<td>6</td>
<td>People</td>
<td>What is the birth place of Sir C.V. Raman?</td>
<td>Biographical sources, Encyclopaedias.</td>
</tr>
<tr>
<td>7</td>
<td>Organisations</td>
<td>Names and addresses of scientific research institutions in India. Names and addresses of universities in India.</td>
<td>Directories.</td>
</tr>
<tr>
<td>11</td>
<td>Activities</td>
<td>How to grow a ‘Bonsai tree’?</td>
<td>Manuals.</td>
</tr>
</tbody>
</table>
ii) **Internet as a Reference Tool**

Though, standard reference books maintained by the reference department in the library provide answers to most of the ready reference types of queries but, the most enticing and omnipresent reference tool that has emerged in the twentieth century is the Internet. The usage of the Internet was limited till the advent of the World Wide Web or Web in 1990s. The emergence of the Web and Internet service providers (like America On Line and CompuServe in 1995), offering Internet services to masses, resulted in phenomenal increase in the Internet usage in the world. World’s Internet usage statistics shows over 2 billion Internet users (http://www.internetworldstats.com/). According to a survey conducted by the Internet and Mobile Association of India, there are at present 46 million (as on September 2011) mobile Internet users in India as against 2 million Internet users in the year 2000 (http://www.iamai.in).

Most of the print reference sources are available online on the Internet. Online sources provide updated contents, more advanced search options, download and print options. Many reference sources provide free access to their contents on the Internet. For instance Infoplease.com (http://www.infoplease.com) provides free access to encyclopaedia, almanac, dictionary and biographies. Most of the publishers of reference books also offer online access to their publications on the Web to the libraries who purchase their publications. Online access charges differ from publisher to publisher.

**Advantages** of using Internet as a reference tool are as follows:

**Easy access:** The number of answers the Internet provides in fraction of a second is amazing. In normal search to get so many answers from diverse sources would take hours of effort. The Internet provides access to universe of information any time from anywhere.

**Currency:** The Internet resources are more up-to-date than their print versions. Print version of Statesman’s’ Yearbook is published annually, while its online version updates its news column daily.

**Multimedia:** Apart from textual information, the Internet offers audio, visual and video information. Kids’ online resources provide access to complete Merriam-Webster collegiate dictionary and thesaurus free and searchable with definitions and audio pronunciations (http://www.merriam-webster.com) (http://www.kidsolr.com/reference). In some areas of research audio/visual information adds to the process of learning. The Internet has the capability to provide textual, audio/visual and video information in hypermedia format where links are provided in the web pages to move from one format to another. Grolier Multimedia Encyclopedia online is one of the examples in this category.

**Interactive:** The Internet has the capability to be interactive. Discussion groups, e-mail, newsletters, on-going comments pages are possible so that information dialogue can be created. Q&A NJ in New Jersey, AskaLibrarian in Florida and AskNow in California are examples of interactive reference on the Internet.

**Multiple users:** Information through the net is accessible to multiple users at the same time whereas print source can be used only by a single user at a time.
Despite the above listed advantages, the Internet is still not considered a full-fledged reference source because of its inherent limitations which are as follows:

**Limitations**

**Lack of quality control:** Anyone can write anything, from anywhere in the world and leave it for any amount of time for any one to read on the Internet. In print publications on the other hand there is built mechanism for quality control. For example, in scholarly journals each article is reviewed by peer group and edited thoroughly before it is published.

**Burden of evaluation:** Because of the lack of quality control, the onus of evaluating websites falls on the user herself/himself. Since user is accustomed to accept all printed material as valid information, using information available on the Internet without evaluation may lead to pitfalls.

**Full-text information is not free:** Full-text information, like full-text e-journals, is not always free for the Internet users. Quality research articles are mostly found in expensive subscription databases.

**Volatility:** With contents being added, modified, deleted constantly on the websites, make the websites volatile. It becomes imperative to constantly check the quality of website and its contents before using it for research purposes. At times some websites disappear suddenly or change their domain name making it difficult to trace them. This does not happen with print publications, their contents remain static and publication can be safely cited.

**Self Check Exercise**

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

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

2) Though the Internet is an omnipresent reference tool, why it is not considered a full-fledged reference source?

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iii) **Long Range Reference Service**

Long range reference service is generally provided to a specialist who is seeking information for research, for delivering a lecture or for solving particular problem. Information sought may be too specialised in nature, it may be too recent, it may be related to another period, or it may be in particular language. The request may come from a professor, a business executive, a government official, a decision maker, or R&D personnel. Depending upon the query, information may be searched in several sources including printed as well as electronic sources. At times, organisational and informal sources are also tapped to provide desired information. Since, to provide this type of service, wide range of sources are consulted, time taken to provide the service is much longer than the ready
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For a topic like ‘Trends in the development of high temperature superconductors’ the required information may be of highly specialised in nature. Information sought may involve an opinion or point of view on a particular topic like ‘Can Yoga be associated with religion?’ Information sought may require search in research periodicals, for a topic like ‘Recent R&D efforts in combating global warming.’ User may be requiring different views on a particular problem or a topic, like ‘Repercussions of racially motivated attacks on Indian students in Australia’ or ‘Marxism vs. Communism.’ Sometimes information sought may be too recent in nature for which informal sources may be consulted like experts in the field. At times, information sought may be in foreign language sources for which translation service is to be arranged. As the name indicates immediate answers cannot be provided in long range reference service. Depending upon the queries, it may take an hour or two to a week’s time to provide information. In ready reference service data or facts are provided, while in long range reference service documents, periodicals, or reports containing information are provided. Sometimes information selected from various sources is analysed, evaluated, synthesised and repackaged to suit the information requirements of the particular user.

To handle such long range and at times, intricate reference questions, there are certain set procedures and practices which are generally followed so that the search for the query is in the right direction and collected information is acceptable to the user. The foremost and the most important step here is to have personal dialogue with the user. Personal interaction with the user is known as ‘Reference Interview.’ A reference interview will help to know the query thoroughly, the purpose for which information is sought, background of the user, and type of information sources required. The rest of the steps are similar to those followed in literature search, which you will be studying in detail in Unit 10 of this course.

iv) Virtual Reference Service

According to Machine Assisted Reference Section (MARS) of the Reference and User Services Association (RUSA) of the American Library Association, Virtual Reference Service is reference service initiated electronically, often in real-time, when users employ computers or other Internet technology to communicate with reference staff, without being present physically. Communication channel used frequently in virtual reference are chat, videoconferencing, Voice over IP, co-browsing, e-mail or instant messaging.

Virtual reference service is also referred as digital reference, e-reference, online reference and remote access reference. While telephonic reference service has long been accepted and practiced in the libraries to respond to remote users’ requests, virtual reference service has been relatively a recent phenomenon.

The increasing availability of the Internet and electronic resources have been the major factors which lead to the implementation of virtual reference service that can be accessed electronically by remote users. Present day libraries are making available variety of electronic sources like online catalogues, indexes, abstracts, digitised collections, e-journals and full-text databases, through their websites. The availability of the electronic sources via remote access requires that users
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should be assisted by the library to use these sources effectively. There has been a steady decline in the in-house use of library as more number of users are using personal computers with the Internet access from home, workplace or cyber café. This has prompted librarians to explore alternative approaches for interacting with their users. They have started offering virtual reference service.

The virtual reference service, in general sense, can be defined as delivery of reference service via the Internet to library users who are outside the physical confines of the library. Current primary modes of delivery for virtual reference service are e-mail, electronic forums and real-time chat communication. E-mail reference has been the most heavily used type of virtual reference service. Here, user sends the library an e-mail reference query, supplying whatever information s/he feels is necessary. The librarian may reply by e-mail, phone, fax or letter, etc. E-mail reference service suffers from a number of drawbacks which are as follows:

- E-mail does not offer instantaneous response as the Internet users normally expect from the the Web.
- It is difficult to conduct any kind of reference interview using e-mail. If question needs clarification, it may take three or more exchanges over a few days to find out what user really wants.
- E-mail reference places most of the burden of answering the question on the reference librarian whereas in in-house reference, the librarian works with the user to find the answer instead of doing all the work for her/him.

In real-time chat communication users and librarian send short written messages back and forth instantly. Chat software (like CompuServ’ Instant Messenger) allows librarian to create a setting where interaction with the user is live (real-time) but limited to written exchange of information. Through a series of short messages librarian gets to know the user’s requirement. Some chat programmes offer an open virtual reference room where one or more user can enter at a time and exchange messages with the librarian. **Advantages** of using chat online reference are as follows:

- It is like live reference. Librarian can talk to user directly.
- Librarian can conduct a reference interview on the spot by exchanging series of short messages to get better idea of what the user wants.
- It eliminates the problem of mishearing what is said.
- It is helpful for those with hearing or speaking impairment.
- User can save text of chat session and refer to it later.

**Disadvantages** of chat software are as follows:

- In chat reference, librarian can write and explain to the user to go to a specific address on the Web to find information, but can’t actually take her/him there or be with her/him through a database search whereas it is possible with in-house reference service.
- More time consuming than voice communication, because librarian has to type everything out. Spelling and typing errors also might creep in.
- User might not have that much patience as s/he expects everything to be instant, efficient and convenient.
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- If user logs off prematurely, it may not be immediately apparent to the librarian, specially if s/he is busy looking for required information in relevant sources.

Some of the limitations of the general chat softwares have been solved by ‘Virtual Reference Softwares’. These softwares are modification of ‘Web-based Contact Centre Software’ specifically designed to make online reference services easy, quick and cost effective. Currently more than 30 versions of virtual reference software are in use. The new softwares are constantly being introduced and existing products are being refined. Some of the commercial virtual reference softwares are QuestionPoint, Virtual Reference Toolkit, 24×7 Reference, Convey System, Docutek, etc.

These Virtual Reference Softwares, in addition to fully supported chat module offer many other facilities like:

- 24×7 technical support;
- Online training for librarians;
- Private and secure communication between users and librarians;
- Complete session transcripts, including URLs are e-mailed to both the user and librarians at the end of each session. A copy of the transcript is also stored in the system database for future reference and analysis;
- Queuing features which let users and librarians to know how many people are waiting to be helped;
- Push technologies allowing librarians to send web pages directly to users’ desktops;
- Co-browsing facilities, allowing users and librarians to search through a database, catalogue or website simultaneously. This facility allows librarian to teach online more easily;
- Conference facilities allowing the librarian to conduct a group instruction;
- Customisation of software;
- Generating weekly statistical reports;
- Ability to transfer questions to the participating libraries in the network in real-time, for shared and collaborative virtual reference service; and
- Provide multilingual services e.g. QuestionPoint offers services in 20 languages.

Many libraries provide virtual reference service on stand alone basis. Some libraries provide this service on collaborative basis to ease the impact of software cost and staffing for extended hours. On an international level, Library of Congress and OCLC (Online Computer Library Center), Ohio launched collaborative virtual reference service using QuestionPoint software, as a pilot project in the year 2000. Presently, QuestionPoint service (formerly known as Collaborative Digital Reference Service), is one of the largest and most geographically distributed collaborative virtual reference service in the world. More than 260 libraries of all types in 21 countries are using QuestionPoint virtual reference service. There
are several benefits associated with collaboration. The first is the ability to offer virtual reference service on time share basis. For instance, an Australian/New Zealand – U.S. collaboration offers 24x7 service without staffing nights in either location. Because of 12 hours difference in the time zone, each location can cover the other’s night hours. Second is automatic building of a database of all questions and answers, thus providing re-use possibilities, and options for self service by users. QuestionPoint cooperative virtual reference supports multilingual reference transaction. It has Question and Answer knowledge base that is carefully reviewed and maintained by cooperative contributors.

As collaborative virtual reference services continue to evolve, the need was felt for some guidelines and standards for operating these services. Official guidelines and policies for collaborative virtual reference service have started appearing. The prominent groups involved in creating virtual reference guidelines are International Federation of Library Associations and Institutions (IFLA), Virtual Reference Desk (VRD), National Information Standards Organization (NISO), and Machine Assisted Reference Section (MARS) of Reference and User Services Association (RUSA) of American Library Association. In addition, the QuestionPoint service has issued member guidelines.

Virtual reference service offers users a convenient, high tech way to connect with library’s information professionals. This service is well suited for getting quick facts, verifying references to published sources, finding how to search for needed information in a database or on the Web or getting advice for in-depth searching.

**Limitations of Virtual Reference Service**

- The cost of the software is high;
- Once purchased, the reference staff has to be trained to use the software. Few reference librarians have experience with chat, instant messaging, web collaboration or any other methods of working live online;
- More time required to answer the question than that in face-to-face reference service. The average chat question takes 10-15 minutes to answer; and
- The queries that rely on in-depth consultations from a variety of sources prove difficult for librarian to communicate effectively through virtual reference service.

**Self Check Exercise**

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

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

3) What is virtual reference service?

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9.5 ANTICIPATORY INFORMATION SERVICES

Anticipatory information services are provided to library users in anticipation of demand for such services. These services are also called active information services. The need for such services was felt mainly due to: i) exponential growth of published literature, particularly in the field of science and technology; ii) interdisciplinary nature of frontline areas of research, resulting in scattering of information in different disciplines; and iii) publication of research results in different types of sources as well as in different formats. As a consequence of the growth in volume, diversity, and complexity of the information sources, scientists, technologists, researchers and managers faced problems in accessing information and in keeping themselves abreast of the latest developments in their areas of interest. To solve this problem, the libraries, particularly scientific and technical libraries, started providing information services to the users, particularly to the researchers. Now, not only S&T libraries, but all kinds of libraries and information/documentation centres, are offering some form of anticipatory information service, depending upon the needs of their clients.

To provide these services, user’s information needs are assessed and then services are designed accordingly. Initially, the service is provided on trial basis and when response is satisfactory then service is regularised. The following types of services are offered:

- Current Awareness Type
- Condensation Type
- Readers Advisory Service
- Information Literacy
- Web-based or Internet-based services

You have been provided an overview of above mentioned services in Unit 8 of this course. In this section we will elaborate on current awareness type and condensation type of services.

9.5.1 Current Awareness Type

Current awareness type of services are provided to keep users abreast of current developments in their respective field of interest. This involves scanning newly available documents in print as well in non-print form, selecting items relevant to the needs of individual or group of users, recording and disseminating them to the users on regular basis. Current awareness service (CAS) is an ongoing service that enables one to monitor new information on regular basis. Current awareness type of services meets the current information needs of the users.

Characteristics of Current Awareness Service

- The purpose of this service is to alert the user about recent developments in her/his area of interest as early as possible.
- Since time is the major factor in the preparation of this type of publication, it generally contains list of journal articles, book titles, etc. with no annotations or abstracts.
- The presentation of items of information is such that it facilitates scanning.
Information Services

- It has newspaper type approach, hence, the entire list is meant for scanning.
- The service is not confined to a very specific narrow subject area but covers a broad area in a particular subject discipline.
- Since the list is not meant for permanent use, therefore, no attempt is made to do extensive indexing etc.

Types of Services

Types of services offered under this category are:

- Accession List / Current Awareness List / Documentation Bulletin
- Title Announcement Service / Contents-by-Journal Service
- Selective Dissemination of Information
- Research-in-Progress Bulletin
- Newspaper Clipping Service

i) Accession List / Current Awareness List / Documentation Bulletin

These types of current awareness services are most commonly offered by libraries. Accession list basically covers latest books acquired by the library. Apart from displaying the latest publication in the library, accession list is brought out regularly (fortnightly or monthly) to inform the users about the latest additions to the library. In documentation bulletin or current awareness list, primary journals and other sources of current information received in the library are scanned, bibliographical details of journal articles and other items of interest are noted down, classified or grouped under broad or narrow subject headings and circulated to the users at periodic intervals.

ii) Title Announcement Service / Contents-by-Journal Service

In a research environment, there is constant need to note new research findings that would stimulate or contradict or point towards more productive direction of research for the researchers. New research results are published in primary research periodicals, in dissertations and presented in the conferences, etc. Primary research periodical is the most preferred medium used by the researchers to communicate their research findings and keep themselves abreast of the latest developments in their area of research. Researchers, therefore, look forward to access latest published journals in their area of interest. To meet these information needs of researchers, current awareness type of service is provided by the library, documentation centre or commercial publishers. In Title Announcement Service articles of required journals are selected and arranged under broad subject headings or classified with full bibliographical details and disseminated to the users periodically as print publication or e-publication. This helps the user to know what latest has been published in her/his subject area of interest.

Another type of CAS is Contents-by-Journal Service or Table-of-Contents (TOC) service. Here, contents pages of latest journals in broad subject area (like chemical sciences, physical sciences, life sciences, etc.) are duplicated, arranged journal wise and disseminated to the users as a regular service. As stated earlier, primary research journals are a predominant medium for communicating new information, this type of service helps the users to know of the recent articles published in their journals of interest. Another reason behind offering contents-by-journal service is the fact that users tend to value certain journals very high.
and look forward to browsing through issues of these journals as soon as they are published. The contents page service enables them to know the titles of articles published in their journals of interest. This type of CAS service is quickest and cheapest to be produced by the library. This involves photocopying of the table-of-contents of latest journals received in the library, duplicating them and circulating to the researchers weekly, fortnightly or monthly as required. ‘Current Contents’ produced by Institute of Scientific Information is an example of commercial CAS service. Current Contents are produced in seven broad subject areas like Life Sciences, Clinical Medicine, Social and Behavioral Sciences, Arts and Humanities, Engineering, Computing and Technology, Agricultural, Biological and Environmental Sciences, and Physical, Chemical and Earth Sciences.

Disadvantages of CAS

- Contents-by-Journal service has certain disadvantages. In this service user generally browses contents pages of journals of her/his interest only, so s/he misses out other articles which may be useful to her/him but are present in other journals. This is not the case with title announcement service, where articles of same subject from different journals are brought together under a common subject heading or classification scheme.

- User has to scan the entire list to find articles which may be useful to her/him, as the service is based on broad subject area.

- Since this type of service is based on only titles of the articles without an annotation or an abstract, it is at times difficult to determine the relevance of the article.

Some of the above mentioned disadvantages of CAS are solved by Selective Dissemination of Information (SDI) service, electronic CASs and other condensation services provided by the present day libraries, commercial publishers, and database producers in an electronic environment.

iii) Selective Dissemination of Information (SDI) Service

SDI service is based on the concept of personal service. It is directed towards individuals or a research group working on the same research project in an organisation. It is a personalised current awareness service, where newly received items of information are matched with user’s interest profile, only those items are selected which match with the user’s profile, and are notified to the user on regular basis. The concept of SDI service was put forth by a computer scientist, H. P. Luhn in 1961. According to him “SDI service is that service within an organization which concerns itself with machine-assisted channeling of new items of information from various sources to those points within the organization where the probability of usefulness in connection with current work of interest is high.”

SDI service started when computers were used for handling information in the mid 1960s. Indexing and abstracting services first used computers to print their paper products. They created computerised files on magnetic tapes that were interpreted by computers and printed their products. These computerised files could be read by computers for other purposes also. Companies and Government agencies developed computer software that could manipulate information on these tapes in new ways. This software allowed searching the computerised files
called databases for indexed terms or group of terms on the computer and retrieve articles bearing these terms. Libraries started using these databases to provide different services to their users including SDI service.

SDI system comprises six components viz. user profile, document database, matching mechanism, notification, feedback mechanism, and modification of the profiles.

**User Profile:** To provide SDI service first user’s profile is created. The expression of user interest as a combination of subject and non-subject terms is called user profile. Here, user is asked to specify her/his subject interest, names of persons and organisations whose work relate to her/his field of interest and details of some articles s/he found most useful in her/his current area of research. This information is used to select terms which specify user interest most precisely. The terms to describe user’s interest are drawn from the same indexing vocabulary that is used by the document database.

**Document Database:** It is a computerised file containing recent documents with complete bibliographical details along with the terms representing subject content of the documents. The terms chosen to describe document contents are usually drawn from a thesaurus i.e. controlled vocabulary.

**Matching Mechanism:** At fixed intervals, which may be weekly or fortnightly, user profile and document profile are compared by a software system. As per the instructions, whenever a close match is observed between the user profile and the document record, the details of both the records are noted by the system.

**Notification:** Each individual user is sent notification from the system whenever a close match is observed between her/his profile and document record. The notification is sent to alert the user about the recent items of her/his research interest added to the document database. It may include citation of the documents or citations with abstracts or keywords.

**Feedback Mechanism:** Most important feature of SDI system is its feedback mechanism. Here, user assesses the relevance and usefulness of the items received by her/him through the system and provides regular feedback.

**Modification of Profiles:** Feedback from the users is analysed and if required the user profile is modified or readjusted.

The title announcement service and contents-by-journal service are subject oriented services. They are on broad subject area and serve several individuals. Here, each individual has to browse through the entire list to select the items of her/his interest whereas SDI service, which is oriented towards user’s current research interest, provides only those items which are most useful to the user. This type of service not only saves the efforts and time of the busy researcher, but also ensures all relevant items of information are brought to her/his notice as quickly as possible.

iv) **Research-in-Progress Bulletins**

Types of current awareness services we have discussed so far alert the users about recently published information in their subject areas of interest. Research-in-Progress type of publication is another type of CAS which provides information
on the current R&D (research and development) activities in various research institutions in a country or in the world. Such type of publication or a database provides details of on-going research projects in an institution, names of principal and associate researchers of each research project, funds and sources of funds of the project, duration of the project and special equipment in use, if any. In addition, it provides a brief description of the progress of the project. Such types of publications are generally brought out by a parent body which funds or controls a group of research organisations like CSIR, ICMR, ICAR, etc. Details of the projects are provided by the R&D institutions under that parent body. For example, Department of Science and Technology (DST) provides year wise details of R&D research projects in S&T approved for funding by the Department on its website. DST has also brought out computerised database of intramural R&D projects in S&T institutions in India in the year 2000 and the database was updated in the year 2005. The work was carried out by NISCAIR with the financial support from DST. Similarly, ICMR (Indian Council of Medical Research) has Online Searchable Project Information System which provides details of extramural research projects funded by ICMR. The database is searchable by subject, title of the project, name of the investigator, name of the institute and the year of grant. ICMR has also brought out a publication entitled ‘An overview of international collaborative projects in biomedical research’. The publication provides details of research projects approved for funding by HMSC (Health Ministry’s Screening Committee, Ministry of Health and Family Welfare, Govt. of India) from 2000 to 2007 for international collaboration of biomedical research. Another example of research-in-progress service is CARIS (Current Agricultural Research Information System) of Food and Agriculture Organization (FAO), which is international in its scope. It covers ongoing research projects in agricultural sciences and technology in 240 national, international and intergovernmental organisations in the world, who are members of AGRIS (Agricultural Research Information System) of FAO. Research-in-progress type of services, besides providing current awareness, have several other benefits also as stated below:

- Assist the researcher to contact experts as well as institutions currently working in her/his area of research;
- Help the researchers in exploring the priority areas of research;
- Avoid duplication of research efforts; and
- Help planners and policy makers to identify areas of research for funding purposes.

v) Newspaper Clipping Service

Newspapers since their inception in 1700s have been playing a significant role in keeping the public well informed on the recent happenings around the world. Newspapers carry useful information for everyone, from housewives to the top officials of corporate houses as well as government organisations. Being aware of the importance of newspapers, libraries and documentation centres have been providing information services based on newspapers. One such service is newspaper clipping service. Under this service, libraries provide important news items of interest published in national and international newspapers, to the organisation. To provide the service, selected newspapers are scanned everyday and news items that are important for the organisation are selected, cut and pasted...
Information Services

on plain paper or card. Each news item is assigned a subject heading or class number. At periodic intervals, e.g. daily or weekly, these news items (called clippings) are arranged by subject headings or class number and circulated to the users. In small organisations the clippings themselves are circulated to the key people in the organisation. In large organisation with more number of people, news clippings are duplicated and disseminated to the users in the form of a bulletin. Newspaper clipping service is quite common in media libraries and libraries of government departments, industrial organisations and financial institutions.

E-News Clipping Service

Earlier, entire process of preparation and dissemination of newspaper clipping service was carried out manually. Nowadays, the service is provided electronically by many libraries, information centres and commercial operators using ICT and web technologies. This has improved the access, delivery and searching of clippings in a web environment. A number of softwares are available for providing this service. For example, National Informatics Centre (NIC) library has developed new application software called “NewsNIC” for providing e-news clipping service. The software provides a web-based full-text access to news items using web interface. MCIT (Ministry of Communication and Information Technology) libraries are using this software to provide e-news service online to their clients staying in different parts of the country. News items covered in the service are related to information technology, telecommunication, and ICT. The software is available free to all organisations of government, semi-government and public sector undertaking. There are several commercial e-news clipping service providers at national as well as at international level. In India, ‘Indianmediaclearing’ (www.indianmediaclearing.com/) offers news monitoring and clipping service. It monitors Indian print media, electronic media (TV), websites and e-papers and provide services. At international level “CyberAlert 4.0” offers worldwide press clipping service in 50 plus languages. CyberAlert monitors 42,000 plus online newspapers, magazines, trade journals, wire services, TV networks and new media to provide service.

vi) Current Awareness Services- Recent Trends

Current awareness services like table-of-contents (TOC) and SDI services have been a regular feature in S&T libraries since long. Now corporate and academic libraries have also started providing these services as basic services to their researchers and educators.

Earlier, through these services, libraries were alerting the users about most relevant recent articles published in their area of research. It was the responsibility of the researcher to follow up and request for the copy of the article s/he would like to read.

With the introduction of automated library systems, libraries using serial check in systems started providing issue alerting services and table-of-contents services to their users through electronic means. Even online database vendors like DIALOG, OVID, BRS have introduced SDI services. These services allowed subscribers to store journal titles and keywords to receive a monthly online notification service. These two trends allowed libraries to build ‘profile’ of journal titles and send the table-of-contents electronically to each user located in different
buildings over the campus networks. This has greatly improved CAS. In the last few years libraries have moved to a web-based environment for providing their information retrieval services. Current trend is to build a custom library portal that utilises e-resource registries which include detailed information about e-resources, how to access them and provide links to these e-resources, for example, links to full-text electronic journals. The advent of e-resource registries has introduced an entirely new aspect of CAS. Libraries can now deliver links to full-text journals and articles within journals. Providing these full-text links is one of the most important trends in CAS. With this facility researcher can get access to full-text journal on her/his personal computer, browse through the article and if found useful, can get it printed. Many libraries have joined e-journal consortia to have access to computerised databases as well as access to full-text journals for their users. Many journal publishers, database producers, aggregators, subscription agents are offering scholarly full-text e-journals services for library consortia. Some of the examples of e-journal consortia and gateways operating in India are UGC-INFONET Digital Library Consortium, CSIR-E-journal Consortium, INDEST-AICTE Consortium, and MCIT Library Consortium. Other electronic CASs offered by the libraries to their remote users are new books alerts, table-of-contents alerts, citation alerts, subject alerts, web page alerts, conference alerts and many more. The mode of delivery is through e-mail, RSS feeds and other electronic means.

Self Check Exercise

Note: i) Write your answer in the space given below.
ii) Check your answer with the answers given at the end of this Unit.

4) What do you understand by current awareness type of services? Mention their characteristics and types of services provided under this category.

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9.5.2 Condensation Type

In this type of service, the contents of the current literature on a required subject field are condensed or summarised along with full bibliographical details of the document. This enables the user to identify the basic contents of the document quickly and determine its relevance to her/his research area of interest. At times, a well prepared summary or abstract serves as a substitute for the document. This saves time of a busy user. Types of services under this category are:

- Abstracting service
- Digest service
- Other value-added information services
i) Abstracting Service

This service is concerned with providing abstracts of recently published journal articles, research reports, papers of conference proceedings, patents, standards, and dissertations along with full bibliographical details of each item. The service sometimes covers current as well as earlier published literature depending upon the needs of the users. Since the abstract provides concise summary of the entire contents of the document, it enables the user to determine its relevance and helps her/him to decide whether to read whole document or not. Library professionals with subject knowledge prepare the abstracts. These days commercial abstracting services are available in most of the disciplines and all of them are in machine-readable form. Libraries search the requisite databases and provide the service and supplement it with in-house resources. Commercial indexing and abstracting services systematically scan the current primary literature (like periodicals, conference proceedings, research reports, etc.) on a particular subject field, select the relevant items, index or summarise each item, and arrange them in a helpful sequence for location and identification of individual item. These services are provided at regular intervals like weekly, fortnightly or monthly. Such services have extensive indexing system to facilitate searching. Current issues meet the current awareness needs of the users. When in print form, annual, five-year or ten-year accumulation of indexes was carried out for retrospective searching. Now, most of these indexing and abstracting services are available in machine-readable form and merging of earlier records and new records have become possible. For example, Library and information Science Abstracts (LISA), a fortnightly international abstracting and indexing service published since 1969, was earlier a print publication. Now in database form, it covers all the records (343,293 as of August 2011) from 1969 till date. Update frequency of the database is every two weeks, with more than 500 records added per update. The database is searchable online on the Web with advanced searching capability of 17 indexed fields. Such type of indexing and abstracting services are of permanent nature and can be used for current as well as retrospective searches. Hence, these services serve current as well as exhaustive information needs of the users.

ii) Digest Service

This service is generally provided by the libraries of industries, corporate houses and commercial organisations. The latest scientific, technical, marketing and commercial information is essential for the growth of industries. The people in an industry, corporate houses and commercial organisations require information on new products, machinery, manufacturing processes, management techniques, etc. to keep themselves abreast of latest developments in their areas of interest. However the exponential growth and proliferation of new information in wide range of sources and in diverse formats make it difficult for technical workers and executives in these enterprises to keep track of the latest developments in product design, manufacturing processes, management techniques and market trends. To meet these information requirements, digest service is provided.

The digest service is an information service which selects, evaluates and condenses information gathered from different sources, arranges it systematically under headings and subheadings to facilitate quick reference and disseminates to the personnel of an enterprise. According to Guha “digest is actually a fuller representation of a document, rewritten for a purpose or suit the requirements of different people, but intended to serve as a complete substitute for the original
document”. The digests are prepared either on demand or in anticipation for quick and ready reference with subject scope spanning from literacy to science and technology. The digests covering science, technology and management aspects are called technical digests. Technical digests are useful sources of information for managerial and technical workers in an industry. Different categories of workers in an industry require different types of information. Top managerial personnel require product-oriented information such as technical, commercial and marketing information. Middle/supervisory level managers require information on problem solving, decision making and on new production processes/techniques which can maximise production. Workers/operators require information on solving technical problems and new ideas and processes which can help them in day-to-day working. Three different types of digests are prepared for top management, for middle/supervisory management and for workers/operators, keeping in mind their different information requirements. A well planned technical digest service not only saves time of the manager but also helps her/him in decision making. For middle/supervisory level managers the service helps them in problem solving and increasing production, while for workers/operator level people it assists them in solving day-to-day technical problems.

iii) Other Value-added Information Services

The services which libraries and information centres provide can be broadly grouped into two functional levels of services. At the basic level, libraries and information centres disseminate information and material acquired by them, answer reference queries and provide CAS from latest journals to keep users informed of the current development in a particular discipline. At the next level, special libraries and information centres offer complex literature searches in specific subject field, carry out retrospective searches and provide bibliographies, CAS and SDI services to individuals or group of users based on user’s profile, index, and abstract or extract information to disseminate it to users in response to request or in anticipation. Some information centres, particularly in science and technology, provide highly specialised services or so called value-added services which involve analysis, synthesis and evaluation of information for the users. This evaluated information is condensed and repackaged in appropriate form for a well defined user group. Such information centres came to be known as information analysis centres and data centres.

Let us examine what is the value addition in information services. Based on the views expressed in library and information science literature, value addition aspect of information services can be organised into the following groups:

- Selection and organisation of information
- Subject and contents analysis
- Links to e-resources including full-text e-journals
- Information analysis, evaluation, synthesis and repackaging

**Selection and organisation of information**

In indexing and abstracting services some form of value addition is carried out by selecting and bringing together in convenient form items of information scattered over wide range of primary sources (such as primary research periodicals,
Information Services

research reports, conference proceedings, theses and dissertation, etc.). In addition, these services monitor the literature of a subject published in diverse languages. For example, Chemical Abstracts Service monitors the literature of chemical sciences and technology published in 50 languages. Without these services it would have been practically impossible to access the information from a single source at one place.

Subject and contents analysis

The basic process involved in indexing and abstracting of information is ‘analysis’ of information. In indexing activity it is ‘subject analysis’ and in abstracting activity it is ‘contents analysis’. Both subject analysis and contents analysis are intellectual processes which add value to these services. The subject analysis provides appropriate keywords for searching and accessing the documents and contents analysis provide precise summary for identifying the relevance of the document.

Links to e-resources including full-text e-journals

Now most of the libraries have moved to web environment for information retrieval as well as for providing services to their clients. Keeping in view users’ requirements, libraries are providing access to wide range of e-resources like databases which include bibliographic, numeric as well as textual databases. For example, Information Environment Service Registry (IESR) is a free catalogue of electronic resources of United Kingdom. Resources types include databases, e-learning material, e-books, e-journals, repositories, research publications and image collections. IESR contents are multi-disciplinary with particular strengths in health and social sciences. It is a machine-readable registry, which provides quality and constantly updated description of e-resources and methods of accessing them. Table-of-Contents service of many libraries provides links to full-text electronic journals and articles within journals for browsing as well as for printing by their clients. Providing full-text links to e-resources is most important value addition service provided by the present day libraries and information centres.

Information analysis, evaluation, synthesis and repackaging

In indexing and abstracting services, though subjects and contents of each document are analysed, no critical evaluation is carried out of the basic contents of the documents. Resultant product or service is factual, non-critical and non-evaluative. Now the emphasis is on providing users timely, authoritative, evaluated and consolidated information in convenient form, which users can understand, assimilate and use immediately for problem solving and decision making. This is another type of value-added service which is provided by many specialised information centres and data centres.

The following activities are carried out to provide this type of service:

- Study the target users’ needs;
- Selection of relevant information sources;
- Evaluation of information contained in these sources;
- Analysis and extraction of most relevant information contained in these sources;
Types of Services:
Reference Service, CAS, etc.

- Synthesis of extracted information, which involves arranging and merging of extracted information from many sources and compression of information into structure and in the form which is most suited for target user;

- Restructure and package the information, if necessary. Restructuring process deals with the contents or substance of information, while packaging deals with the form of its presentation; and

- Dissemination of the product/service and getting feedback from the users for improvement.

These value-added services cover a wide range of products. Some of them are state-of-the-art reports, market reports, assessment reports, briefing paper, data compilation and tables, executive summary, brochures, posters, etc. Some of these value-added products/services are directed towards specialists (e.g. S&T reviews, state-of-the-art reports), some towards people in business and industry (e.g. business, commerce and market summaries), some are for farmers and general public (e.g. extension services, health services in the form of films, manuals, posters, brochures, etc.).

**Self Check Exercise**

*Note:*

i) Write your answer in the space given below.

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

5) What do you understand by value-added information services? Enumerate the type of value addition carried out in these services.

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**9.6 ORGANISATION AND MANAGEMENT OF REFERENCE AND INFORMATION SERVICE**

American Management Association defines management as “The guiding of human physical resources into dynamic organization units that attain their objectives to the satisfaction of those served, and with high degree of morale and sense of attainment on the part of those rendering service”. This definition explicitly focuses on target audience. Similarly, in reference and information services division of any library and information centre that serves the users, no effort should be spared to meet the information needs of these users to their utmost satisfaction. This requires organisation and management of these services with efficiency and speed. Almost all large and middle size libraries entrust these services to a separate division. However, in small libraries there is no separate division. The librarian herself/himself provides reference service.

Management of a reference division can be achieved effectively by following the different elements of management viz., planning, organising, staffing, directing, coordinating, reporting and budgeting.
Planning

Planning is a process that deals with drawing up of a detailed working programme for an organisation or a division for meeting short term as well as long term goals. Basic resources of a reference division must be carefully planned and developed during planning process. As most of the reference and information services are of a continuing nature, there must be ample provision in the plan document for uninterrupted flow of resources that include updated reference materials both in print and electronic form, personnel to provide the service, physical facilities including technical and technological resources like computers, and telecommunication equipment. The planning of a reference division would cover the following details:

- Assessments of users’ information needs;
- Types of services to be offered, both responsive and anticipatory;
- Reference collection in print as well in electronic form, their organisation and maintenance;
- Personnel for managing and providing the services;
- Physical facilities including computers and telecommunication networks;
- Getting feedback and evaluation of services; and
- Providing details of financial liabilities.

Organising

This refers to the creation of an operational structure for the reference division. The structure is determined on the basis of analysis of work and all the different activities of the division. An illustrative organisational structure is as follows:

Reference Division

<table>
<thead>
<tr>
<th>Responsive information services</th>
<th>Anticipatory information services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provision of general information</td>
<td>Current awareness type</td>
</tr>
<tr>
<td>Reference service</td>
<td>Condensation type</td>
</tr>
<tr>
<td>Ready reference service</td>
<td>Readers advisory services</td>
</tr>
<tr>
<td>Long range reference service</td>
<td>Information literacy</td>
</tr>
<tr>
<td>Assistance in searching</td>
<td>Web-based information services</td>
</tr>
<tr>
<td>Literature search and compiling bibliography</td>
<td></td>
</tr>
<tr>
<td>Assistance in use of print and online sources</td>
<td></td>
</tr>
</tbody>
</table>

Staffing

Staffing refers to the type, quality and the number of persons required to perform various functions of the division. The head of the division with good academic background and professional experience must have the competence and ability to lead the division. Other staff members must necessarily be more multidisciplinary to cater to different varieties of services ranging from traditional in-person desk reference to 24×7 remote access services. Reference managers, faced with rapid
changes, must be motivated to take on new and unexpected roles that could involve partnership with libraries and negotiations with web developers, electronic database vendors, and e-journal publishers.

**Directing**

Traditionally, head of the division should give direction to the staff in every aspect of work of the division and get the best out of them. But, due to rapid technological changes, the hierarchy is flattening out to accommodate new vibrant roles and services necessitated by the new learning style. These new roles cover electronic resource management, web management, reference marketing, virtual reference service, etc. Now, self-directed or team-based management is being practiced in the reference division, where all members of the team are given an opportunity to learn each other’s job with the idea of making reference services more integrated. The trend now is towards “self-regulating management team” that adopts a system of rotating coordinators rather than head of reference division to manage the team.

**Co-ordinating**

Reference division is connected to many other divisions of the library, such as technical services division, circulation, reading room, stacks and maintenance, and serials division. Co-ordination with all these divisions is absolutely necessary for effective functioning of the reference division and to face the users with confidence and alertness.

**Reporting**

Reports on the performance of the division, its achievements and shortfalls during a year or at shorter intervals, are essential to build the image or reputation of the division. These reports carry vital details on the various activities of the division in an analysed form.

**Finance and Budget**

As most of the services offered by the reference division are of a continuing nature, there should not be any paucity of finance in operating any of the services, particularly those which need financial support. Budgetary allocation should be made for each of the activities, on the bases of production and distribution for a given period, usually annually.

### 9.7 SUMMARY

This Unit deals with responsive and anticipatory information services. In responsive services, the origin, growth and development of reference service has been discussed in detail. A definition of reference service encompassing its scope and nature is provided.

The Internet and the World Wide Web has introduced a powerful way of providing and accessing these services. Libraries and information centres are moving from providing traditional in-house reference service to virtual reference service to reach remote users beyond the four walls of the library. Details of virtual reference service, how it is provided, its advantages and limitations are discussed. The Internet is increasingly being used as a reference tool. The advantages and limitations of using the Internet as reference tool are highlighted.
Origin, growth and development of information service have been traced along with the basic differences between reference service and information service.

Various types of anticipatory information services such as current awareness services, indexing and abstracting services and digest services, including value-added services have been dealt with. Impact of technology on the provision of these services is highlighted.

Organisation and management of reference and information services in terms of seven elements of scientific management, with necessary changes in these elements due to technological innovations are dealt with.

### 9.8 ANSWERS TO SELF CHECK EXERCISES

1) Reference service in the library is any assistance provided by library staff to users seeking information. It covers direct services such as searching for information, providing directional guidance, helping in research, compiling bibliography on request, etc. and indirect services like selection and maintenance of reference material, preparation of guides and aids to the use of library and library material. Reference service is concerned with direct personal assistance to the library users seeking information whereas information service is provided in anticipation of various needs of users of library and information centres.

The differences between reference service and information service can be enumerated as follows:

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Reference Service</th>
<th>Information Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Traditional service</td>
<td>Non-traditional service</td>
</tr>
<tr>
<td>2</td>
<td>Emphasis to provide documents</td>
<td>Emphasis to provide information</td>
</tr>
<tr>
<td>3</td>
<td>User is given the material or directed to locate the material</td>
<td>Attempt is made to provide exact information</td>
</tr>
<tr>
<td>4</td>
<td>Aim is to instruct the user</td>
<td>Less concerned towards instructing the user</td>
</tr>
<tr>
<td>5</td>
<td>Service provided on demand</td>
<td>Service provided in anticipation</td>
</tr>
<tr>
<td>6</td>
<td>Passive service: library staff waits for the user to approach and make demand</td>
<td>Active service: library staff does not wait for the user to come but provide service to keep user well informed</td>
</tr>
</tbody>
</table>

2) The Internet has emerged as an omnipresent reference tool in the 21st century. Most of the print reference sources are available online on the Internet. Online sources provide updated contents, more advanced search options, download and print option. Despite all its advantages, the Internet is not considered to be as a full-fledged reference tool because of its inherent limitations which are as follows:

**Lack of quality control:** Anyone can write anything, from anywhere in the world and leave it for any amount of time for any one to read on the Internet. On the other hand, in print publications, there is a built in mechanism for quality control. For example in scholarly journals each article is reviewed by peer group and edited thoroughly before it is published.
**Burden of evaluation:** Because of lack of quality control, the onus of evaluating websites falls on the user herself/himself. Since user is accustomed to accept all printed material as valid information, using information available on the Internet without evaluation may lead to pitfalls.

**Full-text information is not free:** Full-text journals are not always free to the Internet users. Quality research articles are mostly found in expensive subscription databases.

**Volatility:** With contents being added, modified, deleted constantly on the websites, which make the websites volatile. It becomes an imperative to constantly check the quality of website and its contents before using it for research purposes. At times, some websites disappear suddenly or change their domain name making it difficult to trace them. This does not happen with print publications, their contents remain static and publication can be safely cited.

3) The virtual reference service can be defined as delivery of reference service via the Internet to library users who are outside the physical confines of the library. Mode of delivery for virtual reference services are e-mail, electronic forms, real-time chat communication, videoconferencing, voice over IP, co-browsing or instant messaging. E-mail and chat communication are the most heavily used type of virtual reference service.

4) To keep users abreast of current developments in their respective fields of interest current awareness types of services are provided. This involves scanning newly available documents in print as well in non-print form, selecting items relevant to the needs of individual or group of users, recording them and disseminating to the users on a regular basis. Current awareness type of service is an ongoing service that enables one to monitor new information on a regular basis. Current awareness types of services meet the current information needs of the users.

**Characteristics of Current Awareness Service**

- The purpose of the service is to alert the user about recent developments in her/his field of interest as early as possible.

- Since time is the major factor in the preparation of this type of publication, it generally contains list of journal articles, book titles, etc. with no annotations or abstracts.

- The presentation of the items of information is such that it facilitates ease of scanning.

- It has newspaper type approach, hence, the entire list is meant for scanning.

- The service is usually not confined to a very specific narrow subject area but to a broad area in a particular subject discipline.

- Since the list is not meant for permanent use like newspapers, no attempt is made to do extensive indexing etc.
Types of Services

Types of services offered under this category are:

- Accession List / Current Awareness List/Documentation Bulletin
- Title Announcement Service/Contents-by-Journal Service
- Selective Dissemination of Information
- Research-in-Progress Bulletin
- Newspaper Clipping Service.

5) Value-added is a term which is widely and increasingly used in the context of information systems and services. If information services are related to use and users, then overall timely, current, ease of use and accuracy of information are considered most important. These factors are certainly considered valuable for judging the relevance of the services for the users. To make the services highly useful to the users, certain additional features are offered over and above the normal ones, this can be called as value addition. Some information centres, particularly in science and technology, provide highly specialised services or so called value-added services which involve analysis, synthesis and evaluation of information for the users. This evaluated information is condensed and repackaged in appropriate form, which users can understand, assimilate and immediately use for problem solving and decision making. These services and products are prepared for well defined target users. For example, some of these products/services are meant for specialists (e.g. S&T reviews, state-of-the-art reports), some for people in business and industry (e.g. business, commerce and market summaries), some for farmers and general public (e.g. extension services, health services in the form of films, manuals, posters, brochures, etc.).

Based on the views expressed in library and information science literature, value addition aspect of information services can be organised into the following groups:

- Selection and organisation of information
- Subject and contents analysis
- Links to e-resources including full-text e-journals
- Information analysis, evaluation, synthesis and repackaging

9.9 KEYWORDS

Blog : Short for web log, a frequently updated website about a particular topic that contains dated entries in reverse chronological order i.e. with newest entries at the top.

Citation Alerts : A current awareness service which alerts the user by e-mail whenever an article selected by the subscriber is cited by new article that enters the database. ‘ScienceDirect’ of Elsevier Science and ISI Web of Knowledge offer this service.
Conference Alerts: A conference alerting service that sends e-mailed updates of conferences matching user’s interests, with available dates and preferred destinations. For example, Conference Alerts and Conference Atlas offer this service.

E-Resource Registry: An online catalogue of e-resources that provides description of e-resources and method of accessing them.

Portal: A network service that brings together contents from diverse distributed resources using technologies such as cross searching, harvesting and alerting and collates them into an amalgamated form for presentation to the user.

RSS Feed: Really Simple Syndication feed is a format for publishing web contents. It is used to “push” timely information and updates to people who subscribe to it. For example, RSS feeds of Times of India newspaper.

Web Page Alerts: It is a tracking service that tracks online new contents by monitoring web pages and e-mails to users when it locates new items. For example ‘GigaAlert’ (formerly known as ‘Google Alerts’) offers this service.

9.10 REFERENCES AND FURTHER READING


**Websites**

<http://www.dst.gov.in/>  
<http://www.icmr.nic.in/>  
<http://www.loc.gov/>  
<http://www.fao.org/AGRIS/>  
<http://www.mcitconsortium.nic.in/>  
<http://www.inflibnet.ac.in/>  
<http://www.cyberalert.com/>  
<http://www.indianmedialearning.com/>  
<http://www.ala.org/>  
<http://www.ebsco.com/>  
<http://www.oclc.org/questionpoint/>  
<http://www.iesr.ac.uk/>  
<http://www.columbiagazetteer.org/>