

COURSE GUIDE

LIS 106 FOUNDATION OF LIBRARY AND INFORMATION SYSTEMS, INSTITUTIONS AND SERVICES

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INTRODUCTION

Welcome to LIS 106 Foundations of Library and Information Systems, Institutions and Services. It is a one-semester, two-credit unit course that is designed and made available to all students undertaking their first-year degree programme in Library and Information Science. They are 5 modules and 14 units in this course. The course will involve an overview of foundations of library and information systems, institutions, and services, as well as definitions of concepts. The course materials have been developed to suit Nigerian students by adopting illustrations from local events.

This course guide tells you in a nutshell what the course is all about. The course materials that the students will be required to use guide them on how they can work their way through these materials. Some general guidelines have been suggested to enable students to complete this course without difficulties. Some guidance on their Tutor-Marked Assignments has also been given for further clarity of the course. Detailed information on the Tutor-Marked Assignments will be made available to students at their study centres when they start their tutorials.

Some tutorial sessions are linked up with this course. As a student, you are advised to make yourself available for these sessions. Detailed information on the times and venues of these tutorials will be communicated to you by your study centres.

WHAT YOU WILL LEARN FROM THIS COURSE

The overall aim of this course LIS 106, is to introduce you to the foundations of library and information systems, institutions, and services in libraries and information centres which you need to apply as professional librarians.

In this course, you will learn the basic information systems, institutions, and services that will enable you to function effectively as a professional librarian, especially in the area of information delivery. You will learn how to handle library resources, master library routines, and procedures and be able to perform the job of a librarian effectively when asked to do so.

COURSE AIMS

This course aims to give you an understanding of the foundations of library and information systems, institutions, and services and how these could be applied in libraries for the effective and efficient services delivery.

This will be achieved by aiming to:

- give you an overview of the foundations of library and information systems, institutions and services
- outline the foundation of library and information systems, institutions, and services.
- explain the philosophy and developments of librarianship.
- explain the historical and developmental stages of libraries, information centres, and systems, archives, and museums.
- introduce you to information components and specifications, types of library, and information systems.
- explain the characteristics of the library and information systems, the contributions of individuals, institutions, and organisations to the growth of library and information systems and services and the use of Information and Communication Technologies (ICTs).

COURSE OBJECTIVES

The overall objectives have been specified so as to achieve the aims set out above. In addition, each unit has specific objectives set out. These unit objectives are always included at the beginning of each unit. You are advised to read them before you start working through the unit.

You should always refer to them during your study of the unit to check your progress made so far in completing the unit. By so doing, you can be sure that you have done what was required of you by the unit. The objectives of the whole course are set out below. If all these objectives are met, you shall have achieved the aims of the course as a whole. On successful completion of the course, you should be able to:

- mention the purposes of the foundation of library and information systems, institutions and services
- define the various concepts in the foundation of library and information systems, institutions and services
- enumerate the importance and functions of the foundation of library and information systems, institutions, and services in libraries.
- explain the historical and developmental stages of libraries, information centres and systems, archives and museums
- discuss information system components and specifications.
- mention and discuss the types of libraries and information systems
- discuss the functions of libraries and information system, the contributions of individuals, institutions, and organisations to the growth of library and information systems.

- enumerate the importance of the use of Information and Communication Technologies (ICTs) in operating the information systems, institutions, and services.
- discuss the mission, goals, and values of the different types of libraries, information systems, and centres.
- explain the essence and types of library and information services.
- discuss the types of library and information users/customers.
- discuss the need for the education and training of managers of library and information systems and services.

WORKING THROUGH THE COURSE

To complete this course successfully, you are required to read the study units, read the reference books, and any other material provided by NOUN. You are also required to spend a lot of time to study the content of this material. Do your Tutor-Marked Assignment and consult your facilitator where necessary.

STUDY UNITS

There are 14 study units in this course.

Module 1 The Philosophy and Developments of Librarianship

- Unit 1 Definitions of Concepts
- Unit 2 Early stages of library development (1500 BC – I AD)
- Unit 3 Development of library (IAD – 20th century)
- Unit 4 Librarianship from 21st century to Next Generation Librarians

Module 2 The Historical and Developmental Stages of Libraries

- Unit 1 The Alexandrian Era and the Monarchial Era to the Invention of printing machine.
- Unit 2 The Libraries After the Invention of the Printing Press (16th, 19th, 20th and 21st Century)

Module 3 The Historical and Developmental Stages of Information Centers and Systems, Archives and Museums

- Unit 1 Information Centers and information systems
- Unit 2 Development of Archives and Museums

Module 4 Information systems (IS) components and specifications, and Types of Information systems

- Unit 1 Information system's components and specifications
 Unit 2 Types of information systems and support Contents

Module 5 Types of libraries and their Functions

- Unit 1 The Public Libraries and their Functions
 Unit 2 Academic Libraries and their Functions
 Unit 3 Special Libraries, National Libraries and their Functions
 Unit 4 Digital, Virtual Libraries and their Functions

COURSE MATERIALS

You will be provided with the following materials:

1. Course Guide
2. Study Units
3. Textbooks
4. Assignment file

In addition, you are required to consult the recommended textbooks and do your assignments.

ASSESSMENT

There are two aspects to the assessment of students. These are the Tutor-Marked Assignment and the final end of semester examination. In attending to the assignments, you are required to draw from your knowledge and techniques gathered from the course. The assignments must be submitted to your tutor for formal assessment, in accordance with the deadline given to you.

THE PRESENTATION SCHEDULE

The presentation schedule included in your course materials gives you the important dates for the completion of TUTOR-MARKED ASSIGNMENTs (TMAs) and attending tutorials. Remember, you are to submit all your assignments by the dates stipulated. You should guard against lagging behind in your work.

TUTOR-MARKED ASSIGNMENT

You are expected to submit three Tutor-Marked Assignments on the whole.

The Tutor-Marked Assignments will count for 30% of your total score in this course. You are encouraged to submit the three TMAs. You will be able to complete your assignments from the information and materials contained in your course materials. However, it is desirable that at this degree level in education, you should demonstrate that you have read and researched more widely than the required minimum. Using other references will give you a broader viewpoint and may provide a deeper understanding of the course. Try to submit your assignments on time.

FINAL EXAMINATION AND GRADING

The final examination for this course will be of three-hour duration. It will have a value of 70% of the overall marks. All areas of the course will be assessed. You may find it useful to review your self-assessment tests, Tutor-Marked Assignments, and comments on them before the examination. The work you submit will count for 30% of your total course mark. At the end of the course, you will be required to sit for a final examination, which will also count for 70% of your total mark. The table below shows how the actual course marking is broken.

Table 1: COURSE MARKING SCHEME

Assessment	Marks
Assignment 3 (TMAs)	3 assignments, will be used for the continuous Assessment = $10 \times 3 = 30\%$
Final Examination	70% overall course mark
Total	100% of course marks

SUMMARY

This course LIS106 – Foundation of Library and Information Systems, Institutions and Services expose you to the fundamentals and processes of information systems, institutions and services in carrying out library services. Upon the completion of this course, you will be equipped with the necessary knowledge needed to work in the library system.

I wish you success in this course.

**MAIN
COURSE**

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MODULE 1 THE PHILOSOPHY AND DEVELOPMENTS OF LIBRARIANSHIP

Unit 1:	Definition of Concepts
Unit 2	Early Stages of Library Development (1500 BC – I AD)
Unit 3	Development of Library (IAD – 20th Century)
Unit 4	Librarianship from 21st Century to Next Generation Librarians

UNIT 1 DEFINITION OF CONCEPTS

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1.0	Introduction
2.0	Objectives
3.0	Main Content
3.1	Definition of Concepts
4.0	Conclusion
5.0	Summary
6.0	Tutor-Marked Assignment
7.0	References/Further Reading

1.0 INTRODUCTION

The views and developmental stages in librarianship over the years shall be considered in this module. Librarianship, as a profession, deals with knowledge organisation. Libraries organise knowledge for easy retrieval and use. Libraries organise human knowledge with an emphasis on preservation or conservation of knowledge until the 20th century when librarians started performing an active role in the dissemination of information, and users got personal attention. In the 21st century, a more social approach to collaboration and sharing began to emerge. The various methods used for this purpose are: cataloguing, classification, indexing, abstracting, bibliography, record management, and knowledge management. The advancement in technologies, especially the Internet, World Wide Web (WWW), and prevailing Web 2.0 have made a magnificent impact on knowledge organisation. It has changed the role of the library from a storehouse to information resource center, and the role of a librarian from conservator to disseminator and collaborator of knowledge.

2.0 OBJECTIVES

By the end of this unit, you will be able to:

- define the library, information, systems, institutions, and services
- mention how these terms affect the services in the library.

3.0 MAIN CONTENT

3.1 Definition of Concepts

Library Introduction

The word Library means "a collection of books for study, research, reference, and recreation." It is derived from the Latin word 'liber' which means 'a book.' The Harrold's Librarians' Glossary and Reference Book explains library as: "A physical space such as a building, part of a building, room or rooms or such a place having collection or collections of the intellectual or literary output of society such as manuscripts, books, periodicals, newspapers, pamphlets, written or printed records, tape, artefacts or any literary and artistic materials for reading, reference, or lending purpose." Ranganathan says, "a library is a public institution or establishment charged with the care of collection of books and the duty of making them accessible to those who require using them." The term 'book' refers to the library collection, which may be books, periodicals, or any other material kept in a library.

Information

Information is a meaningfully processed data. It can be defined as the combination of well-organised sets of data. Data are raw facts; for example, data could be alpha (i.e., letters) numeric (numbers), alphanumeric (a combination of letters and numbers), audio, video, and graphics. For information to be valuable or meaningful, it must be accessible, accurate, timely, complete, cost-effective, flexible, reliable, relevant, simple, verifiable, and secure.

Systems

This is a set of interrelated components, with a clearly defined boundary, working together to achieve a common set of objectives.

Institutions

This is a social structure in which people cooperate and which influences the behaviour of people and the way they live. It is an establishment, foundation, or organisation created to pursue an endeavor, such as the library.

Services

The action of helping or doing work for someone. The occupation of the function of serving.

Information System (IS)

An information system is a collection of hardware, software, and people working together to collect, store, sort, and process information. It is a set of interrelated components that collect, manipulate, store, and disseminate data and information and provide feedback to meet an objective.

Information Institutions

There are organisations that are charged with the responsibility of providing resources and services to meet the educational, informational, cultural, and recreational needs of their clients.

Information Services

This is the system of keeping records, forms, statistics, and data. It is a service that provides information.

4.0 CONCLUSION

This unit acquainted you with what foundations of library and information system, institutions, and services in the library are all about. The unit has discussed the definition and concepts in the foundation of library and information systems. This has placed you on a better footing for this all-important course, which you cannot do without asking a professional librarian to guide you.

5.0 SUMMARY

In this unit, you have been introduced to the definitions of concepts of a library, information systems, institutions, and services in libraries. Their roles in the successful running of the library were also discussed.

6.0 TUTOR-MARKED ASSIGNMENT

1. Define the library.
2. Define information systems and their roles in the library.
3. What is the meaning of services in the library system?

7.0 REFERENCES/FURTHER READING

Ajay K. (2008). *Foundation of Information Systems* [Powerpoint presentation]. Retrieved from <https://www4.comp.polyu.edu.hk/~csajaykr/introduction.pdf>

AVC Distance Education. *Histories of libraries*. Retrieved from http://avconline.avc.edu/slee/PowerPoints/History_of_Libraries.pdf

Information Institution. (n.d.). In *Pages.gseis*. Retrieved June 14, 2019 from <https://pages.gseis.ucla.edu/faculty/maack/IS287.htm>

Information Services. (n.d.). In *Collinsdictionary*. Retrieved June 14, 2019 from <https://www.collinsdictionary.com/dictionary/english/information-service>

Information Services. (n.d.). In *Yourdictionary*. Retrieved June 14, 2019 from <https://www.yourdictionary.com/information-services>

Jason K., Katerina O., & Greg W. (Eds.). (2013). *Ancient Libraries*. Retrieved from <https://www.cambridge.org/core/books/ancient-libraries/5333C8AFDCC74B8F0EA3EF0C49163DC7>

UNIT 2 EARLY STAGES OF LIBRARY DEVELOPMENT (1500 BC-1 AD)

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- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Early Stages of Library development from 1500B.C to 1AD
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

In the last unit, you read through the definition of concepts, what the foundation of library and information systems, institutions, and services are.

The meaning of library, institutions, information, systems and services. In this unit we are going to discuss the early stages of library development from 1500 BC to 1AD.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- discuss the early stages of library development from 1500 BC to 1AD
- enumerate some significant developments made during the period under review

3.0 MAIN CONTENT

3.1 Early Stages of Library development from 1500BC to 1AD

Librarianship before 1500BC

This history has been neglected for decades, and books on this subject are rarely available. Some historical periods are blank with little or no records about such a period. Information gathered through archaeological excavations shed more light on the knowledge of ancient librarianship. However, some of the information lack concrete evidence due to disjointed or missing data as several ancient libraries were invaded and collections destroyed by fire. In some cases, the invaders looted and carried invaluable collections to enrich their libraries.

Books in the early libraries were manuscripts. These manuscripts were duplicated by hand; monasteries and religious organisations played important roles in the preservation of these manuscripts. Though many ancient libraries were destroyed by invaders, in some kingdom, yet libraries flourished.

The history of librarianship is based on scanty inconsistent evidence of collections of manuscripts having marks that revealed their origin, which can be dated through their calligraphy.

Librarianship (1500-01BC)

There were records of the collection of teeth, necklaces, message sticks, hunter's trophies, tattooing, and quipus during this era. Quipus or knitted cords were used in countries like China, Mexico, and Peru. All these items were classified as museum pieces. According to late Sir Gratton Elliot Smith, libraries began from the beginning of civilization dated back in 4000B.C. in Egypt. Pictorial writings and drawing on the wall of caves were common, while non-pictorial writing began around 3400B.C. in Egypt. The use and collections of hand-written clay tablets used for storing information to form libraries began between 2000B.C. and 1600B.C. In Egypt, the stems of papyrus plants were used in storing information; it became popular as the use of clay tablets gradually stopped.

Eumenes II of Pergamum, the great collector of literature, started the use of parchment, which later displaced papyrus as a writing material. Parchments were made from animal skin, information was written on both sides, which made it very popular. This heralds the beginning of the codex form of a book. Bookbinding started in ancient Egypt; papyrus was gummed together to form boards; it was later transformed to books using the Coptic style of binding. About the year 275B.C., the codex form of the book was produced by a librarian in the famous Alexandrian Library by cutting rolls of papyrus or parchment.

The first libraries (though the date of introduction is still undetermined) had collections of clay tablets, as those of Ashurbanipal at Nineveh or of papyrus (introduced around 2200B.C) in the Alexandrian Library. Shalmaneser I founded the first Assyrian library in 1300B.C. at Calah, while the most famous royal library at Nineveh was founded in the year 700B.C. After excavating the palace in 1850, sir Henry A. Layard discovered rooms filled with inscribed tablets that form part of the library of the temple of Nebo. In 1853, Rassam H. discovered another Library belonging to Ashurbanipal.

The history of libraries in Egypt is unclear as the dates of the foundation are unknown. There were libraries housing numerous collections of

books manned by scribes who were librarians in different palaces and temples. Ptolemy Philadelphus who established the Alexandrian Library in 250BC, which had great collections of books and became the centre of culture and centre from which standard editions of literacy works were issued. The Library had 700,000 volumes of rolls of papyrus before it was destroyed in 47B.C. Callimachus (300 – 240BC) the poet and philosopher cut rolls to form books and compiled a catalogue called pinakes, consisting of 120 rolls of papyrus. He developed a classification scheme consisting of the following main classes: Philosophers; Lawmakers; Historians; Orators; Poets; and Miscellaneous writers.

Early librarians in Alexandrian library include Zenodatus Demetrius of Phalerum, Eratosthenes, Apollonius, Aristophanes of Byzantium, Lycophon of Chalcis, Alexander ætolus, and Aristarchus of Samothrace. The Ptolemies were great collectors of books. The acquisition method used by Ptolemy Energetes to stock the library was by duplicating original manuscripts acquired from writers, then return the duplicated copy with money to the writers while keeping the original in his Library. The first Library in Rome was established in 167BC by æmilus Paulus. Excavated ancient Libraries revealed collections of rolls with tabs attached to them and hung down from shelves with explanations of the contents of the rolls. Catalogues were seen carved on library walls.

Librarianship from 01 to 1601AD

Librarianship (01 – 1065AD)

The earliest Library regulations were discovered in an excavated Library in Athens, which reads, “No book shall be taken out, since we have sworn an oath to that effect. It will be open from the first hour until the sixth [i.e., sunrise to noon]”

By the fourth century, Rome had 29 public libraries, and at the end of the fourth century, Pope Damascus built Chartarium Ecclesiae Romanae, which herald the beginning of Bibliotheca Vaticana, and archives stored until the seventh century. Most of these libraries were destroyed between AD 400 and 500. Many centuries witnessed the rise and fall of libraries, but the monasteries continued to devote time to copying from borrowed collections of books.

Librarianship (1065 – 1447AD)

The Norman conquest resulted into the growth of scholarship in England. Monasteries, Cathedrals, Abbeys, and other religious institutions began to establish libraries, books collections increased, and different types of catalogues were compiled. This gave birth to the establishment of Universities and Colleges that housed libraries with books chained and stored in the chest. By the middle of the 18th century, library collections had grown in the UK to about 30,000 printed books and 2,000

manuscripts. Universities were established in other countries of the world. These include the University of Prague; Cracow; Salamanca; Spain; and Heidelberg.

Librarianship (1447 – 1601AD)

The advent of printing increased the production of books that were previously hand-written. Libraries collections grew, catalogues increased in number, more libraries established, and literature became cheaper. Catalogues became useful in identifying the size of libraries and the volume of their collections. In 1560, Florian Trefler proposed that library should have at least five catalogues: an author catalogue; a classified catalogue arranged as books on the shelves; a subject index to the contents of the books complete with an alphabetical index; and a list of books in the reserve stock. In 1608, Borner compiled and published a catalogue of manuscripts collections from the monastic libraries. The period under review witnessed the dissolution of monasteries library by Henry VIII, 1537-9, and series of war among nations; the peasants war in Germany, 1525, the Huguenot wars in France, between 1561 and 1589. These events affected the history of Librarianship negatively; accumulated intellectual collections of about 800 years were destroyed. However, private collections were not affected.

4.0 CONCLUSION

From what you have learned so far in this unit, you should be able to discuss the early stages of library development from 1500BC – 1AD. You should also be able to highlight significant developments in the library during the period under review.

5.0 SUMMARY

This unit has exposed the early stages of library development from 1500BC to 1AD. It also highlighted the significant developments made in the library during the period under review.

6.0 TUTOR-MARKED ASSIGNMENT

1. What are the characteristics of libraries under this period (150BC-1AD)?
2. What country first introduced the art of writing?

7.0 REFERENCES/FURTHER READING

John L.T. (1941). *The chronology of librarianship: An introduction to the history of libraries and book-collecting*. Retrieved from <https://archive.org/details/chronologyoflibr007954mbp/page/n10>

- Krasner-Khait B. (2007, March). *Survivor: The history of the library*. History Magazine. Retrieved from <https://www.history-magazine.com/libraries.html>
- The Development of Libraries in the Ancient World (n.d.). In *Encyclopedia.com*. Retrieved from <https://www.encyclopedia.com/science/encyclopedias-almanacs-transcripts-and-maps/development-libraries-ancient-world>
- The History of Libraries (n.d.). In *Encyclopedia Britannica*. Retrieved from <https://www.britannica.com/topic/library/The-Middle-Ages-and-the-Renaissance>
- Zhang, C. (2011). The origin and development of library. In Lin S., Huang X. (Eds), *Advances in Computer Science, Environment, Ecoinformatics, and Education*. CSEE 2011. *Communications in Computer and Information Science*. 215, 63–64. Springer, Berlin: Heidelberg. Retrieved from https://link.springer.com/chapter/10.1007/978-3-642-23324-1_12

UNIT 3 DEVELOPMENT OF LIBRARY FROM 1AD TO 20TH CENTURY

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- 3.0 Main Content
 - 3.1 Development of library from 1AD to 20th century
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

In this unit, you will learn about the development of the library from 1AD to 20th century.

2.0 OBJECTIVES

By the end of the unit, you will be able to:

- discuss the library development from 1AD to 20th century
- mention significant development of libraries within the period covered.

3.0 MAIN CONTENT

3.1 Development of Library from 1AD to 20th century

Librarianship (1601 – 1799AD)

A great number of University libraries were established, collections and donations increased. Cataloguing skills improved, and there was noticeable advancement in book printing. Both public and special libraries were established. The ninety-one cataloguing rules were proposed by Antonio Genesio Maria Panizzi; the circulation library, and subscription library movement where people formed societies in which they subscribed to use the library were established.

Librarianship (1799-1849AD)

The Library of Congress (LC) established on April 24, 1800, has greatly influenced librarianship as a profession and libraries as an institution through its scheme of classification. In 1864, John Shaw Billings collected, accessioned and catalogued Army medical collections and set up the index catalogue that contained the catalogue. The Library of

Congress librarians were politically appointed; Herbert Putnam was adjudged the most capable librarian the institution has ever had. He printed cards for the LC catalogue and made it available to other librarians. He was responsible for the scheme of classification used in the library.

Librarianship (1849–1899 AD)

Edward Edwards, the father of the public library movement, was instrumental to the passage of the 1850 Act of Parliament for the establishment of public libraries and library associations in Great Britain, and the United States was enacted. The first lending and referencing public library that opened under the Act was the library of Manchester and Oxford on September 2, 1852. In 1882, a children's library section in the public library system was established in Nottingham. Librarianship as a profession progressed greatly in the year 1850 and 1876; the American library association was established with the mandate to foster the interests of Librarians; the American library journal was founded through the efforts of Frederick Leypoldt, R.R. Bowker and Melvin Dewey. C.A. Cutter published rules for a dictionary catalog in 1876, between 1891 and 1893, Cutter and Miss Kate Sanborn developed the Cutter-Sanborn table. The publication in 1876 by the United States of America Bureau of Education of "Public Libraries in the United States of America; their history, condition, and management, greatly motivated the public library movement and was regarded as one of the most interesting documents in the history of librarianship.

On February 16, 1877, E.W.B. Nicholson advocated for an international conference for librarians in London; 218 librarians representing 140 libraries were in attendance. James Duff Brown was a promoter of Open Access; he inaugurated, safeguarded open access and a card charging system at Clerkenwell library on May 1, 1894. John Lubbock was a promoter of library legislation that sailed through the House of Commons and was included in the 1892 Act.

The era witnessed the proliferation of numerous cataloguing codes as catalogers failed to reach a consensus on a single cataloguing code. In 1876, Melvin Dewey published Dewey's Decimal classification that was criticised because of the unequal development and arrangement of the subjects. This was ideal for the small and medium-sized public libraries. It was later reviewed by Brussels Institute and called the Universal Decimal Classification; it is popularly used by scientists to classify articles in periodicals and to arrange bibliographies. Other classification schemes are: Cutter's scheme of classification, Mnemonic system of classification, Quin- Brown system of classification later published as adjustable and the subject classifications.

Librarianship in the 20th century

Several papers were read during library association meetings and conferences that influenced the development of library works. These include: the coordination and development of library services; adoption of cooperative purchase by libraries; compilation of a register of professionals, qualified librarians. In 1904, Mevil Dewey proposed the Anglo-American cataloguing code and suggested the amalgamation of Library Association of UK and the American library association. This was actualised in 1908 when the cataloguing rules based on author and title entries were published. The first outline of the library of congress classification scheme was published in 1904 through the efforts of Dr. Herbert Putnam. Janes Duff Brown's subject classification scheme was published in 1906. Thomas W. Lyster facilitated the publication of subject index to periodicals in 1915 that became an annual publication of the library association.

Library associations were established during the period under consideration. Some of them are: the British medical library association; special libraries association in the united states; the Libraries Association of New Zealand, Finnish Library Association; and Norwegian Library Association. Several libraries, such as rural libraries, technical and commercial libraries, were established across the globe as the field of librarianship became more active.

The library system was adversely affected by the world war, as many librarians were called-up into the military. The demand for books increased and the American Library Association supplied the American troops with a well-trained librarian. The war revealed the inadequacies of the library systems and the crippling effect of the library rates, which was amended in the public libraries Act on December 23, 1919.

In 1929, the library association issued "a year's work in librarianship for 1928", which has been an annual progress report in the field of librarianship. India made remarkable progress in the improvement of the library method. Many library associations, such as the All-India Library Association, Baroda State Library Association, were established during this period. Library associations were established in other parts of the world too. Librarians engaged in correspondence training and sat for professional examinations.

Librarianship became more recognised as a profession. In 1933, Mr. S.R. Ranganathan published his colon classification consisting of capital letters, Arabic numerals, small letters, and the colon. On September 3, 1939, another war was declared, which affected libraries and librarianship as a profession. There was a rapid growth in information collections,

processing, storage, and dissemination in the 20th century, and other formats of information storage apart from the paper were developed.

Technological advancement redefined library management systems, library operations such as circulation were automated. The reference section was transformed from face-to-face to telephone-based to web-based tools. The global access to information via the web-enabled librarians to connect with library users beyond the walls of the library through social networks, online reference services, and video conferencing. Librarians were engaged in the digitization of library collections and provided access to e-books, e-journals, electronic databases, and digital images, audio, and video collections.

4.0 CONCLUSION

You have learned from this study unit, library development from 1AD to 20th century. The significant development in the library under the period reviewed was highlighted.

5.0 SUMMARY

This unit has exposed you to the development of the library from 1AD to 20th century. The significant developments during that period were also discussed.

6.0 TUTOR-MARKED ASSIGNMENT

1. How many public libraries were established in ancient Rome?
2. What led to the establishment of universities and colleges in the 18th century?
3. These old universities were located at _____, _____, _____, _____ and _____

7.0 REFERENCES/FURTHER READING

Lovely Professional University (2013). *Foundation of library and information science*. Retrieved from http://ebooks.lpude.in/library_and_info_sciences/DLIS/Year_1/DLIS001_FOUNDATION_OF_LIBRARY_AND_INFORMATION_SCIENCE.pdf

Lynn S.C. (2016, August) *Anticipating library user needs in 2030: Preparing for the next generation library* [Powerpoint presentation]. Paper presented at IFLA Columbus. Retrieved from <https://www.oclc.org/content/dam/oclc/events/2016/IFLA2016/presentations/Anticipating-Library-User-Needs-in-2030.pdf>

The Development of Libraries in the Ancient World (n.d.). In *Encyclopedia.com*. Retrieved from <https://www.encyclopedia.com/science/encyclopedias-almanacs-transcripts-and-maps/development-libraries-ancient-world>

The History of Libraries (n.d.). In *Encyclopedia Britannica*. Retrieved from <https://www.britannica.com/topic/library/The-Middle-Ages-and-the-Renaissance>

Zhang C. (2011). The origin and development of library. In Lin S., Huang X. (Eds), *Advances in Computer Science, Environment, Ecoinformatics, and Education*. CSEE 2011. *Communications in Computer and Information Science*. 215, 63–64. Springer, Berlin: Heidelberg. Retrieved from https://link.springer.com/chapter/10.1007/978-3-642-23324-1_12

UNIT 4 LIBRARIANSHIP FROM THE 21ST CENTURY TO THE NEXT GENERATION LIBRARIANS

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Librarianship from 21st century to next-generation librarians
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/ Further Reading

1.0 INTRODUCTION

In this unit, we will discuss Librarianship from the 21st century to the next generation Librarians. The characteristics of the 21st-century libraries will be highlighted, and the skills needed by the future generation librarians to function effectively will also be discussed.

2.0 OBJECTIVES

By the end of this unit, you will be able to:

- list the characteristics of the 21st century libraries
- discuss the skills needed by the future librarians in order to function effectively in the 21st century libraries.

3.0 MAIN CONTENT

3.1 Librarianship from 21st^t Century to next-generation librarians

Librarianship in the 21st century

Technological advancements revolutionised librarianship, librarian's job of sorting and providing information increased exponentially due to digital revolution. The internet has created a huge challenge of "information overload," and librarians are faced with the task of creating bibliographic databases, digital catalogues, and the use of barcodes to store books. Information retrieval tools known as search engines like google are on the increase, and librarians are constantly faced with the task of sorting information for library users among a myriad networked information junks.

Libraries engage in the provision of 24/7 services to patrons via the internet, as users read, download, print on the go. Several libraries have set up institutional repositories, open educational resources, and online catalogues moving from the era of automation to electronic.

The establishment of hybrid libraries and the introduction of ICT into library operations have provided new roles in information management, librarians are not just bookkeepers but now channel to numerous information sources. Librarians engage in the new patterns of work requiring new skills and are expected to accurately identify, process, and disseminate information quickly. There is a shift from information storage in physical books to CD-ROMS, memory cards, electronic books, electronic databases, and clouds. The manual delivery system by post has changed to electronic document delivery system and core library operations like cataloguing, circulation, information retrieval now online real-time.

Inventions such as expert systems, wireless networks, virtual collections, interactive web interfaces, virtual reference services, and web portals began in the 21st century. The user's information seeking pattern has changed; library patrons expect to get information from the library anywhere, anytime with the use of the latest modern gadgets. As a result, digital libraries were established to meet the need of the 21st century library users who are very proficient in the use of new technologies when accessing information. To remain relevant, librarians are expected to constantly engage in training, and be flexible, easily adapting to new trends and changes in the information and communication technology-driven age. They must be proficient in the application of technologies to library operations and services; knowledgeable in the use of computers, search engines, the internet, electronic mail, social media tools, and possess internet development and management skills.

Librarians engage in collaborations with professionals in related fields and have developed skills in creativity, innovation, critical thinking, and problem-solving. Librarianship has gone beyond waiting for users to seek information in the library, librarians connect, interact with users, and advocate for the library, now known as an information warehouse.

Library advocacy is done using web 2.0 technologies using social media tools, such as electronic mail, twitter, Instagram, Facebook, and mobile phones, by sending SMS (short message services).

Librarians engage in digital literacy programs, training people on how to use online collaboration tools, social media sites, and surfing safe online. They have taken up a new role as hybrid librarians, supporting users in both print and electronic-based environment. Librarian's metamorphosed

new designation includes but not limited to the following: information literacy/instructional technology librarian; instructional technology librarian; academic and data application librarian; web manager and instructional design librarian; systems librarian; instructional design librarian. In librarianship, the emphasis is now on collaborations, teamwork, communication skills, creative skills, and visionary skills development. The 21st century librarian is expected to be knowledgeable in the course management system, open-source software, web design, multimedia applications, and digital libraries. The role of the 21st century librarian includes learning facilitator, academic liaison and metadata specialist; whose responsibilities are the management of electronic information; resources evaluation; provision of access through gateways and digital libraries; and team building. Resource-based learning teams are the combination of the faculty, computing professionals, course designers, and web experts. Diversity of skills and technological proficiency are expected to thrive in such a hybrid environment.

As learning is shifting from knowledge transmission to knowledge building, libraries are also transiting into team-based, collaborative environment. Hence, the need for librarians to develop collaborating skills which is key to sustenance of knowledge-building community in any educational institution.

The Next Generation of Librarians

The proliferation of information on the internet compelled librarians to engage in collaborations, interactions, and the connection of users to good information. Focus has shifted from information delivery; librarians now concentrate on learning impact, leading users to right sources of information at the right time. There is a concentrated effort to put the users first before considering library collections. It has become a critical requirement for librarians to engage in lifelong learning to keep abreast with technological advancement.

Librarians introduce new technologies to students and teachers and provide tools for locating trusted information online. Insight, creativity, and innovation are essential when using new tools to engage users in the virtual space. These tools are used to disseminate information through media that support the diversity of learning. New library services marketing strategies are being developed to attract users in the virtual space, most especially the generation Z users that have been introduced to technology from infancy and are experts at locating information on the internet. Emphasis is placed on a community-based knowledge and resource sharing, and collaborations within libraries.

As the use patterns of physical collections continue to change, libraries shift more attention to the provision of a complete access to electronic

resources. Rather than building library structures, librarians focus more on building relationships with virtual library users residing in virtual space. Building a sustainable relationship with virtual library users requires that librarians are available when and where the request for library service is initiated. Deploying a ubiquitous modern library information acquisition, retrieval, processing, and dissemination platforms that are compatible with any hardware architecture in any type of miniature gadgets regularly rolled out by ever-evolving technologies is of paramount concern to the next generation librarians.

Librarians are contents instructors, providing answers to and helping users to find the missing links in the creation, evaluation, and production of contents. By deploying collaborative digital reference services, librarians provide solutions through an online remote virtual reference services such as, real-time online chats and Ask-a-Librarian.

Policies on storage, access, preservation of data, and the systems and services deployed in the distribution of processed data cannot be left in the hands of librarians alone, hence the need for partnership between librarians and the tech-savvy people who create, collect, analyse data sets. The next generation Librarians should focus on the context, that is, understanding user's ecosystem and culture to develop "learners" and not on contents that majored in developing "the learned." The secret to a strong and vibrant next generation Librarians would be meeting learners' needs and acquiring electronic safety skills that protect threats to library digital infrastructures, user's privacy, and rights to access qualitative information.

4.0 CONCLUSION

From what you have learned so far in this unit, you should be able to discuss the characteristics of librarianship from the 21st century to the next generation librarians. The skills needed by the next generation librarians in order to function effectively in this century were discussed.

5.0 SUMMARY

This unit has exposed the characteristics of the 21st century libraries and the next generation librarians. The skills needed by the next generation librarians to be relevant was discussed.

6.0 TUTOR-MARKED ASSIGNMENT

1. List three characteristics of the 21st century Libraries
2. Mention and discuss three skills needed by the next generation librarians in order to function effectively.

7.0 REFERENCES/FURTHER READING

- Ajay, K. (2008). *Foundation of Information Systems* [Powerpoint presentation]. Retrieved from <https://www4.comp.polyu.edu.hk/~csajaykr/introduction.pdf>
- AVC Distance Education. *Histories of libraries*. Retrieved from http://avconline.avc.edu/slee/PowerPoints/History_of_Libraries.pdf
- Lynn, S.C. (2016, August) *Anticipating library user needs in 2030: Preparing for the next generation library* [Powerpoint presentation]. Paper presented at IFLA Columbus. Retrieved from <https://www.oclc.org/content/dam/oclc/events/2016/IFLA2016/presentations/Anticipating-Library-User-Needs-in-2030.pdf>
- MBA Knowledge Base. (2019). *Components of an Information System*. Retrieved from <https://www.mbaknol.com/management-information-systems/components-of-an-information-system/>
- Muhammad I. M., &Widad M. E. (2012). *The changing philosophy of librarianship: an overview*. Retrieved from https://www.researchgate.net/publication/236821099_The_Changing_Philos

MODULE 1 THE PHILOSOPHY AND DEVELOPMENTS OF LIBRARIANSHIP

Unit 1:	Definition of Concepts
Unit 2	Early Stages of Library Development (1500 BC – I AD)
Unit 3	Development of Library (IAD – 20th Century)
Unit 4	Librarianship from 21st Century to Next Generation Librarians

UNIT 1 DEFINITION OF CONCEPTS

CONTENTS

1.0	Introduction
2.0	Objectives
3.0	Main Content
3.1	Definition of Concepts
4.0	Conclusion
5.0	Summary
6.0	Tutor-Marked Assignment
7.0	References/Further Reading

1.0 INTRODUCTION

The views and developmental stages in librarianship over the years shall be considered in this module. Librarianship, as a profession, deals with knowledge organisation. Libraries organise knowledge for easy retrieval and use. Libraries organise human knowledge with an emphasis on preservation or conservation of knowledge until the 20th century when librarians started performing an active role in the dissemination of information, and users got personal attention. In the 21st century, a more social approach to collaboration and sharing began to emerge. The various methods used for this purpose are: cataloguing, classification, indexing, abstracting, bibliography, record management, and knowledge management. The advancement in technologies, especially the Internet, World Wide Web (WWW), and prevailing Web 2.0 have made a magnificent impact on knowledge organisation. It has changed the role of the library from a storehouse to information resource center, and the role of a librarian from conservator to disseminator and collaborator of knowledge.

2.0 OBJECTIVES

By the end of this unit, you will be able to:

- define the library, information, systems, institutions, and services
- mention how these terms affect the services in the library.

3.0 MAIN CONTENT

3.1 Definition of Concepts

Library Introduction

The word Library means "a collection of books for study, research, reference, and recreation." It is derived from the Latin word 'liber' which means 'a book.' The Harrold's Librarians' Glossary and Reference Book explains library as: "A physical space such as a building, part of a building, room or rooms or such a place having collection or collections of the intellectual or literary output of society such as manuscripts, books, periodicals, newspapers, pamphlets, written or printed records, tape, artefacts or any literary and artistic materials for reading, reference, or lending purpose." Ranganathan says, "a library is a public institution or establishment charged with the care of collection of books and the duty of making them accessible to those who require using them." The term 'book' refers to the library collection, which may be books, periodicals, or any other material kept in a library.

Information

Information is a meaningfully processed data. It can be defined as the combination of well-organised sets of data. Data are raw facts; for example, data could be alpha (i.e., letters) numeric (numbers), alphanumeric (a combination of letters and numbers), audio, video, and graphics. For information to be valuable or meaningful, it must be accessible, accurate, timely, complete, cost-effective, flexible, reliable, relevant, simple, verifiable, and secure.

Systems

This is a set of interrelated components, with a clearly defined boundary, working together to achieve a common set of objectives.

Institutions

This is a social structure in which people cooperate and which influences the behaviour of people and the way they live. It is an establishment, foundation, or organisation created to pursue an endeavor, such as the library.

Services

The action of helping or doing work for someone. The occupation of the function of serving.

Information System (IS)

An information system is a collection of hardware, software, and people working together to collect, store, sort, and process information. It is a set of interrelated components that collect, manipulate, store, and disseminate data and information and provide feedback to meet an objective.

Information Institutions

There are organisations that are charged with the responsibility of providing resources and services to meet the educational, informational, cultural, and recreational needs of their clients.

Information Services

This is the system of keeping records, forms, statistics, and data. It is a service that provides information.

4.0 CONCLUSION

This unit acquainted you with what foundations of library and information system, institutions, and services in the library are all about. The unit has discussed the definition and concepts in the foundation of library and information systems. This has placed you on a better footing for this all-important course, which you cannot do without asking a professional librarian to guide you.

5.0 SUMMARY

In this unit, you have been introduced to the definitions of concepts of a library, information systems, institutions, and services in libraries. Their roles in the successful running of the library were also discussed.

6.0 TUTOR-MARKED ASSIGNMENT

1. Define the library.
2. Define information systems and their roles in the library.
3. What is the meaning of services in the library system?

7.0 REFERENCES/FURTHER READING

Ajay K. (2008). *Foundation of Information Systems* [Powerpoint presentation]. Retrieved from <https://www4.comp.polyu.edu.hk/~csajaykr/introduction.pdf>

AVC Distance Education. *Histories of libraries*. Retrieved from http://avconline.avc.edu/slee/PowerPoints/History_of_Libraries.pdf

Information Institution. (n.d.). In *Pages.gseis*. Retrieved June 14, 2019 from <https://pages.gseis.ucla.edu/faculty/maack/IS287.htm>

Information Services. (n.d.). In *Collinsdictionary*. Retrieved June 14, 2019 from <https://www.collinsdictionary.com/dictionary/english/information-service>

Information Services. (n.d.). In *Yourdictionary*. Retrieved June 14, 2019 from <https://www.yourdictionary.com/information-services>

Jason K., Katerina O., & Greg W. (Eds.). (2013). *Ancient Libraries*. Retrieved from <https://www.cambridge.org/core/books/ancient-libraries/5333C8AFDCC74B8F0EA3EF0C49163DC7>

UNIT 2 EARLY STAGES OF LIBRARY DEVELOPMENT (1500 BC-1 AD)

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Early Stages of Library development from 1500B.C to 1AD
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

In the last unit, you read through the definition of concepts, what the foundation of library and information systems, institutions, and services are.

The meaning of library, institutions, information, systems and services. In this unit we are going to discuss the early stages of library development from 1500 BC to 1AD.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- discuss the early stages of library development from 1500 BC to 1AD
- enumerate some significant developments made during the period under review

3.0 MAIN CONTENT

3.1 Early Stages of Library development from 1500BC to 1AD

Librarianship before 1500BC

This history has been neglected for decades, and books on this subject are rarely available. Some historical periods are blank with little or no records about such a period. Information gathered through archaeological excavations shed more light on the knowledge of ancient librarianship. However, some of the information lack concrete evidence due to disjointed or missing data as several ancient libraries were invaded and collections destroyed by fire. In some cases, the invaders looted and carried invaluable collections to enrich their libraries.

Books in the early libraries were manuscripts. These manuscripts were duplicated by hand; monasteries and religious organisations played important roles in the preservation of these manuscripts. Though many ancient libraries were destroyed by invaders, in some kingdom, yet libraries flourished.

The history of librarianship is based on scanty inconsistent evidence of collections of manuscripts having marks that revealed their origin, which can be dated through their calligraphy.

Librarianship (1500-01BC)

There were records of the collection of teeth, necklaces, message sticks, hunter's trophies, tattooing, and quipus during this era. Quipus or knitted cords were used in countries like China, Mexico, and Peru. All these items were classified as museum pieces. According to late Sir Gratton Elliot Smith, libraries began from the beginning of civilization dated back in 4000B.C. in Egypt. Pictorial writings and drawing on the wall of caves were common, while non-pictorial writing began around 3400B.C. in Egypt. The use and collections of hand-written clay tablets used for storing information to form libraries began between 2000B.C. and 1600B.C. In Egypt, the stems of papyrus plants were used in storing information; it became popular as the use of clay tablets gradually stopped.

Eumenes II of Pergamum, the great collector of literature, started the use of parchment, which later displaced papyrus as a writing material. Parchments were made from animal skin, information was written on both sides, which made it very popular. This heralds the beginning of the codex form of a book. Bookbinding started in ancient Egypt; papyrus was gummed together to form boards; it was later transformed to books using the Coptic style of binding. About the year 275B.C., the codex form of the book was produced by a librarian in the famous Alexandrian Library by cutting rolls of papyrus or parchment.

The first libraries (though the date of introduction is still undetermined) had collections of clay tablets, as those of Ashurbanipal at Nineveh or of papyrus (introduced around 2200B.C) in the Alexandrian Library. Shalmaneser I founded the first Assyrian library in 1300B.C. at Calah, while the most famous royal library at Nineveh was founded in the year 700B.C. After excavating the palace in 1850, sir Henry A. Layard discovered rooms filled with inscribed tablets that form part of the library of the temple of Nebo. In 1853, Rassam H. discovered another Library belonging to Ashurbanipal.

The history of libraries in Egypt is unclear as the dates of the foundation are unknown. There were libraries housing numerous collections of

books manned by scribes who were librarians in different palaces and temples. Ptolemy Philadelphus who established the Alexandrian Library in 250BC, which had great collections of books and became the centre of culture and centre from which standard editions of literacy works were issued. The Library had 700,000 volumes of rolls of papyrus before it was destroyed in 47B.C. Callimachus (300 – 240BC) the poet and philosopher cut rolls to form books and compiled a catalogue called pinakes, consisting of 120 rolls of papyrus. He developed a classification scheme consisting of the following main classes: Philosophers; Lawmakers; Historians; Orators; Poets; and Miscellaneous writers.

Early librarians in Alexandrian library include Zenodatus Demetrius of Phalerum, Eratosthenes, Apollonius, Aristophanes of Byzantium, Lycophon of Chalcis, Alexander ætolus, and Aristarchus of Samothrace. The Ptolemies were great collectors of books. The acquisition method used by Ptolemy Energetes to stock the library was by duplicating original manuscripts acquired from writers, then return the duplicated copy with money to the writers while keeping the original in his Library. The first Library in Rome was established in 167BC by æmilus Paulus. Excavated ancient Libraries revealed collections of rolls with tabs attached to them and hung down from shelves with explanations of the contents of the rolls. Catalogues were seen carved on library walls.

Librarianship from 01 to 1601AD

Librarianship (01 – 1065AD)

The earliest Library regulations were discovered in an excavated Library in Athens, which reads, “No book shall be taken out, since we have sworn an oath to that effect. It will be open from the first hour until the sixth [i.e., sunrise to noon]”

By the fourth century, Rome had 29 public libraries, and at the end of the fourth century, Pope Damascus built Chartarium Ecclesiae Romanae, which herald the beginning of Bibliotheca Vaticana, and archives stored until the seventh century. Most of these libraries were destroyed between AD 400 and 500. Many centuries witnessed the rise and fall of libraries, but the monasteries continued to devote time to copying from borrowed collections of books.

Librarianship (1065 – 1447AD)

The Norman conquest resulted into the growth of scholarship in England. Monasteries, Cathedrals, Abbeys, and other religious institutions began to establish libraries, books collections increased, and different types of catalogues were compiled. This gave birth to the establishment of Universities and Colleges that housed libraries with books chained and stored in the chest. By the middle of the 18th century, library collections had grown in the UK to about 30,000 printed books and 2,000

manuscripts. Universities were established in other countries of the world. These include the University of Prague; Cracow; Salamanca; Spain; and Heidelberg.

Librarianship (1447 – 1601AD)

The advent of printing increased the production of books that were previously hand-written. Libraries collections grew, catalogues increased in number, more libraries established, and literature became cheaper. Catalogues became useful in identifying the size of libraries and the volume of their collections. In 1560, Florian Trefler proposed that library should have at least five catalogues: an author catalogue; a classified catalogue arranged as books on the shelves; a subject index to the contents of the books complete with an alphabetical index; and a list of books in the reserve stock. In 1608, Borner compiled and published a catalogue of manuscripts collections from the monastic libraries. The period under review witnessed the dissolution of monasteries library by Henry VIII, 1537-9, and series of war among nations; the peasants war in Germany, 1525, the Huguenot wars in France, between 1561 and 1589. These events affected the history of Librarianship negatively; accumulated intellectual collections of about 800 years were destroyed. However, private collections were not affected.

4.0 CONCLUSION

From what you have learned so far in this unit, you should be able to discuss the early stages of library development from 1500BC – 1AD. You should also be able to highlight significant developments in the library during the period under review.

5.0 SUMMARY

This unit has exposed the early stages of library development from 1500BC to 1AD. It also highlighted the significant developments made in the library during the period under review.

6.0 TUTOR-MARKED ASSIGNMENT

1. What are the characteristics of libraries under this period (150BC-1AD)?
2. What country first introduced the art of writing?

7.0 REFERENCES/FURTHER READING

John L.T. (1941). *The chronology of librarianship: An introduction to the history of libraries and book-collecting*. Retrieved from <https://archive.org/details/chronologyoflibr007954mbp/page/n10>

- Krasner-Khait B. (2007, March). *Survivor: The history of the library*. History Magazine. Retrieved from <https://www.history-magazine.com/libraries.html>
- The Development of Libraries in the Ancient World (n.d.). In *Encyclopedia.com*. Retrieved from <https://www.encyclopedia.com/science/encyclopedias-almanacs-transcripts-and-maps/development-libraries-ancient-world>
- The History of Libraries (n.d.). In *Encyclopedia Britannica*. Retrieved from <https://www.britannica.com/topic/library/The-Middle-Ages-and-the-Renaissance>
- Zhang, C. (2011). The origin and development of library. In Lin S., Huang X. (Eds), *Advances in Computer Science, Environment, Ecoinformatics, and Education*. CSEE 2011. *Communications in Computer and Information Science*. 215, 63–64. Springer, Berlin: Heidelberg. Retrieved from https://link.springer.com/chapter/10.1007/978-3-642-23324-1_12

UNIT 3 DEVELOPMENT OF LIBRARY FROM 1AD TO 20TH CENTURY

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Development of library from 1AD to 20th century
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

In this unit, you will learn about the development of the library from 1AD to 20th century.

2.0 OBJECTIVES

By the end of the unit, you will be able to:

- discuss the library development from 1AD to 20th century
- mention significant development of libraries within the period covered.

3.0 MAIN CONTENT

3.1 Development of Library from 1AD to 20th century

Librarianship (1601 – 1799AD)

A great number of University libraries were established, collections and donations increased. Cataloguing skills improved, and there was noticeable advancement in book printing. Both public and special libraries were established. The ninety-one cataloguing rules were proposed by Antonio Genesio Maria Panizzi; the circulation library, and subscription library movement where people formed societies in which they subscribed to use the library were established.

Librarianship (1799-1849AD)

The Library of Congress (LC) established on April 24, 1800, has greatly influenced librarianship as a profession and libraries as an institution through its scheme of classification. In 1864, John Shaw Billings collected, accessioned and catalogued Army medical collections and set up the index catalogue that contained the catalogue. The Library of

Congress librarians were politically appointed; Herbert Putnam was adjudged the most capable librarian the institution has ever had. He printed cards for the LC catalogue and made it available to other librarians. He was responsible for the scheme of classification used in the library.

Librarianship (1849–1899 AD)

Edward Edwards, the father of the public library movement, was instrumental to the passage of the 1850 Act of Parliament for the establishment of public libraries and library associations in Great Britain, and the United States was enacted. The first lending and referencing public library that opened under the Act was the library of Manchester and Oxford on September 2, 1852. In 1882, a children's library section in the public library system was established in Nottingham. Librarianship as a profession progressed greatly in the year 1850 and 1876; the American library association was established with the mandate to foster the interests of Librarians; the American library journal was founded through the efforts of Frederick Leypoldt, R.R. Bowker and Melvin Dewey. C.A. Cutter published rules for a dictionary catalog in 1876, between 1891 and 1893, Cutter and Miss Kate Sanborn developed the Cutter-Sanborn table. The publication in 1876 by the United States of America Bureau of Education of "Public Libraries in the United States of America; their history, condition, and management, greatly motivated the public library movement and was regarded as one of the most interesting documents in the history of librarianship.

On February 16, 1877, E.W.B. Nicholson advocated for an international conference for librarians in London; 218 librarians representing 140 libraries were in attendance. James Duff Brown was a promoter of Open Access; he inaugurated, safeguarded open access and a card charging system at Clerkenwell library on May 1, 1894. John Lubbock was a promoter of library legislation that sailed through the House of Commons and was included in the 1892 Act.

The era witnessed the proliferation of numerous cataloguing codes as catalogers failed to reach a consensus on a single cataloguing code. In 1876, Melvin Dewey published Dewey's Decimal classification that was criticised because of the unequal development and arrangement of the subjects. This was ideal for the small and medium-sized public libraries. It was later reviewed by Brussels Institute and called the Universal Decimal Classification; it is popularly used by scientists to classify articles in periodicals and to arrange bibliographies. Other classification schemes are: Cutter's scheme of classification, Mnemonic system of classification, Quin- Brown system of classification later published as adjustable and the subject classifications.

Librarianship in the 20th century

Several papers were read during library association meetings and conferences that influenced the development of library works. These include: the coordination and development of library services; adoption of cooperative purchase by libraries; compilation of a register of professionals, qualified librarians. In 1904, Mevil Dewey proposed the Anglo-American cataloguing code and suggested the amalgamation of Library Association of UK and the American library association. This was actualised in 1908 when the cataloguing rules based on author and title entries were published. The first outline of the library of congress classification scheme was published in 1904 through the efforts of Dr. Herbert Putnam. Janes Duff Brown's subject classification scheme was published in 1906. Thomas W. Lyster facilitated the publication of subject index to periodicals in 1915 that became an annual publication of the library association.

Library associations were established during the period under consideration. Some of them are: the British medical library association; special libraries association in the united states; the Libraries Association of New Zealand, Finnish Library Association; and Norwegian Library Association. Several libraries, such as rural libraries, technical and commercial libraries, were established across the globe as the field of librarianship became more active.

The library system was adversely affected by the world war, as many librarians were called-up into the military. The demand for books increased and the American Library Association supplied the American troops with a well-trained librarian. The war revealed the inadequacies of the library systems and the crippling effect of the library rates, which was amended in the public libraries Act on December 23, 1919.

In 1929, the library association issued "a year's work in librarianship for 1928", which has been an annual progress report in the field of librarianship. India made remarkable progress in the improvement of the library method. Many library associations, such as the All-India Library Association, Baroda State Library Association, were established during this period. Library associations were established in other parts of the world too. Librarians engaged in correspondence training and sat for professional examinations.

Librarianship became more recognised as a profession. In 1933, Mr. S.R. Ranganathan published his colon classification consisting of capital letters, Arabic numerals, small letters, and the colon. On September 3, 1939, another war was declared, which affected libraries and librarianship as a profession. There was a rapid growth in information collections,

processing, storage, and dissemination in the 20th century, and other formats of information storage apart from the paper were developed.

Technological advancement redefined library management systems, library operations such as circulation were automated. The reference section was transformed from face-to-face to telephone-based to web-based tools. The global access to information via the web-enabled librarians to connect with library users beyond the walls of the library through social networks, online reference services, and video conferencing. Librarians were engaged in the digitization of library collections and provided access to e-books, e-journals, electronic databases, and digital images, audio, and video collections.

4.0 CONCLUSION

You have learned from this study unit, library development from 1AD to 20th century. The significant development in the library under the period reviewed was highlighted.

5.0 SUMMARY

This unit has exposed you to the development of the library from 1AD to 20th century. The significant developments during that period were also discussed.

6.0 TUTOR-MARKED ASSIGNMENT

1. How many public libraries were established in ancient Rome?
2. What led to the establishment of universities and colleges in the 18th century?
3. These old universities were located at _____, _____, _____, _____ and _____

7.0 REFERENCES/FURTHER READING

Lovely Professional University (2013). *Foundation of library and information science*. Retrieved from http://ebooks.lpude.in/library_and_info_sciences/DLIS/Year_1/DLIS001_FOUNDATION_OF_LIBRARY_AND_INFORMATION_SCIENCE.pdf

Lynn S.C. (2016, August) *Anticipating library user needs in 2030: Preparing for the next generation library* [Powerpoint presentation]. Paper presented at IFLA Columbus. Retrieved from <https://www.oclc.org/content/dam/oclc/events/2016/IFLA2016/presentations/Anticipating-Library-User-Needs-in-2030.pdf>

The Development of Libraries in the Ancient World (n.d.). In *Encyclopedia.com*. Retrieved from <https://www.encyclopedia.com/science/encyclopedias-almanacs-transcripts-and-maps/development-libraries-ancient-world>

The History of Libraries (n.d.). In *Encyclopedia Britannica*. Retrieved from <https://www.britannica.com/topic/library/The-Middle-Ages-and-the-Renaissance>

Zhang C. (2011). The origin and development of library. In Lin S., Huang X. (Eds), *Advances in Computer Science, Environment, Ecoinformatics, and Education*. CSEE 2011. *Communications in Computer and Information Science*. 215, 63–64. Springer, Berlin: Heidelberg. Retrieved from https://link.springer.com/chapter/10.1007/978-3-642-23324-1_12

UNIT 4 LIBRARIANSHIP FROM THE 21ST CENTURY TO THE NEXT GENERATION LIBRARIANS

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Librarianship from 21st century to next-generation librarians
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/ Further Reading

1.0 INTRODUCTION

In this unit, we will discuss Librarianship from the 21st century to the next generation Librarians. The characteristics of the 21st-century libraries will be highlighted, and the skills needed by the future generation librarians to function effectively will also be discussed.

2.0 OBJECTIVES

By the end of this unit, you will be able to:

- list the characteristics of the 21st century libraries
- discuss the skills needed by the future librarians in order to function effectively in the 21st century libraries.

3.0 MAIN CONTENT

3.1 Librarianship from 21st^t Century to next-generation librarians

Librarianship in the 21st century

Technological advancements revolutionised librarianship, librarian's job of sorting and providing information increased exponentially due to digital revolution. The internet has created a huge challenge of "information overload," and librarians are faced with the task of creating bibliographic databases, digital catalogues, and the use of barcodes to store books. Information retrieval tools known as search engines like google are on the increase, and librarians are constantly faced with the task of sorting information for library users among a myriad networked information junks.

Libraries engage in the provision of 24/7 services to patrons via the internet, as users read, download, print on the go. Several libraries have set up institutional repositories, open educational resources, and online catalogues moving from the era of automation to electronic.

The establishment of hybrid libraries and the introduction of ICT into library operations have provided new roles in information management, librarians are not just bookkeepers but now channel to numerous information sources. Librarians engage in the new patterns of work requiring new skills and are expected to accurately identify, process, and disseminate information quickly. There is a shift from information storage in physical books to CD-ROMS, memory cards, electronic books, electronic databases, and clouds. The manual delivery system by post has changed to electronic document delivery system and core library operations like cataloguing, circulation, information retrieval now online real-time.

Inventions such as expert systems, wireless networks, virtual collections, interactive web interfaces, virtual reference services, and web portals began in the 21st century. The user's information seeking pattern has changed; library patrons expect to get information from the library anywhere, anytime with the use of the latest modern gadgets. As a result, digital libraries were established to meet the need of the 21st century library users who are very proficient in the use of new technologies when accessing information. To remain relevant, librarians are expected to constantly engage in training, and be flexible, easily adapting to new trends and changes in the information and communication technology-driven age. They must be proficient in the application of technologies to library operations and services; knowledgeable in the use of computers, search engines, the internet, electronic mail, social media tools, and possess internet development and management skills.

Librarians engage in collaborations with professionals in related fields and have developed skills in creativity, innovation, critical thinking, and problem-solving. Librarianship has gone beyond waiting for users to seek information in the library, librarians connect, interact with users, and advocate for the library, now known as an information warehouse.

Library advocacy is done using web 2.0 technologies using social media tools, such as electronic mail, twitter, Instagram, Facebook, and mobile phones, by sending SMS (short message services).

Librarians engage in digital literacy programs, training people on how to use online collaboration tools, social media sites, and surfing safe online. They have taken up a new role as hybrid librarians, supporting users in both print and electronic-based environment. Librarian's metamorphosed

new designation includes but not limited to the following: information literacy/instructional technology librarian; instructional technology librarian; academic and data application librarian; web manager and instructional design librarian; systems librarian; instructional design librarian. In librarianship, the emphasis is now on collaborations, teamwork, communication skills, creative skills, and visionary skills development. The 21st century librarian is expected to be knowledgeable in the course management system, open-source software, web design, multimedia applications, and digital libraries. The role of the 21st century librarian includes learning facilitator, academic liaison and metadata specialist; whose responsibilities are the management of electronic information; resources evaluation; provision of access through gateways and digital libraries; and team building. Resource-based learning teams are the combination of the faculty, computing professionals, course designers, and web experts. Diversity of skills and technological proficiency are expected to thrive in such a hybrid environment.

As learning is shifting from knowledge transmission to knowledge building, libraries are also transiting into team-based, collaborative environment. Hence, the need for librarians to develop collaborating skills which is key to sustenance of knowledge-building community in any educational institution.

The Next Generation of Librarians

The proliferation of information on the internet compelled librarians to engage in collaborations, interactions, and the connection of users to good information. Focus has shifted from information delivery; librarians now concentrate on learning impact, leading users to right sources of information at the right time. There is a concentrated effort to put the users first before considering library collections. It has become a critical requirement for librarians to engage in lifelong learning to keep abreast with technological advancement.

Librarians introduce new technologies to students and teachers and provide tools for locating trusted information online. Insight, creativity, and innovation are essential when using new tools to engage users in the virtual space. These tools are used to disseminate information through media that support the diversity of learning. New library services marketing strategies are being developed to attract users in the virtual space, most especially the generation Z users that have been introduced to technology from infancy and are experts at locating information on the internet. Emphasis is placed on a community-based knowledge and resource sharing, and collaborations within libraries.

As the use patterns of physical collections continue to change, libraries shift more attention to the provision of a complete access to electronic

resources. Rather than building library structures, librarians focus more on building relationships with virtual library users residing in virtual space. Building a sustainable relationship with virtual library users requires that librarians are available when and where the request for library service is initiated. Deploying a ubiquitous modern library information acquisition, retrieval, processing, and dissemination platforms that are compatible with any hardware architecture in any type of miniature gadgets regularly rolled out by ever-evolving technologies is of paramount concern to the next generation librarians.

Librarians are contents instructors, providing answers to and helping users to find the missing links in the creation, evaluation, and production of contents. By deploying collaborative digital reference services, librarians provide solutions through an online remote virtual reference services such as, real-time online chats and Ask-a-Librarian.

Policies on storage, access, preservation of data, and the systems and services deployed in the distribution of processed data cannot be left in the hands of librarians alone, hence the need for partnership between librarians and the tech-savvy people who create, collect, analyse data sets. The next generation Librarians should focus on the context, that is, understanding user's ecosystem and culture to develop "learners" and not on contents that majored in developing "the learned." The secret to a strong and vibrant next generation Librarians would be meeting learners' needs and acquiring electronic safety skills that protect threats to library digital infrastructures, user's privacy, and rights to access qualitative information.

4.0 CONCLUSION

From what you have learned so far in this unit, you should be able to discuss the characteristics of librarianship from the 21st century to the next generation librarians. The skills needed by the next generation librarians in order to function effectively in this century were discussed.

5.0 SUMMARY

This unit has exposed the characteristics of the 21st century libraries and the next generation librarians. The skills needed by the next generation librarians to be relevant was discussed.

6.0 TUTOR-MARKED ASSIGNMENT

1. List three characteristics of the 21st century Libraries
2. Mention and discuss three skills needed by the next generation librarians in order to function effectively.

7.0 REFERENCES/FURTHER READING

- Ajay, K. (2008). *Foundation of Information Systems* [Powerpoint presentation]. Retrieved from <https://www4.comp.polyu.edu.hk/~csajaykr/introduction.pdf>
- AVC Distance Education. *Histories of libraries*. Retrieved from http://avconline.avc.edu/slee/PowerPoints/History_of_Libraries.pdf
- Lynn, S.C. (2016, August) *Anticipating library user needs in 2030: Preparing for the next generation library* [Powerpoint presentation]. Paper presented at IFLA Columbus. Retrieved from <https://www.oclc.org/content/dam/oclc/events/2016/IFLA2016/presentations/Anticipating-Library-User-Needs-in-2030.pdf>
- MBA Knowledge Base. (2019). *Components of an Information System*. Retrieved from <https://www.mbaknol.com/management-information-systems/components-of-an-information-system/>
- Muhammad I. M., &Widad M. E. (2012). *The changing philosophy of librarianship: an overview*. Retrieved from https://www.researchgate.net/publication/236821099_The_Changing_Philos

MODULE 2 THE HISTORICAL AND DEVELOPMENTAL STAGES OF LIBRARIES

- Unit 1 The Alexandrian Era and the Monarchial Era to the Invention of the Printing Machine
- Unit 2 The Libraries after the Invention of the Printing Press (16th, 19th, 20th and 21st Century)

UNIT 1 THE ALEXANDRIAN ERA AND THE MONARCHIAL ERA TO THE INVENTION OF PRINTING MACHINE

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 The Alexandrian Era
 - 3.2 The Monarchial Era to the Invention of the Printing Machine
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

The history of libraries began with the first efforts to organise collections of documents. In ancient times, there was no significant difference between record rooms (or archive) and libraries. Libraries existed since records were kept. Several collections were destroyed during wars or taken as trophies of war from one kingdom to another or burnt by rulers when kingdoms fell. The recognition and development of Libraries began when writing was invented between 5,500 and 6,000 years ago in Mesopotamia and Egypt. Other scripts were invented by the Minoans of Crete 5,000 years ago, the Hittites in Anatolia (modern Turkey) about 4,000 years ago, and China about 3,500 years ago. The Sumerians in Mesopotamia developed the first writing system. Along the riverbanks, they found both clay and reeds. Pressing the end of a reed into wet clay made a distinct mark that remained after the clay dried. Sumerian writing, called cuneiform, was wedge-shaped because the reeds were roughly three-sided. Egyptian writing, called hieroglyphics, was done with a reed stylus, which was dipped in ink. The stylus was then pressed onto a flat sheet made from papyrus, which grew in marshes along the Nile River. To make the papyrus sheet, the stalk was peeled, cut into strips, and

pressed flat to form long scrolls of writing material. Both cuneiform and hieroglyphics developed from pictures that soon evolved into symbols as scribes refined the language. As the number of records increased, the need arose for storage places where they could be preserved and made available for use.

2.0 OBJECTIVES

By the end of this unit, you will be able to:

- discuss the growth of libraries from the Alexandrian and monarchial eras
- enumerate the effects of the invention of the printing machine on the growth of libraries.

3.0 MAIN CONTENT

3.1 The Alexandrian and Monarchial Eras

Alexander the Great founded a library in 332B.C. in the city of Alexandria along the Nile River. In the third century, Egyptian rulers developed the Alexandrian library and named it Alexandria Museum, which was used for teaching and the execution of scientific research. Scrolls were acquired from scholars and collectors, copied and stored in the library.

The collection of written information on clay tablets began over 5000 years ago. The earliest known libraries were established in 3200 B.C. and resided in the king's palace and temples. These libraries were referred to as the "house of writing" or "place of records of the palace of the king" and contained important records and documents. Archaeologists discovered papyrus scrolls written between 1300 – 1200 B.C. in Amarna and Thebes and numerous clay tablets in the palace of King Sennacherib of Assyria at Nineveh. The storehouse of these repositories later became a library. The Library of Ashurbanipal, King of Assyria in Nineveh, had collections of tablets containing the history and culture of ancient Mesopotamia and other scholastic materials in mathematics, chemistry, cosmology, and botany.

In 2000 B.C., the ancient Egypt elites began to establish private libraries. Temples became institutions of learning, scholars, and scribes (now librarians) were trained to read and write in hieroglyphics (Egyptian's official language) and learned over 2000 hieroglyphics characters. Temples library had collections in religious writings, technical writings, histories, literatures, and practical knowledge specific to fields of study and work.

The Greeks developed the alphabet and tried to replace Egyptian culture, writings, and history with Greek culture. The quest for knowledge by the Greeks propelled the establishment of libraries that flourished through a well-organised process. There exist the authors of books – the books publishers called scriptoria – and the book sellers. Books were duplicated by hand, and the quality of a book was measured by the degree of copy accuracy known as trustworthiness. In the 6th century (500 -599 B.C.) the Greeks established the first libraries in Athens and Samos, the libraries in Athens were influenced by Aristotle, Plato, and other philosophical schools. In the 4th century, precisely 331 B.C., Alexandria the great established the first world's great library, the center of scholarship in the Greco-Roman world, considered a university whose collections were acquired through conquest and spoils of war.

In 284 B.C., Ptolemy I inaugurated the Alexandrian Museum and Library while Ptolemy II increased the library collections by acquiring Aristotle's private library. By 250 B.C., Alexandrian main library had about 490,000 collections of rolls while its outer library had 42,800 rolls. In 260 B.C., the library developed a catalogue containing ten main subject areas: Poetry, Drama, Laws, Philosophy, History, Oratory, Medicine, Mathematical Science, Natural Science, and Miscellanea. The library also had alphabetical author index comprising Name, Place of Birth, Name of Father, Name of Teachers, Nicknames, and Bibliography. The destruction of the Alexandrian library took place between the 1st century B.C. and the 4th century A.D.

3.2 Monarchial Era to the Invention of Printing Machine

The rise of Christianity in 391 A.D. gave birth to monasteries who began books collection by the end of the 5th century. The monks collected both secular and religious materials and dedicated themselves to the discovery of knowledge not available elsewhere. The monks copied books by hand; this method was also adopted by Italy, France, and other parts of Europe. In the 2nd century A.D., scholars and teachers began to form guilds that led to the establishment of universities and faculties were created. Approval was obtained from kings or pope for the establishment of universities. These universities had no librarians, teachers own book collections, and loaned students to read or copy.

The first university library was established in Europe at the University of Paris in 1250 through the donation of Robert de Sorbon private library. By 1289, the library had acquired over 1000 titles arranged in ten major subject categories. A reference section was late's created, having collections chained to the shelves, and copies of the collections were placed in the circulation section.

Paper was invented in the 2nd century (105 A.D.) by Ts'aiLun of China, a eunuch of the emperor Ho Ti during the Han Dynasty. The first paper mill was built in Spain in 1150, and the production of paper spread to Italy, France, and Germany by 1411. Johannes Gutenberg invented the printing machine in 1439, and in 1454 he printed a 42-line Bible. By 1475, printing had spread to other European countries, and cities like Paris and London became the centers of printing.

4.0 CONCLUSION

We have discussed in detail the growth of libraries in the Alexandria and Monarchial eras. The effects of the invention of the printing machine on the growth of libraries were highlighted.

5.0 SUMMARY

In this unit, the Alexandrian and monarchial eras were discussed. The effects of the invention of the printing machine on the growth of libraries were highlighted and explained.

6.0 TUTOR-MARKED ASSIGNMENT

1. List three effects of the invention of the printing machine on the growth of libraries.
2. Where can the Alexandria library be found today?

7.0 REFERENCES/FURTHER READING

Ajay K. (2008). *Foundation of Information Systems* [Powerpoint presentation]. Retrieved from <https://www4.comp.polyu.edu.hk/~csajaykr/introduction.pdf>

AVC Distance Education. *Histories of libraries*. Retrieved from http://avconline.avc.edu/slee/PowerPoints/History_of_Libraries.pdf

Information Institution. (n.d.). In *Pages.gseis*. Retrieved June 14, 2019 from <https://pages.gseis.ucla.edu/faculty/maack/IS287.htm>

Information Services. (n.d.). In *Collinsdictionary*. Retrieved June 14, 2019 from <https://www.collinsdictionary.com/dictionary/english/information-service>

Information Services. (n.d.). In *Yourdictionary*. Retrieved June 14, 2019 from <https://www.yourdictionary.com/information-services>

UNIT 2 THE LIBRARIES AFTER THE INVENTION OF PRINTING PRESS (16TH, 19TH, 20TH AND 21ST CENTURY)

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 The Sixteenth and Nineteen-Century Libraries
 - 3.2 The Twentieth and Twenty-first Century Libraries
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

This unit will look at the libraries after the invention of the printing press. The effects of the invention of the printing press on the growth of libraries from the 16th to the 21st century will be discussed.

2.0 OBJECTIVES

By the end of this unit, you will be able to:

- discuss the effects of the intervention of the printing press on the growth of libraries
- list and discuss three effects of the intervention of computers on library services.

3.0 MAIN CONTENT

3.1 Sixteenth and Nineteenth-Century Libraries

In the 16th-century Public Reference Libraries emerged, European government took over many religious and private libraries and converted them to Public libraries. After the 1792 revolution, France confiscated over eight million books and deployed them to the public libraries.

In 1725, Rental libraries sprang up in the United Kingdom; they were public libraries that charged a fee to borrow books and were managed by booksellers. In the late 18th century, Subscription libraries owned by book clubs (Lyceums or Reading society) of wealthy men were founded. Every member of the Lyceum paid a monthly due. In 1731, Benjamin Franklin

in the USA established a subscription library where members paid 40 shillings to join.

It was difficult managing libraries in the 19th century due to the inadequacy of funds for the acquisition, increased size, poor service standards, and inconsistent methods of cataloguing. Anthony Panizzi of the British Museum between 1831 to 1866 revolutionised library administration, enforced compliance to library objectives, and created an elaborate cataloguer's code of conduct. He believed that libraries are meant for study and research and should be made available for all.

The modern-day public library started in England by the committee of public libraries between 1847 -1849. A modern public library belongs to the public and opened for use by the citizen. In 1850, the public libraries Act was enacted empowering local councils to generate funds for public library facilities, and the county library Act was signed into law in 1919. The first public library in the US was established in 1854 in Boston. Andrew Carnegie donated money for the establishment of public libraries in 1856, by 1920, 1,679 libraries were established in the US through his philanthropic donations.

3.2 Twentieth and Twenty-First century libraries

The advent of new information technologies radically changed the conceptual framework of libraries in the 20th century. The invention of computers increased access to enormous information, and the traditional library methods of information dissemination through the lending of books, inter-library loans were taken over using electronic databases that featured library catalogs, subject area indexes, abstracts to journals articles and full textbooks. The proliferation of computers housing electronic library collections with a global electronic network connection gave birth to Virtual Libraries. Library electronic collections in computers could be accessed from any location through telephone or cable lines. Professional librarians' roles evolved, as they had to learn and train library users on how to use the electronic databases. The rapid technological advancement in the 20th century affected communication and information formats, library management and gave birth to the automation of library systems, circulation, and reserves. The development of websites, social networks, online reference services like chat and video conferencing increased access to library virtual collections such as electronic books, digital image collections beyond the library walls.

The 21st century library focuses more on the effects of cultural, socio-demographic, political, economic, and technological trends on reading habits. As digital literacy skills rise, libraries engage in training users that are not proficient in the use of digital tools. The 21st century library is

faced with the challenge of growth in online education and learning resources, a rise in Open Access materials, and the problem of users' privacy, data protection, and the protection of users' data. The constant evolution of new technologies in the 21st century affect the methods of information collection, retrieval, processing, and usage, as librarians regularly undergo training and retraining to learn new functions and processes that are encapsulated in the ever-changing technologies. Libraries now experience dwindling users patronage due to the availability of electronic resources that are accessed remotely; greater attention is on the acquisition of electronic databases, development of institutional repositories, digitalization of physical library holdings, and rebranding of library space to improve users' patronage.

Libraries are evolving into learning commons by providing space, technology, and other services to support learning. It is becoming the hub for scholastic collaborations, socialization, research and learning, instructional development, computer and multi-media labs, and recreation space for students and staff. The library of the 21st century has shifted from the traditional methods of book collections, archiving, book shelving, and reading space setup to more robust modern-day hybrid libraries with greater emphasis on electronic database acquisitions and digitalization of the library holdings.

4.0 CONCLUSION

We have discussed the libraries after the invention of the printing press. Also discussed was the major effects of the printing press on the 16th - 21st century libraries.

5.0 SUMMARY

In this unit, the libraries after the invention of the printing press were discussed. Also discussed were the effects of the invention of the printing press on libraries from the 16th century to 20th century.

6.0 TUTOR-MARKED ASSIGNMENT

1. Discuss the effects of the printing press on the growth of libraries.
2. List and discuss three effects of the invention of computers on library services.

7.0 REFERENCES/FURTHER READING

John L.T. (1941). *The chronology of librarianship: An introduction to the history of libraries and book-collecting*. Retrieved from <https://archive.org/details/chronologyoflibr007954mbp/page/n10>

Krasner-Khait B. (2007, March). *Survivor: The history of the library*. History Magazine. Retrieved from <https://www.history-magazine.com/libraries.html>

Lovely Professional University (2013). *Foundation of library and information science*. Retrieved from http://ebooks.lpude.in/library_and_info_sciences/DLIS/Year_1/DLIS001_FOUNDATION_OF_LIBRARY_AND_INFORMATION_SCIENCE.pdf

Services. (n.d.). In *Merriam webster dictionary*. Retrieved June 14, 2019 from <https://www.merriam-webster.com/dictionary/service>

Services. (n.d.). In *Oxford living dictionaries*. Retrieved June 14, 2019 from <https://www.lexico.com/en/definition/service>

MODULE 3 THE HISTORICAL AND DEVELOPMENTAL STAGES OF INFORMATION CENTERS, SYSTEMS, ARCHIVES AND MUSEUMS

- Unit 1 Information Centers and Information Systems
- Unit 2 Development of Archives and Museums

UNIT 1 INFORMATION CENTERS AND INFORMATION SYSTEMS

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Information Centres
 - 3.2 Information Systems
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

Information centers are established to store, process, and retrieve information, which is disseminated whenever users demand it. Information systems are formal, sociotechnical, organisational systems designed to collect, process, store, and distribute information. In a sociotechnical perspective, information systems are composed of four components: task, people, structure (or roles), and technology. An information system is a work system whose activities are devoted to capturing, transmitting, storing, retrieving, manipulating, and displaying information. As such, information systems inter-relate with data systems on the one hand and activity systems on the other. An information system is a form of communication system in which data represent and are processed as a form of social memory.

As data facilitate social relations and knowledge, institutions like museums, libraries, and archives engage in a highly challenging task of mediating and transforming information to enable users to access information and be information literate.

2.0 OBJECTIVES

By the end of this unit, you will be able to:

- discuss the meaning of information centres and systems
- explain the differences between information centres and information systems.

3.0 MAIN CONTENT

3.1 Information Centres

centers are institutions that process data into meaningful information according to users' requests. They engage in data collection, storage, processing, and retrieving and dissemination of information to the end-users as at when due.

By 1909 Information Bureau was used to denote an office where reference services were provided. In 1915, Ethel Johnson an American special librarian, said that the function of the library is to make books available, while the function of the special library is to make information available. The Association of Special Libraries and Information Bureaus in the 1932 proceedings equated information work to reference assistance. The rapid development in computing puts an end to the use of information as an equivalent to reference. Titles such as fact retrieval center, document center were also used to represent the information center whose exclusive function is to provide information. The emergence of information science, the rise of information technology, and the development of computer networks after the Second World War promoted the concept of information. This gave birth to information centers embedded in the management information systems department (MIS) of organisations, saddled with the mandate of providing information to end-users. The inability of the organisation's MIS department to meet end-user demand led to the establishment of Information center in the mid-1970s by IBM that started promoting information centers as the antidote to the challenges of meeting end-users' need. By the 1980s, information center had gained dominant grounds in the provision of information to end-users.

3.2 Information Systems

An information system is the combination of hardware, software, infrastructure and trained personnel organised to facilitate planning, control, coordination, and decision making in an organisation. It is an integrated set of components for collecting, storing, and processing data and for providing information, knowledge, and digital products. Organisations rely on information systems to carry out and manage their

operations. By the mid-sixties, several organisations had deployed information systems for both internal and external communication through telecommunications using the TELEX machine, effectively passing instructions and information anytime and anywhere all over the world.

In the seventies, TELEX became the standard of information transfer, and the mainframe computer became the standard for database creation. The invention of the mini and microcomputers initiated the need for the standardization of all the electronic data interfaces (EDI) within organisations so that information could be transferred more efficiently.

The mid-eighties witnessed the development of the World Wide Web by Berners-Lee using the HTML protocol over the existing internets that opened a new era of electronic data interfaces all over the world. By the mid-1990's, it became apparent that organisations need to set up a solid functioning information system to efficiently do business as well as connect with its supply-chain vendors and distributors. Information Systems development revolves around the users - their needs, performance expectations, requirements, and other specifications. The success or failure of an information system is determined by the level of users' satisfaction in the organisation's information delivery system.

Advancements in Information and Communication Technologies (ICT) in the 21st century have efficiently enhanced daily operations, management, internal and external communications of organisations. The development of modern information systems is a challenging task. New technologies and tools spring up daily, users' needs keep changing, and the Information Technology industries struggle to cope with demands for highly efficient and easily adaptable information systems to be competitive and up-to-date.

4.0 CONCLUSION

From what you have learned in this unit, you should be able to define information centres and information systems. You should also be able to state the differences between information centres and information systems. The students should be able to trace the historical and developmental stages of information centres and systems.

5.0 SUMMARY

This unit has defined and explained the meaning and purposes of information centres and systems. It also highlighted the differences between information centres and information systems.

6.0 TUTOR-MARKED ASSIGNMENT

1. What are information centres?
2. What is the difference between information centres and information systems?

7.0 REFERENCES/FURTHER READING

Stair, R.M. & Reynolds G.W. (2014). *Fundamentals of information systems* (7th ed.). Retrieved from http://home.ku.edu.tr/~mehmetgonen/indr481_fall2015/indr481_fall2015_chapter1.pdf

The Development of Libraries in the Ancient World (n.d.). *In Encyclopedia.com*. Retrieved from <https://www.encyclopedia.com/science/encyclopedias-almanacs-transcripts-and-maps/development-libraries-ancient-world>

The History of Libraries (n.d.). *In Encyclopedia Britannica*. Retrieved from <https://www.britannica.com/topic/library/The-Middle-Ages-and-the-Renaissance>

Zhang C. (2011). The origin and development of library. In Lin S., Huang X. (Eds), *Advances in Computer Science, Environment, Ecoinformatics, and Education*. CSEE 2011. *Communications in Computer and Information Science*. 215, 63–64. Springer, Berlin: Heidelberg. Retrieved from https://link.springer.com/chapter/10.1007/978-3-642-23324-1_12

UNIT 2 DEVELOPMENT OF ARCHIVES AND MUSEUMS

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 The development of archives and museums
 - 3.2 The Development of Modern Museums
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

This unit discusses the historical and developmental stages of Archives and museums.

2.0 OBJECTIVES

By the end of this unit, you will be able to:

- explain archives
- differentiate between archives and museums
- discuss the values of archives and museums to librarians.

3.0 MAIN CONTENT

3.1 The Development of Archives and Museums

Archives are collections of documents or ‘records’ that have been selected for permanent preservation because of their value as evidence or as a source for historical or other research.

A museum is an institution that cares for (conserves) a collection of artifacts and other objects of artistic, cultural, historical, or scientific importance.

The earliest records of clay tablets found in the Near East show that human societies have a long history of creating and storing documents. These practices have developed historically with the development of trade, accounting, organised government, and academic disciplines. Archaeological findings of ancient documents from Egypt, Crete, Assyria, and elsewhere indicate that documents were created for the purposes of recording court rulings, commerce, diplomatic correspondence, military matters, and much more. With a growing number of documents, the need arose for better management and storage of these

documents. Seals were designed to demonstrate authenticity, while structures were built to protect the documents from theft or damage.

The Middle Ages saw Catholic monasteries copying, preserving, and translating texts, which ensured the preservation of both worldly and religious knowledge. However, during the Enlightenment, these collections of knowledge were ordered and arranged for the use of scientific and rational enquiry, giving rise to the modern system of libraries, archives and museums. Although the development of the modern form of the library and the museum took place in tandem with changes in ways of thought ushered in by Enlightenment thinkers such as Descartes, Rousseau, Locke, and others, the practice of collecting and storing, in fact, did not originate from philosophy, rather from the need for effective ways of practicing medicine and agriculture.

3.2 The Development of Modern Museums

The Greeks and Romans used to display artworks and other items of religious or historical significance in temples. They would also put booties of war on public display. But according to a British scholar, the modern museum “is a product of Renaissance humanism, eighteenth-century enlightenment, and nineteenth-century democracy.” Cabinets of curiosities of the sixteenth century were comprised of an assortment of items gathered from explorations and scientific experiments. These items, however, were moved to universities over time, for example, a collection of coins donated to Cambridge University in the sixteenth century, and a collection of manuscripts donated to Oxford University in the seventeenth century. A case in point is the Ashmolean Museum, which has been part of Oxford University since the late seventeenth century, perhaps the oldest surviving museum in the world at present. The collections of a father and a son, both named John Tredescant, gave rise to the Ashmolean. Ashmole and his colleague, Dr. Thomas Wharton, did extensive documentation of the Tredescant's collections which was published *Musaeum Tradescantianum* in 1656. Developments like the Ashmolean were concurrently occurring throughout Europe from the mid-sixteenth century, such as gardeners starting to add natural creations other than plants, and even human-made artefacts, to their collections.

The Royal Society of Great Britain was another contributor to the development of the modern museum by encouraging scholarly inquiry of scholars around the world through meetings and correspondence. The British Museum, formed through the amalgamation of a few libraries, including the British Royal Library in 1471, was a major center for learning by the early nineteenth century. Napoleonic conquests that brought confiscated artworks from foreign lands to France gave rise to the Palace of the Louvre, which served as a symbol of national glory. Therefore, political developments also played a part in shaping the

modern museum. In the nineteenth century, several major museums were built, such as Philadelphia's Academy of Natural Sciences, the Peale Museum, the National Museum of Denmark, and others. Since then, museums have become common features of all developed countries and are even found in developing countries.

4.0 CONCLUSION

We have discussed the historical and developmental stages of archives and museums. Also, the relationship between archives and museums was highlighted.

5.0 SUMMARY

This unit has ex-rayed the development of archives and museums from the middle ages. The development of museums from the middle ages to the present day museums were discussed.

6.0 TUTOR-MARKED ASSIGNMENT

1. What is an archive?
2. Define museums.
3. What is the difference between archives and museums?

7.0 REFERENCES/FURTHER READING

The Development of Libraries in the Ancient World (n.d.). *In Encyclopedia.com*. Retrieved from <https://www.encyclopedia.com/science/encyclopedias-almanacs-transcripts-and-maps/development-libraries-ancient-world>

The History of Libraries (n.d.). *In Encyclopedia Britannica*. Retrieved from <https://www.britannica.com/topic/library/The-Middle-Ages-and-the-Renaissance>

Zhang C. (2011). The origin and development of library. In Lin S., Huang X. (Eds), *Advances in Computer Science, Environment, Ecoinformatics, and Education*. CSEE 2011. *Communications in Computer and Information Science*. 215, 63–64. Springer, Berlin: Heidelberg. Retrieved from https://link.springer.com/chapter/10.1007/978-3-642-23324-1_12

MODULE 4 INFORMATION SYSTEMS (IS): COMPONENTS, SPECIFICATIONS AND TYPES OF INFORMATION SYSTEMS

Unit 1	Information System's Components and Specifications
Unit 2	Types of Information Systems and Support Contents

UNIT 1 INFORMATION SYSTEM'S COMPONENTS AND SPECIFICATIONS

CONTENTS

1.0	Introduction
2.0	Objectives
3.0	Main content
	3.1 Components of Information Systems (IS)
	3.2 Specifications of Information Systems
	3.2.1 Characteristics of Information systems
4.0	Conclusion
5.0	Summary
6.0	Tutor-Marked Assignment
7.0	References/Further Reading

1.0 INTRODUCTION

A system is a set of components (subsystems) that operate together to achieve certain objectives. The objectives of a system are realised in its outputs. The information system is the combination of hardware, software, infrastructure, and trained personnel organised to perform input, processing, output, storage, and control activities that convert data resources into information products. An information system is a system that accepts data resources as input and processes them into information products as output.

2.0 OBJECTIVES

By the end of this unit, you will be able to:

- define information system
- list the components of information systems
- enumerate the specifications of information systems.

3.0 MAIN CONTENT

3.1 Components of Information Systems (IS)

There are five major components of the information system: People, Hardware, Software, Data, and Networks.

People

These are the end-users and IS professionals who either use or develop IS solutions. The end-users or clients are the clerks, accountants, librarians, and you. The IS professionals design, code, or operate these IS solutions. They are the systems analyst, programmer, and computer operator. Information systems are designed by systems analysts based on end-users need, programmers write the computer programs based on systems analysts' specifications, while computer operators operate the IS solutions.

Hardware

Hardwares are physical devices used in the processing of information. These include the computer systems such as the super-computers, mini-computers, and micro-computers; computer peripherals such the printers, keyboards, mouse, display units; storage devices like hard disks, CD/DVDs, memory cards.

Software

Software is set of information processing instructions called programs which direct and control the hardware, and the procedures to be followed by people to operate IS solutions. Examples of software include: operating systems like Linux, Windows, application software like MS Excel, MS Word, Peachtree. Procedures are IS solutions operating manuals for the people.

Data

In IS, data can be both processed and unprocessed information as one organisation may require data from another. Hence, the IS output of an organisation may be the IS input of the other. Data may represent valuable resources of an organisation. Thus, it should be viewed as data resources that must be effectively managed for the benefit of all end-users. Data could be alphanumeric, numeric, alphabet, business transactions, natural events, entities, written sentences and paragraphs, images, audio, video. Information system data resources are organised into: Database that holds processed and organised data; and Knowledge bases that hold knowledge in a variety of forms such as facts, rules, and regulations, business practices principles.

Network

The interconnection of multiple devices, such as computers, telecommunications networks, multi-media, and miniature devices used by organisations' IS solutions. Examples of network resources are communication media such as twisted-pair cable, coaxial cable, fiber-optic cable, microwave systems, and communication satellite systems; people, hardware, software, and data resources that are used for communications network operation.

3.2 Specifications of Information Systems

Specification tasks in information systems design can be divided into organisational and technical specifications. Both specifications objectives are:

- to elaborate the selected logical IS solutions;
- to translate, complete, and specify detailed IS solutions into practical guidelines, technical definitions, and descriptions, that meet the requirements of IS specialists in organisations, technical implementors, and manufacturers.

Detailed and accurate technical requirement specifications are essential in the competitive bidding process and acquisition of IS solutions in organisations. The need to identify viable, functional and contents design and specification, practical guidelines, and restrictions cannot be overemphasised when engaging in specification activity. This also includes the preparation of the conceptual and data models. The technical specification model in the systems specification report is the product of the technical specification process. This model must conform to the organisational specification process. The organisational and technical specification tasks are interrelated when considering the specification of human and computer interfaces. End-users see technical specification as an important activity in any information systems design methodology as it affects the quality of users' interface design and the ergonomic aspects of the users' workload.

3.2.1 Characteristics of Information systems

An information system is a system that provides information according to a user's requests.

Passive Information Systems

Passive information systems are systems that will answer queries based on the data that is held within them, but the data is not altered. A simple example would be an electronic encyclopedia where queries can be used to search for data, and much valuable information can be learned, but the user is not allowed to alter the data. Another example would be the student

file in a school that can be accessed by members of the teaching staff to find out where a student is at a time of day or to look up their telephone number to contact the parents. The database of information is a valuable resource, but it is not possible for an ordinary teacher to alter it.

Interactive Information Systems

An interactive system is one that data can be entered for the processing, which may alter the contents of the database. An example would be the school secretary updating the attendance record of a pupil in the pupil file. In commerce, a stock control system in a supermarket is an interactive information system because it not only gives information like the price and the description of the goods for the till receipt (passive), but also updates the number in stock immediately (interactive) so that when the next item is sold the number in stock has already been altered.

4.0 CONCLUSION

From what you have learned you should be able to define information systems, their components, and specifications. You should also be able to highlight and discuss the different components and specifications that make up the information systems.

5.0 SUMMARY

In this unit, the information systems (IS) components and specifications were discussed. The different components and specifications of the information systems were extensively discussed.

6.0 TUTOR-MARKED ASSIGNMENT

1. What is the information system?
2. List and explain the components and specifications of the information systems.

7.0 REFERENCES/FURTHER READING

Information Institution. (n.d.). In *Pages.gseis*. Retrieved June 14, 2019, from <https://pages.gseis.ucla.edu/faculty/maack/IS287.htm>

Information Services. (n.d.). In *Collinsdictionary*. Retrieved June 14, 2019, from <https://www.collinsdictionary.com/dictionary/english/information-service>

Information Services. (n.d.). In *Yourdictionary*. Retrieved June 14, 2019, from <https://www.yourdictionary.com/information-services>

Stair, R.M. & Reynolds G.W. (2014). *Fundamentals of information systems* (7th ed.). Retrieved from http://home.ku.edu.tr/~mehmetgonen/indr481_fall2015/indr481_fall2015_chapter1.pdf

UNIT 2 TYPES OF INFORMATION SYSTEMS AND SUPPORT

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main content
 - 3.1 Types of information systems and support
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

In this unit, you will learn the types of information systems and their support. Information systems consist of three layers: operational support, support of knowledge work, and management support, and this will be discussed extensively in the main content of this unit.

2.0 OBJECTIVES

By the end of this unit, you will be able to:

- define the types of information systems and support
- list and discuss the three layers of information systems and support
- discuss how the information systems and support can enhance the services of the library.

3.0 MAIN CONTENT

3.1 Types of Information Systems and Support

Information systems support operations, knowledge work, and management in organisations. The overall structure of organisational information systems is shown in the figure below.

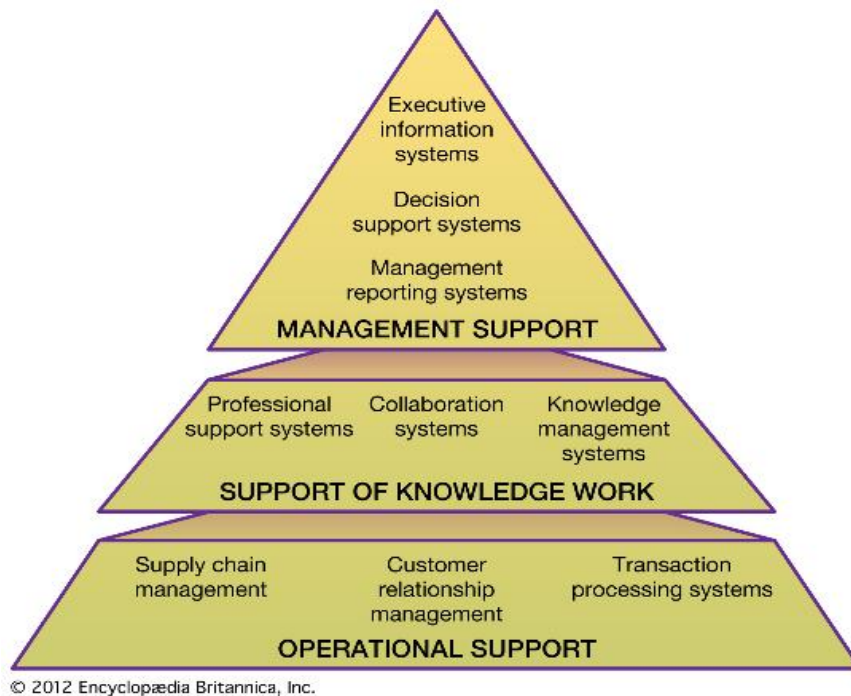


Figure 1: Structure of Organisational Information Systems

Information systems consist of three layers:

- Operational Support
- Support of Knowledge Work
- Management Support

Operational support

Operational support forms the base of an information system and contains various transaction processing systems for designing, marketing, producing, and delivering products and services. Transaction processing systems support the operations through which products are designed, marketed, produced, and delivered. Many transaction processing systems support electronic commerce over the Internet. Among these are systems for online shopping, banking, and securities trading. Transaction processing systems accumulate the data in databases and data warehouses that are necessary for the higher-level information systems. Social network sites, such as Facebook and LinkedIn, are a powerful tool for supporting customer communities and individuals as they articulate opinions, evolve new ideas, and are exposed to promotional messages. A growing array of specialised services and information-based products are offered by various organisations on the Web, as an infrastructure for electronic commerce has emerged on a global scale.

Support for knowledge work

Support of knowledge work forms the middle layer; it contains subsystems for sharing information within an organisation. A large proportion of work in an information society involves manipulating

abstract information and knowledge (understood in this context as an organised and comprehensive structure of facts, relationships, theories, and insights) rather than directly processing, manufacturing, or delivering tangible materials. Such work is called knowledge work. Three general categories of information systems support such knowledge work: professional support systems, collaboration systems, and knowledge management systems.

Professional support systems

Professional support systems offer the facilities needed to perform tasks specific to a given profession. For example, automotive engineers use computer-aided engineering (CAE) software together with virtual reality systems to design and test new models as electronic prototypes for fuel efficiency, handling, and passenger protection before producing physical prototypes, and later they use CAE in the design and analysis of physical tests.

Collaboration Systems

The main objectives of collaboration systems are to facilitate communication and teamwork among the members of an organisation and across organisations. One type of collaboration system, known as a workflow system, is used to route relevant documents automatically to all appropriate individuals for their contributions. Other types of collaboration systems include enhanced e-mail and videoconferencing systems, sometimes with telepresence using avatars of the participants. Yet another type of collaboration software, known as Wiki, enables multiple participants to add and edit content.

Knowledge management systems

Knowledge management systems provide a means to assemble and act on the knowledge accumulated throughout an organisation. Such knowledge may include the texts and images contained in patents, design methods, best practices, competitor intelligence, and similar sources, with the elaboration and commentary included. Placing the organisation's documents and communications in an indexed and cross-referenced form enables rich search capabilities. Numerous application programs, such as Microsoft's SharePoint, exist to facilitate the implementation of such systems. Organisational knowledge is often tacit, rather than explicit, so these systems must also direct users to members of the organisation with special expertise.

Management support

Management support, forming the top layer, contains subsystems for managing and evaluating an organisation's resources and goals. A large category of information systems comprises those designed to support the management of an organisation. These systems rely on the data obtained

by transaction processing systems, as well as on data and information acquired outside the organisation (on the Web, for example) and provided by business partners, suppliers, and customers. There are three categories of Management support: Management reporting systems, Decision support systems, and Executive information systems.

Management reporting systems

Information systems support all levels of management, from those in charge of short-term schedules and budgets for small workgroups to those concerned with long-term plans and budgets for the entire organisation. Management reporting systems provide routine, detailed, and voluminous information reports specific to each manager's areas of responsibility. These systems are typically used by first-level supervisors. Generally, such reports focus on past and present activities, rather than projecting future performance.

Decision support systems

All information systems support decision making, however indirectly, but decision support systems are expressly designed for this purpose. As these systems are increasingly being developed to analyze massive collections of data (known as big data), they are becoming known as business intelligence, or business analytics, applications. The two principal varieties of decision support systems are model-driven and data-driven. In a model-driven decision support system, a preprogrammed model is applied to a relatively limited data set, such as a sales database for the present quarter. During a typical session, an analyst or sales manager will conduct a dialog with this decision support system by specifying several what-if scenarios.

The primary objective of data-driven business intelligence systems is to analyse large pools of data, accumulated over long periods in data warehouses, in a process known as data mining. Data mining aims to discover significant patterns, such as sequences (buying a new house, followed by a new dinner table), clusters, and correlations (large families and van sales), with which decisions can be made. Predictive analytics attempts to forecast future outcomes based on the discovered trends. Data-driven decision support systems include a variety of statistical models and may rely on various artificial intelligence techniques, such as expert systems, neural networks, and machine learning. In addition to mining numeric data, text mining is conducted on large aggregates of unstructured data, such as the contents of social media that include social networks, wikis, blogs, and microblogs. As used in electronic commerce, for example, text mining helps in finding buying trends, targeting advertisements, and detecting fraud.

Executive information systems

Executive information systems make a variety of critical information readily available in a highly summarised and convenient form, typically via a graphical digital dashboard. Senior managers characteristically employ many informal sources of information, however, so that formal, computerised information systems are only of partial assistance. Nevertheless, this assistance is important for the chief executive officer, senior and executive vice presidents, and the board of directors to monitor the performance of the company, assess the business environment, and develop strategic directions for the future. In particular, these executives need to compare their organisation's performance with that of its competitors and investigate general economic trends in regions or countries.

4.0 CONCLUSION

We have explained in detail, the types of information systems and support. The three layers of the information systems and support were discussed extensively. The three layers include- operational support, support of knowledge work, and management support.

5.0 SUMMARY

In this unit, the types of information systems and support were discussed. The three layers of information systems were also highlighted.

6.0 TUTOR-MARKED ASSIGNMENT

1. Define information systems and support.
2. List and discuss the three layers of information systems and support.

7.0 REFERENCES/FURTHER READING

Information Institution. (n.d.). In *Pages.gseis*. Retrieved June 14, 2019, from <https://pages.gseis.ucla.edu/faculty/maack/IS287.htm>

Information Services. (n.d.). In *Collinsdictionary*. Retrieved June 14, 2019, from <https://www.collinsdictionary.com/dictionary/english/information-service>

Information Services. (n.d.). In *Yourdictionary*. Retrieved June 14, 2019, from <https://www.yourdictionary.com/information-services>

Stair, R.M. & Reynolds G.W. (2014). *Fundamentals of information systems* (7th ed.). Retrieved from http://home.ku.edu.tr/~mehmetgonen/indr481_fall2015/indr481_fall2015_chapter1.pdf

MODULE 5 TYPES OF LIBRARIES AND THEIR FUNCTIONS

Unit 1	The Public Libraries and their Functions
Unit 2	Academic Libraries and their Functions
Unit 3	Special Libraries, National Library and their Functions
Unit 4	Digital, Virtual Library and their Functions

UNIT 1 THE PUBLIC LIBRARIES AND THEIR FUNCTIONS

CONTENTS

1.0	Introduction
2.0	Objectives
3.0	Main Content
	3.1 The definition of Public Libraries
	3.2 The Functions of Public Libraries
4.0	Conclusion
5.0	Summary
6.0	Tutor–Marked Assignment
7.0	References/Further Reading

1.0 INTRODUCTION

A library is a collection of sources of information made accessible to a defined community for reference or borrowing. It provides physical or digital access to material and may be a physical location or a virtual space, or both. An information system is a collection of hardware, software, and people working together to collect, store, sort, and process information. It is a set of interrelated components that collect, manipulate, store, and disseminate data and information and provide feedback to meet an objective.

The different types of libraries will be discussed. These include public, academic, National, research, school, digital, and virtual libraries. Their meaning, scope, and characteristics will be discussed.

2.0 OBJECTIVES

By the end of this unit, you will be able to:

- give the definitions of public libraries
- enumerate the functions of the public libraries
- explain the differences between public libraries and other libraries.

3.0 MAIN CONTENT

3.1 The Definition of Public Libraries

A public library is a library that is accessible by the public, funded by the government using public funds (such as taxes) and operated by civil servants. Public libraries are mandated to meet the public's information needs. Public libraries exist in many countries of the world and were established to increase the level of literacy and education of the citizen in a country. Public libraries also provide free services and allow users to take books and other materials out of the library; they provide computer and Internet access to patrons. A public library is an entity that is established under state enabling laws or regulators to serve a community, district, or region, and that provides at least the following: an organised collection of printed or other library materials, or a combination thereof; paid staff; an established schedule in which services of the staff are available to the public; the facilities necessary to support such a collection, staff, and schedule; and is supported in whole or in part with public funds.

The definition of a public library according to the UNESCO Public Library Manifesto of 1994 is as follows:

- it is a public library which being the local gateway to knowledge, provides a basic condition for lifelong learning, independent decision-making and cultural development of the individual and social groups;
- a living force for education, culture, and information, an essential agent for the fostering of peace and spiritual welfare through the minds of men and women;
- the local center of information, making all kinds of knowledge and information readily and freely available to its users;
- accessible for all, regardless of age, race, sex, relation, nationality, language or social status; and
- the libraries which have collections and services, all types of appropriate media and modern technologies, as well as traditional materials with high quality and have relevance to local needs and conditions. The material must reflect current trends and the evolution of society, as well as the memory of human endeavour and imagination.

3.2 The functions of Public Libraries

A Centre for Self-education

A very important function of a public library is to work as a center for self-education. The public library is the institution that provides self-

education, suiting one's interests throughout one's life span. Such self-education enriches a person's life and mitigates his or her day-to-day hardships. Example: Consider the case of a mechanic who has an innate desire to develop photography as his hobby. The public library assists such an individual in cultivating photography as a hobby by providing him suitable information and material to understand the mechanism of a camera, to handle it effectively, etc., in a non-technical language.

A Center for Culture

A public library serves as a center to promote local or regional culture. The UNESCO Manifesto declares that the public library is concerned with the refreshment of man's spirit by the provision of books for relaxation and pleasure. The term 'books' is interpreted here in the widest sense to include all recorded materials of mankind: So, all recorded materials of mankind depicting his excellence in prose, poetry, drama; music, painting, dance and sculpture are collected together to provide a smoothening effect to the working mind. As a public library is required to meet the individual needs of the local public, local or regional cultural materials are given a place of prominence.

A Centre for Local Cultural Materials

Yet another important function fulfilled by a modern public library is to identify and collect cultural material of importance available in its area. These may be works of art or sculpture, paintings, literary documents, musical instruments of the past, etc. In short, a public library goes in search of all such materials which link the people of the locality with its cultural past. In countries like the UK and the USA, public libraries have separate sections known as 'local history collections.'

Development of Democratic Spirit

A public library by providing all shades of opinion on a topic or issue engaging the attention of a person at a time allows him to think over the issue dispassionately and objectively. In short, by being an impartial-information agency, it stimulates thinking and thinking dispels ignorance and hatred and replaces it by understanding, love, and knowledge.

An Impartial Service Agency

The next function of a public library is that its resources (i.e., book and non-book material) and services are amenable for use by any person irrespective of one's caste, creed, or sex. In this sense, everyone irrespective of age, status, income, language, religion, sex, literacy, or culture is fully welcome to the doors of a public library and utilise its resources. The public library, therefore, is deemed as the most democratic of the democratic institutions founded by humankind.

A Free Library

A public library does not charge its users any fee for any of its services like the consultation of books on its premises or loan of books for home reading or for rendering reference service or for providing recreation through a film show or any other cultural programme. All these services are rendered free to the citizen of a locality. Thus, a public library is unique in bestowing a right to every citizen to have free access to its books and other information resources.

Financed by Public Funds

The finance needed for the establishment, maintenance, and development of public libraries is secured mostly from public funds. That is, the government under the law of the land levies an indirect tax known as library access, which is levied as a surcharge on property or land possessed by a person or income accrued on professions or vocations or vehicles owned by a person.

An Auxiliary Educational Institution

Over the years, educational institutions of formal learning like schools, colleges, and universities have evolved in our society. The libraries attached to these educational institutions provide direct assistance for the teacher and the taught. But as the student population, which is increasing every year, is physically spread out in cities, towns, and villages, the academic libraries are unable to meet all their demands. So, the public libraries located in these localities assist the student's teachers by providing suitable educative material, as may be needed, to complete their formal education with ease successfully. In this sense, a public library serves as an auxiliary educational institution serving each person according to his requirements. This part of the concept of a public library, therefore, assumes active cooperation between public libraries and academic libraries of a given area.

A Mandatory Institution

A free library supported by public funds to provide free access to every citizen impartially needs to be established under the law of the land by a competent authority like the Parliament or the State Assembly. In a democratic welfare nation, it should be legally ensured that a public library is established, maintained, and developed in all localities to enable a citizen to reap the benefits, whatever free access to information, education, and culture could bring.

4.0 CONCLUSION

From what you have learned so far in this unit, you should be able to define public libraries, explain their characteristics and their major functions.

5.0 SUMMARY

This unit has exposed the meaning and functions of public libraries in our society. It also highlighted the enviable roles the public libraries play in the educational attainment of the members of the society.

6.0 TUTOR-MARKED ASSIGNMENT

1. Define public libraries.
2. List five functions of the public libraries.
3. What is the major difference between public libraries and other libraries.

7.0 REFERENCES/FURTHER READING

Arua G.N (2015). *Encounter with the Library: A use of Library Guide for School. Colleges. Polytechnics and University* (2nd ed.). Enugu: Chuka Educational Publishers.

Onwubiko, E.C.N. & Uzoigwe, C.U. (2004). *Library: the home of Knowledge*. Enugu. HRV Publishers.

The History of Libraries (n.d.). *In Encyclopedia Britannica*. Retrieved from <https://www.britannica.com/topic/library/The-Middle-Ages-and-the-Renaissance>.

Zhang C. (2011). The origin and development of the library. In: Lin S., Huang X. (Eds), *Advances in Computer Science, Environment, Ecoinformatics, and Education*. CSEE 2011. *Communications in Computer and Information Science*. 215, 63–64. Springer, Berlin: Heidelberg. Retrieved from https://link.springer.com/chapter/10.1007/978-3-642-23324-1_12

UNIT 2 ACADEMIC LIBRARIES AND THEIR FUNCTIONS

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 The Definition of Academic libraries
 - 3.1.1 The general Functions of Academic Libraries
 - 3.2 The Types of Academic Libraries and their Functions
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor–Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

In the last unit, you read through the definitions of public libraries, their characteristics, and their functions.

In this unit, we are going to discuss the definition of academic libraries, their types, purposes, and their functions in the academic communities where they are located.

2.0 OBJECTIVES

By the end of this unit, you will be able to:

- define what academic libraries are
- list the types of academic libraries including research library
- enumerate the functions of academic libraries in the academic communities where they are situated.

3.0 MAIN CONTENT

3.1 The definition of Academic libraries.

The academic library is an integral part of the formal education system which provides time-bound education from primary school level to university level. An academic library works as a base for teaching, learning, research, etc. An academic library is a library attached to an educational institution, i.e., an institution engaged in teaching and or research and imparting formal education to students who aspire to complete a course under a prescribed syllabus. Schools, colleges, universities, and technological/engineering/ medical institutions are some of such institutions, which may vary from one another in respect of

courses offered by them. Since academic libraries exist to cater to the needs and requirements of their parent educational institution, these vary in shape, size, collection, and services, depending upon the nature of the parent institution.

3.1.1 The general Functions of Academic Libraries

The major functions of the different Academic Libraries are as follows:

- The library supports and facilitates faculty teaching activities;
- The library helps undergraduates develop research and information literacy skills;
- The library provides active support that helps increase the productivity of faculty research and scholarship;
- The library pays for resources faculty members need, from academic journals to books to electronic databases;
- The library serves as a repository of resources; in other words, it archives, preserves, and keeps track of resources;
- The library serves as a starting point or 'gateway' for locating information for faculty research.

3.2 The types of Academic Libraries and their Functions

The types of Academic Libraries include School Library, College Library, University Library, and Research Library.

School Library

A school library is a library within a school where students, staff, and often, parents of a public or private school have access to a variety of resources. The goal of the school library is to ensure that all members of the school community have equitable access to books and reading, to information, and information technology. A school library media center uses all types of media, which are automated and utilise the Internet as well as books for information gathering. School libraries are distinct from public libraries because they serve as learner-oriented laboratories that support, extend, and individualise the school's curriculum. A school library serves as the center and coordinating agency for all material used in the school.

The 2008 International Federation of Library Association's (IFLA) Manifesto states:

- i. The school library provides information and ideas that are fundamental to functioning successfully in today's information and knowledge-based society.

- ii. The school library equips students with lifelong learnings skills and develops the imagination, enabling them to live as responsible citizens.
- iii. The school library is central to learning and plays a vital role as a place for encouraging innovation, curiosity, and problem-solving.
- iv. The library is a catalyst for literacy and reading and for teaching and scaffolding inquiry learning.
- v. School libraries make a difference in students' understanding and achievement and provide support for teaching and learning throughout the school.
- vi. The school library is an integral part of the school community and reflects and welcomes this community.

Note: The school library plays a crucial role in the cultural and social life of the school. It can be a central point for engagement with all kinds of reading, cultural activities, access to information, knowledge building, deep thinking, and lively discussion.

The functions of school libraries at primary and secondary schools

- Acquiring, maintaining, lending and keeping track of books and other documents relevant to the needs and interests of teachers and students;
- Generating curiosity and interest; among teachers and students about the material available in the library, and heaping them in every way to identify and obtain what they want;
- Creating in the mind of a reader value for books, and cultivating learning and reading skills, so a student becomes a discriminate: user of learning resources;
- Engendering strong self-learning ability and skills for life-long learning;
- Enabling the teachers to use learning resources to support various programmes of the school and for their educational development; and
- To generate confidence interest in libraries for getting information.

College Library

A library attached or associated with a college and used by teachers, students and staff of the college are known as College Library. College performs a vital function in the educational process. College education provides a different environment for boys and girls who go for higher studies. Usually, the classes comprise many students, and unlike school education, the students of college get much less individual attention from the teachers. The students depend more on self-learning. Therefore, the college library is the automatic choice for students to supplement their classroom teaching.

The Functions of the college library

- To help in all educational and instructional programmes of the college, it develops its collection by acquiring different documents like textbooks, audio-visuals, etc. related to various courses offered by the college;
- It also procures a good amount of more advanced books other than textbooks on different subjects to develop a habit of in-depth and advanced studies among college students;
- It acquires reference books such as encyclopedias and other books on every aspect of different subjects to enhance the understanding of subjects among students on their own besides classroom teaching and textbooks;
- To prepare the students for various professions and occupations and to develop their skills it procures self-learning material, competitive exam books etc. are provided by the library;
- It procures newspapers, weekly and monthly magazines on current events, general knowledge books, etc. to make aware its users about their surroundings.

University Library

A university library is a library attached to a university. It exists to cater to the need and requirements of students and teachers and to support the teaching and research programmes of the university. A university library is a place where scholars seek solutions to problems, do some creative thing, or conduct a study on a project. This necessitates the existence of sound collections of information in university libraries.

The Functions of the University Library

- Procure comprehensive range of documents including books, manuscripts, journals, magazines, newspapers, etc. on varied subjects; it conserves knowledge and ideas;
- Process the procured documents with the help of classification, cataloguing, proper shelf arrangements it gives smooth and open access to knowledge to its users;
- Organise a huge collection of documents and keep them in different sections based on their categorization like textbook section, a reference section, journal section, thesis section, etc.;
- Provide facility of inter-library loan to its users if document desired by the user is not available in the library;
- A modern university library interacts with different information networks to give easy access to e-sources/data to more users so that they could access the desired information even from their workplace;

- It also provides entertainment and healthy leisure to users by providing different newspapers, magazines, short storybooks, fiction, internet facility, etc.;
- It gives the user orientation training to newly enrolled users to make them feel at home and to acquaint them with the library system so that they could make maximum use of library services;
- With the help of display of new arrivals, old book exhibitions, information bulletins about new library services, etc. it keeps the users updated with the library activities;
- It provides reference services through the reference section to establish contact between the right reader and the right document in a personal way to attract more users.

The Research Library

A Research Library contains collections of unique materials to support the needs of advanced and highly specialised scholarship. These collections may include rare manuscripts and books, scientific documents, important printings of literary works, regional histories, genealogies, original musical scores, or other distinctive scholarly resources. Because these collections may contain many rare and valuable materials, their use is typically confined to the library buildings.

Research libraries often publish academic studies of the materials in their collections, sponsor lectures, and colloquia, and arrange exhibitions of their most important holdings. Most colleges and universities have rare books or special collections departments in their libraries, and many maintain research libraries devoted entirely to such collections. Many essential research libraries are unaffiliated with a college or university.

4.0 CONCLUSION

We have explained in details the definitions of academic libraries, the types of academic libraries, their purposes, and their functions in the attainment of the educational objectives of their parent institutions.

5.0 SUMMARY

In this unit, the definitions of academic libraries were discussed, the types of academic libraries and the functions of academic libraries were highlighted.

6.0 TUTOR-MARKED ASSIGNMENT

1. Define academic libraries?
2. List and explain the types of academic libraries.
3. Mention three functions of academic libraries.

7.0 REFERENCES/FURTHER READING

- Arua G.N (2015). *Encounter with the Library: A use of Library Guide for School. Colleges. Polytechnics and University* (2nd ed.). Enugu: Chuka Educational publishers.
- Onwubiko, E.C.N. & Uzoigwe, C.U. (2004). *Library: the Home of Knowledge*. Enugu. HRV Publishers.
- The History of Libraries (n.d.). *In Encyclopedia Britannica*. Retrieved from <https://www.britannica.com/topic/library/The-Middle-Ages-and-the-Renaissance>
- Zhang C. (2011). The origin and development of the library. In Lin S., Huang X. (Eds), *Advances in Computer Science, Environment, Ecoinformatics, and Education*. CSEE 2011. *Communications in Computer and Information Science*. 215, 63–64. Springer, Berlin: Heidelberg. Retrieved from https://link.springer.com/chapter/10.1007/978-3-642-23324-1_12

UNIT 3 SPECIAL AND NATIONAL LIBRARIES AND THEIR FUNCTIONS

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 The Special and National Libraries
 - 3.2 The Functions of the Special and National Libraries
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor–Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

In this unit, we will discuss the special and national libraries. The definitions and functions of special and national libraries will be highlighted.

2.0 OBJECTIVES

By the end of this unit, you will be able to:

- define special libraries
- define national libraries
- distinguish between special and national libraries.

3.0 MAIN CONTENT

3.1 Special Library

Special libraries are information collections where the entire collection is a single, or several special collections. The Special Libraries Association (SLA) is the national professional organisation for special librarians to connect with other collections, and with vendors for products of interest to special library collection development and management. Though the concept of Special Library is of a recent origin, a good number of experts have defined the Special Library. M.L.M. Harrod in his “Librarian’s Glossary of Terms” defined that a “Special Library is a collection of books and other printed, graphic or recorded material dealing with a limited field of knowledge and provided by a learned society, research organisation, industrial or commercial undertaking, government department or even an educational institution. It may also be a special branch of a public library serving certain interests or occupational groups

such as a technical library or a special subject library, meeting the needs of all enquiries on that given subject such as a music library”.

The special library collects updated and comprehensive information on the subject concerned with the parent organisation and disseminates this information promptly to the people associated with the organisation on-demand and in anticipation.

National Library

A National Library keeps all documents of and about a nation under some legal provision and thus represents publications of and about the whole nation. Edition 6 of Harrods’s Librarians’ Glossary and Reference Book (1987) defines a National Library as: a library maintained out of government funds; serving the nation as a whole; books in such libraries being for reference only; libraries are usually copyright libraries; the function of such a library is to collect and preserve for posterity, the books, periodicals, newspapers and other downbeats published in the country; and being purchased books published in other countries.

The ALA Glossary of Library Terms simply defines the National Library as “a library maintained by a Nation.” One of the unique privileges of a National Library of a country is to receive by law all print and non-print materials produced by the country. This provision is usually incorporated in the Copyright Laws of the country. National libraries that enjoy this privilege are also known as Copyright or Legal Deposit Libraries.

3.2 Functions of Special and National Library

Special library

The functions of a Special library:

- i. It selects and procures documents and other sources of relevant information;
- ii. It processes the procured information or documents with the help of classification, cataloguing, shelf arrangements, etc. to make them readily available for the users;
- iii. It subscribes to a good number of journals related to its area;
- iv. It provides indexing and abstracting services to the users to save their time;
- v. It provides reference services to the users by telephone, by post or by e-mail;
- vi. It gives Current Awareness Service (CAS) regarding new arrivals and latest services to the users;
- vii. It provides Selective Dissemination of Information (SDI) service to the users as per their subject interest and requirement;
- viii. It also gives document delivery service to its users at their doorstep;

- ix. It brings out library bulletins weekly/fortnightly/monthly to keep the users up to date with the latest information;
- x. It gives translation services to provide the desired information to the users in their convenient language;
- xi. It also provides intranet as well as internet facility to the users to access the
- xii. library collection and catalogues at their desktop;
- xiii. It responds to the reference queries and makes a retrospective search of literature as per the users' demand;
- xiv. It compiles bibliographies, union catalogues, documentation lists, newspaper-clippings, accession lists, etc. to save the time of its users;
- xv. It provides inter library loan (ILL) facility to the users;
- xvi. It gives user orientation training through personal interaction with users and by library brochure and pamphlets to make the users familiar with the library collection and services;
- xvii. Special libraries have become integrated into the information and knowledge value chain of their parent organisations.

National Library

Some basic functions of a National Library are:

- i. It works as a national depository library for all literary work published in the country;
- ii. It freely collects copies of all published material in the country under legal provision or by law;
- iii. It also procures foreign publications about the country, and by the authors of Indian origin living abroad;
- iv. It compiles national bibliographies to disseminate information about the literary output of the country;
- v. It works as an apex body of the national library system and coordinates with other libraries in the country;
- vi. It develops and maintains different bibliographic databases and works as a national bibliographic center;
- vii. It also exchanges data and documents at national and international level;
- viii. It produces national union catalogues, current, retrospective and subject bibliographies;
- ix. It makes provision for practical training of library professionals;
- x. It procures and preserves manuscripts;
- xi. It also keeps photocopy collection of available documents for national and international library lending;
- xii. It provides reading, lending, consulting facilities to researchers, writers and other users;
- xiii. It works as a national referral center of authentic information for all literary work of the country and responds to all national and

- international queries from individuals as well as from private and government organisations;
- xiv. Its comprehensive collection of not only national outputs but also of documents published outside the country that are about the nation.

4.0 CONCLUSION

In this unit, you have learned what special and National libraries are, the types of materials kept in these types of libraries. You have also learned the importance of special and national libraries. Also learned is the bibliographic control role the national libraries play in the country.

5.0 SUMMARY

This unit discussed the definitions of the special and national libraries. The functions of the special and national libraries were also explained.

6.0 TUTOR-MARKED ASSIGNMENT

1. Define special library.
2. Define national library.
3. What differentiates the national library from other libraries.

7.0 REFERENCES/FURTHER READING

- Arua G.N (2015). *Encounter with the Library: A use of Library Guide for School. Colleges. Polytechnics and University* (2nd ed.). Enugu: Chuka Educational Publishers.
- Onwubiko, E.C.N. & Uzoigwe, C.U. (2004). *Library: the home of Knowledge*. Enugu. HRV publishers.
- Zhang C. (2011). The origin and development of the library. In Lin S., Huang X. (Eds), *Advances in Computer Science, Environment, Ecoinformatics, and Education*. CSEE 2011. *Communications in Computer and Information Science*. 215, 63–64. Springer, Berlin: Heidelberg. Retrieved from https://link.springer.com/chapter/10.1007/978-3-642-23324-1_12

UNIT 4 DIGITAL AND VIRTUAL LIBRARY AND THEIR FUNCTIONS

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 The Digital and Virtual Libraries
 - 3.2 The functions of the Digital and Virtual Libraries
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

In this unit, we will discuss the digital and virtual libraries, their definitions, functions, and differences.

2.0 OBJECTIVES

By the end of this unit, you will be able to:

- define digital libraries
- define virtual libraries
- enumerate their functions
- distinguish between the digital and the virtual libraries.

3.0 MAIN CONTENT

3.1 Digital Library and Virtual Libraries

According to Lynch, Clifford (2005) a digital library, digital repository, or digital collection is an online database of digital objects that can include text, still images, audio, video, or other digital media formats. Objects can consist of digitised content like print or photographs, as well as originally produced digital content like word processor files or social media posts. In addition to storing content, digital libraries provide a means for organizing, searching, and retrieving the content contained in the collection. Digital libraries can vary immensely in size and scope and can be maintained by individuals or organisations. The digital content may be stored locally or accessed remotely via computer networks. These information retrieval systems can exchange information with each other through interoperability and sustainability.

Virtual Library

This is a library in which the holdings are found in electronic stacks. It is a library that exists, without any regard to a physical space or location. It is a technological way to bring together the resources of various libraries and information services, both internal and external, all in one place so that users can find what they need quickly and easily. A virtual library provides a new way of serving the new generation users of the library. Virtual libraries are the new vision of libraries of the future. The virtual library is another kind of Digital library that provides a portal to information that is available electronically elsewhere. This is referred to to emphasise that the Library does not itself hold content. The speedy and wide access to current information contents makes virtual libraries a global symbol of the information access paradigm. The Virtual Library has changed the traditional focus of librarians on the selection, cataloguing, and management of information resources such as books and periodicals. The virtual library is putting emphasis on access without the need to allow for the time required by these technical processes. Virtual Libraries have induced libraries, scholars, publishers, and document delivery vendors to develop new partnerships that are working for the good of scholarly communication in both developed and developing countries.

3.2 Functions of the Digital and Virtual Libraries

Digital library

Functions of a Digital library

- i. It's the digital face of traditional libraries that include both digital collections and traditional, fixed media collections. So, they encompass both electronic and paper materials;
- ii. It includes digital materials that exist outside the physical and administrative bounds of any one digital library;
- iii. It includes all the processes and services that are the backbone and nervous system of libraries;
- iv. It ideally provides a coherent view of all the information contained within a library, no matter its form or format;
- v. It serves communities or constituencies, as traditional libraries do now, though those communities may be widely dispersed throughout the network;
- vi. It will require both the skills of librarians as well as those of computer scientists to be viable.
- vii. The user of a digital library need not go to the library physically; people from all over the world can gain access to the same information, as long as an Internet connection is available
- viii. A major advantage of digital libraries is that people can gain access 24/7 to the information

- ix. The same resources can be used simultaneously by a number of institutions and patrons. This may not be the case for copyrighted material: a library may have a license for "lending out" only one copy at a time; this is achieved with a system of digital rights management where a resource can become inaccessible after expiration of the lending period or after the lender chooses to make it inaccessible (equivalent to returning the resource).
- x. Whereas traditional libraries are limited by storage space, digital libraries have the potential to store much more information, simply because digital information requires very little physical space to contain them and media storage technologies are more affordable than ever before

Virtual Library

The following are the functions of a Virtual Library:

- i. It provides speedy and extensive access to the updated information globally;
- ii. It has changed the traditional library system of cataloguing only book materials;
- iii. Cataloguing of NBM (Non-Book Materials) includes not only databases but also websites;
- iv. Greater emphasis is on access and not on collection;
- v. Time saving;
- vi. It results in the creation of the digital divide because only developed countries with strong funds for automation and fulfilling infrastructural requirements for the virtual library can afford to support virtual library services;
- vii. It ensures the systematic development of the means to collect, store, and organise information and knowledge in digital form and to provide easy and affordable access to it around the clock from various locations;
- viii. It offers ICT-based access for a range of digitally available publications for educational purposes available in the public domain and from other sources;
- ix. Provide access to distance education materials;
- x. Contribute to the efficient delivery of information to students, researchers, and teachers of all universities and other educational institutions;
- xi. Strengthen communication and collaboration between and among the research, library and educational communities, nationally, regionally and internationally;
- xii. Offer lifelong learning opportunities.

4.0 CONCLUSION

In this unit, you have learned the definitions of digital and virtual libraries. The characteristics and functions of the digital and virtual libraries were discussed.

5.0 SUMMARY

This unit discussed the digital and virtual library. Their functions and their differences were also highlighted.

6.0 TUTOR-MARKED ASSIGNMENT

1. What is a digital library?
2. What are the differences between a digital and a virtual library?
3. List two benefits of a virtual library.

7.0 REFERENCES/FURTHER READING

Arua G.N (2015). *Encounter with the Library: A Use of Library Guide for School, Colleges, Polytechnics and University* (2nd ed.). Enugu: Chuka Educational Publishers.

Lynch, Clifford (2005). "Where Do We Go From Here? The Next Decade for Digital Libraries". *D-Lib Magazine*. 11 (7/8). doi:10.1045/july2005-lynch. ISSN 1082-9873.

Onwubiko, E.C.N. & Uzoigwe, C.U. (2004). *Library: the home of Knowledge*. Enugu. HRV Publishers.

Zhang C. (2011). The Origin and Development of the Library. In Lin S., Huang X. (Eds), *Advances in Computer Science, Environment, Ecoinformatics, and Education*. CSEE 2011. *Communications in Computer and Information Science*. 215, 63–64. Springer, Berlin: Heidelberg. Retrieved from https://link.springer.com/chapter/10.1007/978-3-642-23324-1_12