National Curriculum for

Library Science
Grade XI-XII
2011

GOVERNMENT OF PAKISTAN
MINISTRY OF EDUCATION
ISLAMABAD

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INTRODUCTION

Library Science is the study of the principles and practices of library administration. In the 20th century it was gradually subsumed under the field of information. It is an interdisciplinary science which integrates the humanities, law and applied science to study topics related to libraries; the collection, organization, preservation and dissemination of information resources and the political economy of information. The libraries have always endeavored to serve the needs of the societies of which they were a part. Historically, library science has also included archival science. This comprises

- how information resources are prearranged to serve the needs of select user groups

- how people interact with classification systems and technology,

- how information is acquired, assessed and applied by people in and outside of libraries as well as cross-culturally

- how people are skilled and educated for careers in libraries

- the applied science of computer technology used in documentation and records management

Academic courses in library science typically include:

- Collection management

- Information Systems and Technology

- Cataloguing and classification

- Reference

- Management of library resources and services

In general, the student who is preparing for graduate study in librarianship is expectant to emphasize broad general education in the

humanities, social sciences and natural science. The basic professional curriculum include a core of courses which includes
- a general introduction to librarianship
- selection of materials
- cataloguing and classification
- reference materials
- library services

Library Science is continuously developing, integrating new topics like Database Management, Information Architecture and Knowledge Management.

There is generally no settled difference between library science, library and information science, and librarianship. To a certain level they can be measured equivalent terms, possibly accepted to increase the "Science" aspect, or improve the popular image of librarians.

The nature of curriculum plays a vital role in producing well educated librarians. The principal goal of study of library science is to help the students to become technologically literate. This is accomplished by revealing students to a wide variety of knowledge, experiences together working with applications and subject area software.

By providing a broad range of knowledge and latest methodologies, we can help students understand how the use of library can facilitate learning of all subjects. One operational vision, implied by some textbooks, is that librarianship means the professional characteristics of work as a librarian, such as certification, in-service training, and training in librarianship

Most professional library jobs require a professional post-baccalaureate degree in library science, or one of its equivalent terms, library and information science as a basic documentation. In the United States and Canada the certification usually comes from a master's degree granted by an ALA-accredited institution, so even non-scholarly librarians have an originally academic background. In the United Kingdom, however, there have been moves to broaden the entry requirements to professional library posts, such that qualifications in, or experience of, number of other disciplines have become more acceptable.

TYPES OF LIBRARY SCIENCE PROFESSIONALS
- librarian

- archivist

- cataloger

- computer, Data, and Information Systems professionals

- curator
- indexers
- information architect
- information broker
- metadata Architects
- metadata Managers

RATIONALE FOR CURRICULUM ENHANCEMENT

Syllabi are being revised and upgraded to meet the latest challenges of the present day. The Ministry of Education, Islamabad desired to review the National Curriculum for Library Science to make it more vital, relevant to the modern socio-economic, technical, professional and labor market needs of the country, and comparable with international standards.

The Curriculum Development team for Library Science for grades XI-XII was framed involving subject's experts and teachers of Library Science from colleges and universities of all over Pakistan. Following strategies were adopted in designing / developing the curriculum:

The present effort of developing the Library Science Curriculum is a wide-ranging exercise, which is based on:

- Consultative meetings with the working stakeholders to identify their needs
- Identification of eminent areas of study, which can cater to the needs of stakeholders in the most befitting manner.
- Identification of standards.
- Study of foreign curricula for comparison and guidelines.
- Identify and decide curriculum areas in accordance with capability profile.
- Drafting of contents, learning outcomes and practical.
- Preparation of detailed contents in the light of competencies to be developed.

- Preparation of study and evaluation scheme for implementing the curriculum.

CORE AREAS OF CURRICULUM

The curriculum of Library Science has been tailored and designed to enable the students to meet the diversified challenges of the modern world. Emphasis has been laid on encouraging the practical work and application of concepts, which are useful in the workplace. It is a rigorous and exhaustive curriculum having an articulated blend of knowledge, skills and attitude.
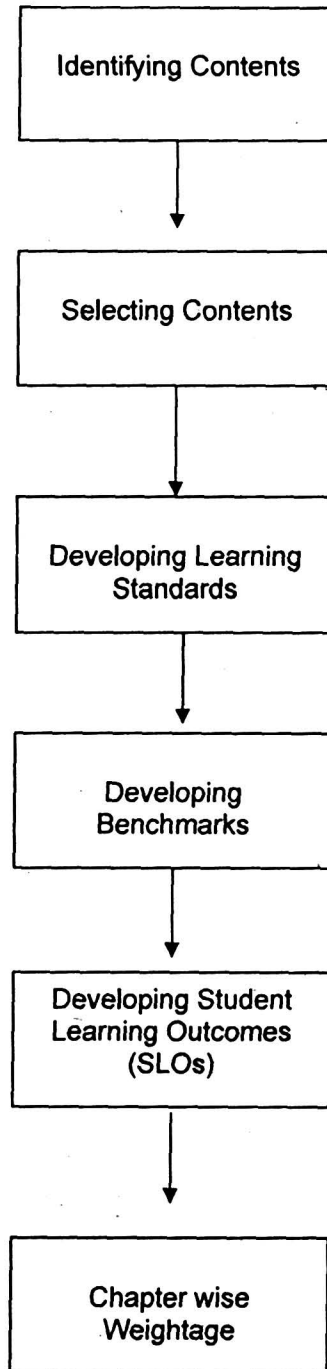
The prime objective of this curriculum is to empower the students with scientific acumen by developing self-motivated and innovative mind and skill-set, which would be catalytic in paving the way to knowledge-based society.

This document of grades XI-XII covers the following broad spectrum of library science:

- historical background of library science
- importance and role of Library Science and introduction of latest technologies
- historical background and evolution of writing media
- basic knowledge about printing and publishing
- understanding of factors that became the basis of evolution of libraries
- knowledge about the libraries and their role in the society
- understanding of nature and type of library material
- understand the interrelationships of special libraries and modern libraries
- knowledge about the major libraries of Pakistan
- importance and status of profession of librarianship in Pakistan.
- Knowledge of library and information science

- development of library collection
- organizing the library collection-classification and cataloguing,
- understanding of the circulation system
- understanding about the services for library users
- knowledge of managing the library
- solution of basic problems faced by the librarians
- knowledge of finding information in the library
- knowledge and awareness of online information resources
- knowledge of searching and accessing the online information resources
- knowledge about the online tools

THE CURRICULUM DEVELOPMENT PROCESS

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┌─────────────────────┐
│ Identifying Contents│
└─────────────────────┘
           │
           ▼
┌─────────────────────┐
│  Selecting Contents │
└─────────────────────┘
           │
           ▼
┌─────────────────────┐
│ Developing Learning │
│      Standards      │
└─────────────────────┘
           │
           ▼
┌─────────────────────┐
│     Developing      │
│     Benchmarks      │
└─────────────────────┘
           │
           ▼
┌─────────────────────┐
│ Developing Student  │
│  Learning Outcomes  │
│       (SLOs)        │
└─────────────────────┘
           │
           ▼
┌─────────────────────┐
│    Chapter wise     │
│     Weightage       │
└─────────────────────┘
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                    ┌──────────────────────┐
                    │  Instructions in the │
                    │      Classroom       │
                    └──────────────────────┘
                               │
                               ▼
                    ┌──────────────────────┐
                    │   Assessment and     │
                    │     Evaluation       │
                    └──────────────────────┘
                               │
                               ▼
                    ┌──────────────────────┐
                    │ General Instructions to │
                    │       Authors        │
                    └──────────────────────┘
                               │
                               ▼
                    ┌──────────────────────┐
                    │ Electronic Instructional │
                    │      Material        │
                    └──────────────────────┘
                               │
                               ▼
                    ┌──────────────────────┐
                    │    Chapter wise      │
                    │  Organizing System   │
                    └──────────────────────┘
                               │
                               ▼
                    ┌──────────────────────┐
                    │      Glossary        │
                    └──────────────────────┘
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                    ┌──────────────────────┐
                    │   Development Team   │
                    └──────────────────────┘
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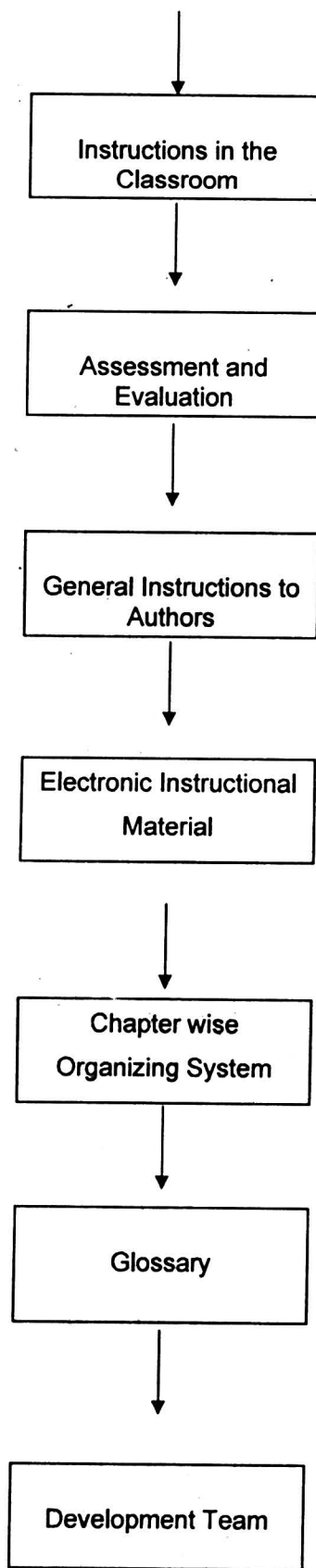
OBJECTIVES

- To introduce the subject of Library and Information Science to the Intermediate Level students and provide a broad understanding of the field of library and information science.

- To create an understanding about books and libraries and their dynamic role in every day life.

- To develop understanding of the relations between technological developments and the changing nature of the profession.

- To provide basic understanding of the issues for information organization, management and transfer in all information environments.

- To establish awareness of the primary issues of library and information profession in Pakistan.

- To develop skills for effective exploitation of the library resources and services and the ICT based information resources and equipment for life long learning support.

- To acquaint students with the information resources on Islam and Pakistan.

STANDARDS AND BENCHMARKS

Preparing students for success in the new millennium and beyond calls for increasing rigor and relevance in the curriculum. In adult roles, individuals are expected to work with others in a team setting, have an acquired knowledge base, be able to extend and refine knowledge, be able to construct new knowledge and applications and have a habit of self-assessing their assimilation of each dimension in their everyday decision making process.

This curriculum document is built upon standards, benchmarks, and learning outcomes for the benefit of student growth and progress.

STANDARDS are what students should know and be able to do. Standards are broad descriptions of the knowledge and skills students should acquire in a subject area. The knowledge includes the important and enduring ideas, concepts, issues, and information. The skills include the ways of thinking; working, communicating, reasoning, and investigating that characterize a subject area. Standards may emphasize interdisciplinary themes as well as concepts in the core academic subjects.

Standards are based on:

- Higher Order Thinking: Instructions involve students in manipulating information and ideas by synthesizing, generalizing, explaining or arriving at conclusions that produce new meaning and understanding for them.

- **Deep Knowledge:** Instructions address central ideas of a topic or discipline with enough thoroughness to explore connections and relationships and to produce relatively complex understanding.

- **Substantive Conversation:** Students engage in extended conversational exchanges with the teacher and / or peers about subject matter in a way that builds an improved and shared understanding of ideas or topics.

- **Connections to the World Beyond the Grade Room:** Students make connections between substantive knowledge and either public problems or personal experiences.

BENCHMARKS indicate what students should know and be able to do at various developmental levels.

LEARNING OUTCOMES indicate what students should know and be able to do for each topic in any subject area at the appropriate developmental level. The learning outcomes sum up the total expectations from the student.

The standards and the accompanying benchmarks will assist in the development of comprehensive curriculum, foster diversity in establishing high quality learning outcomes, and provide an accountability tool to individuals involved in the education marketplace. These provide a common denominator to determine how well students are performing and will assure that all students are measured on the same knowledge and skills using the same method of assessment.

STANDARDS

UNDERSTANDING LIBRARIES AND LIBRARIANSHIP

Students of library science will be able to understand and appreciate the need for recording and preservation of knowledge, the role and importance of libraries and the profession of librarianship.

Standard 1.1

Students will be able to understand and realize the need, role and importance of libraries and library profession in the society.

2. UNDERSTANDING LIBRARY PRATICES

Students of library will be equipped with skills to carry out and streamline different library practices that beg pragmatic approach including the classification, cataloguing and reference service that would empower the students with library service acumen, or mind and skill set that can face the stiff and diversified challenges at the library work place.

Standard 2.1

Students will be able to exhibit and demonstrate their skills in carrying out different library procedures with special reference to the library workplace

3. USE OF INFORMATION TECHNOLOGY IN LIBRARIES

Students will be able to relate the applications of Information Technology with the sustainable growth and development of libraries. Students of library science will understand the symbiotic relationship between information technology and library science

Standard 3.1

Students will be able to understand the impact of information technology on the effective use of library resources. Students will learn the use of information technology tools to access and retrieve information from libraries and online resources.

BENCHMARKS

Standard 1.1 Students will be able to understand and realize the need, role and importance of libraries and library profession in the society.

BENCHMARKS:

1. Students will understand the emergence of writing and knowledge recording [from pictography to modern language].

2. Students will compare the various writing media [from clay tablets to the invention of paper, the book and the electronic formats].

3. Students will study the various printing methods and publishing processes.

4. Students will recognize the role of libraries in terms of their need in the society.

5. Students will recognize different types of libraries and their roles in organizations.

6. Students will learn about the profession of librarianship.

Standard 2.1 Students will be able to exhibit and demonstrate their skills in carrying out different library procedures with special reference to the library workplace.
BENCHMARKS:

1. Students recognize the book selection and purchase processes in a library.

2. Students will recognize different methods of Library Classification and study different Classification Schemes and will learn the use of Dewey's Decimal Classification Scheme to classify some books up to the first 3-digit level.

3. Students will understand the basics of Cataloguing of books and exhibit 1st-level Cataloguing skills using the Anglo-American Cataloguing Rules – II as well as other Cataloguing tools.

4. Students will learn various book issues and return methods used by the libraries.

5. Students will recognize the various Reference and readers' advisory services of the library.

6. Students will acquaint with the library management processes and techniques.

Standard 3.1 Students will be able to understand the impact of information technology on the effective use of library resources. Students will learn the use of information technology tools to access and retrieve information from libraries and online resources.

BENCHMARKS:

1. Students will identify different Online Information resources and use of IT for search and retrieval of online information.

2. Students will exhibit skills for searching the Online Public Access Catalog (OPAC) of the library.

3. Students will learn about the automated library management system and software.

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STUDENT LEARNING OUTCOMES FOR GRADE XI

CHAPTER 1 INTRODUCTION TO LIBRARY

CONTENTS	LEARNING OUTCOMES
	Students should be able to:
1.1 What is Library	▪ Define Library
1.2 Need and importance of library	▪ Discuss the importance of Library
1.3 What makes a Library	▪ Identify Various Component that make a Library
1.3.1 The Collection	▪ Describe briefly the Library Collection as core component of the Library
1.3.2 The Building	▪ Discuss the need of library building
	▪ Describe main features of a library building
1.3.3 Furniture and Equipment	▪ Discuss some of the specialized library furniture and equipment
	▪ Highlighting the need and usage of various items
1.3.4 Library Services	▪ Describe important services for users of a library
1.3.5 Other Library Facilities	▪ Discuss the facilities offered to locate and read books and other materials in a library
1.3.6 Library Staff	▪ Discuss briefly the specialized work done by library staff
	▪ Distinguish the library staff as professional and non-professional

CHAPTER 2 ART OF WRITING AND PRINTING

CONTENTS	LEARNING OUTCOMES
	Students should be able to:
2.1 Historical Background of Writing	▪ Discuss the need of communication
2.1.1 Pictograph	▪ Describe initial communication methods
	▪ Define the word Pictography
	▪ Give example of Pictography
2.1.2 Symbols/ Ideography	▪ Criticize why the Pictography was not fit for recording knowledge
2.1.3 Phonograph	▪ Describe the term symbol (Ideography)
	▪ Define the word phonograph
	▪ Discuss how it became the part of early writing
2.1.4 Alphabets	▪ Illustrate with examples to show its role in writing
2.1.5 Calligraphy	
2.1.6 Muslim Calligraphy	▪ Illustrate with examples the development of alphabets
2.2 Early methods of Book production	▪ Define calligraphy and give examples
2.2.1 Manuscripts	
2.2.2 Scribes	▪ Describe some styles of Muslim calligraphy with examples
	▪ Explain the need for book production
2.2.3 Block Printing	
2.2.4 Typography	▪ Define Manuscript
2.2.5 Lithograph	▪ Describe the role of Scribes
	▪ Discuss the difficulties faced by

2.3 Invention of Printing	manuscript writers
	▪ Discuss the steps of making blocks
	▪ Describe role of lithography towards modern printing
2.3.1 Johann Gutenberg's invention	
2.3.2 Machine printing	▪ Describe briefly the history of printing
2.3.3 Computerized printing	▪ Explain the role of printing in the production of book
	▪ Discuss the role of Johann Gutenberg in invention of printing
2.3.4 Publishing world	▪ Describe various types of machine printing and their limitations
	▪ Discuss advantages of computerized printing
	▪ Explain publishing process
	▪ Describe the development of modern publishing
	▪ Record the steps of book production process

CHPATER 3 EVOLUTION OF WRITING MATERIALS

CONTENTS	LEARNING OUTCOMES
	Students should able to:
3.1 Definition and need of writing media	▪ Define writing media
	▪ Describe the need for writing material
	▪ Define prehistoric forms of writing material
3.2 Prehistoric drawings	
	▪ Describe use of walls of caves, surfaces of rocks and stones for writing by primitive man
3.3 Ancient /Early historic	
3.3.1 Clay tablets	▪ Define early forms of writing materials
	▪ Define the clay tablet
	▪ Describe the use of Clay tablets as medium of writing
3.3.2 Parchment and Vellum	▪ Tell the historical importance of the clay tablet
3.3.3 Papyrus and Palm Leaves	▪ Differentiate between Parchment and Vellum
	▪ Describe the use of Palm Leaves as writing medium
	▪ Discuss the idea that a Palm Leaves was better fit for writing than on a stone, Clay tablets or on a Cave wall
	▪ Explain how it was a media of elite class
3.4 Invention of Paper	▪ Describe the Papyrus why it was most

	favorite for recording knowledge
3.5 Modern writing materials	▪ Illustrate limitations of Papyrus
3.5.1 Floppy Disc	▪ Define the word paper
	▪ Give brief history of paper making
3.5.2 Hard Disc	▪ Discuss the Electronic / Digital forms of writing materials
3.5.3 CDs/DVDs	▪ Discuss the use of Floppy Disc as Information recording medium
3.5.4 Flash memory devices	▪ Discuss the use of Hard Disc as information recording medium
	▪ Discuss the use of CDs/DVDs as information recording medium
	▪ Discuss the use of Flash Memory Devices as information recording medium

CHAPTER 4 HISTORICAL DEVELOPMENT OF LIBRARIES

CONTENTS	LEARNING OUTCOMES
4.1 Historical background of libraries	Students should be able to: ▪ Describe the need for storage and dissemination of human knowledge ▪ Explain the role of library in preserving as well as spreading books
4.1.1 Ancient Libraries	
4.1.2 Library of Assurbanipal	▪ Describe the nature of libraries during ancient period ▪ Describe the library of Assurbanipal ▪ Prove that Assurbanipal was the first library of the world
4.1.3 Library of Alexandria	▪ Describe the Library of Alexandria
4.1.4 Library of Pergamon	▪ Describe the Library of Pergamon
4.2 Medieval Libraries	▪ Discuss Medieval Libraries
4.2.1 Roman	▪ Describe the Libraries of Roman Empire
4.2.2 Spanish	▪ Describe the Libraries of Span
4.2.3 Italian	▪ Describe the Libraries of Italy
4.2.4 Byzantine	▪ Describe the Libraries of Byzantine
4.2.5 Chinese	▪ Describe the Libraries of China
4.3 Libraries of the Muslim World	▪ Discuss Libraries of Muslim World
4.3.1 Kutubkhana-e-Mehmodia (Madina)	▪ Describe the Library of Kutubkhana-e-Mehmodia (Madina)
4.3.2 Baitulhikmah (Baghdad)	▪ Describe the Library of Baitulhikmah (Baghdad)
4.3.3 Darul-ilm (Egypt)	▪ Describe the Library of Darul-ilm (Egypt)
4.3.4 Al-Hakam II (Spain)	▪ Describe the Library of Al-Hakam II (Spain)

CHAPTER 5: TYPES OF LIBRARIES AND THEIR FUNCTIONS

CONTENTS	LEARNING OUTCOMES
	Students should able to:
5.1 National Library	▪ Define the national library
	▪ Describe the need purpose and role of National Library
5.2 Academic Libraries	▪ Define the academic libraries
	▪ Describe the need purpose and role of academic library
5.3 Public Library	▪ Define the public libraries
	▪ Describe the need and purposes of the public libraries
5.4 Special Library	▪ Define the special libraries
	▪ Describe the need purpose and role of special libraries
5.5 School Libraries	▪ Describe the purpose of school Libraries

CHAPTER 6 ROLE OF LIBRARY IN MODERN SOCIETY

CONTENTS	LEARNING OUTCOMES
	Students should able to:
6.1 Role of Library in Society	▪ Describe the need and role of library in society
6.2 Education and Research	▪ Describe the research
	▪ Tell how the library support the work of students, teachers and researchers
	▪ Describe the role of library for education and research
6.3 Social Development	▪ Tell how the library is working for development of society
	▪ Explain the library as main source of gaining knowledge
6.4 Recreational Activities	▪ Describe the role of library for recreational function
6.5 Libraries of Modern World	▪ Discuss the changing shape of libraries in the modern world
6.5.1 Library of Congress (US)	▪ Describe the nature, collection, services and management system of library of Congress (US)
6.5.2 British Library (England)	▪ Describe the nature, collection, services and management system of British Library (England)
6.5.3 Biblioteca de Nationale (France)	▪ Describe the nature, collection, services and management system of Biblioteca de Nationale (France)
6.5.4 Leningrad State Library (Moscow) Russia	▪ Describe the nature, collection, services and management system of Leningrad State Library (Moscow)
6.5.5 University of Gottingen Library (Germany)	▪ Describe the nature, collection, services and management system of University of Gottingen Library (Germany)

CHAPTER 7   NATURE AND TYPES OF LIBRARY MATERIALS

CONTENTS	LEARNING OUTCOMES
7.1 Books	Students should able to: • Define the books and their features • Describe their use and importance for the reader
7.1.1 General books	• Define and describe General Books
7.1.2 Reference Books	• Define and describe Reference Books
7.1.3 Textbooks	• Define and describe Textbooks
7.1.4 Research Publications	• Define and describe Research Publications
7.2 Non book material	• Define the non book material and their features • Differential the book and non-book Material
7.2.1 Serial publications	• Define the serials and journals and their features • Describe their use and importance for the reader
7.2.2 Newspapers	• Define Newspapers and give examples • Describe their use and importance for the reader
7.2.3 Maps and cartographic Material	• Define the Maps and Cartographic Materials and their features • Describe their use and importance for the users
7.3 Audio visual materials	• Define the Audio Visual Materials

	and their features
	▪ Describe their use and importance for the users
7.3.1 Microforms	▪ Describe Microforms and discuss their role and importance in the library
7.3.2 Films	
7.3.3 Slides	
7.3.4 Audio (sound) recordings)	▪ Describe films and discuss their role and importance in the library
	▪ Describe audio (sound) recordings and discuss their role and importance in the library
7.3.5 Recording	
7.4 Electronic material	▪ Describe Video Recordings and discuss their role and importance in the library
	▪ Define the Electronic Materials and their features
7.4.1 CD/DVDs	▪ Describe their use and importance for the users
	▪ Describe CD/DVDs and discuss their role and importance in the library
7.4.2 Online Databases	▪ Describe online databases and discuss their role and importance in the library
7.4.3 E-Publications	▪ Define the E – Publication and their features
	▪ Describe their use and importance for the users

CHAPTER 8 USING BOOKS AND LIBRARIES

CONTENTS	LEARNING OUTCOMES
	Students should able to:
8.1 Parts of book	▪ Define the book and identify its parts
	▪ Discuss the importance of the title page
8.1.1 Pages	▪ Illustrate the information given on the title page
8.1.2 Preliminary Pages	▪ Define the preliminary pages
	▪ Discuss the information given in preliminary pages
	▪ Identify Table of Contents, Acknowledgment, Preface etc. in a book
8.1.3 Body of the Text	▪ Describe the body of the text in a book
8.1.4 Bibliography	▪ Show body of the text in a book
	▪ Define bibliography
	▪ Discuss importance of bibliography in a book
8.1.5 Index	▪ Identify bibliography in a book
8.2 Finding Relevant Information in a Book	▪ Define index
	▪ Discuss importance of index in a book
8.3 Using Libraries	▪ Use the index and Table of Contents to location information in the book
	▪ Understand the usage of library facilities and services
8.3.1 The Catalogue	▪ Learn to use the catalogue
8.3.2 The Call No.	▪ Understand the use and components of the Call No.
8.3.3 Shelves Arrangements	▪ Assess the location of book in the library by using the Call No.
	▪ Interpret the library classification and book Call No. in terms of shelf arrangement
8.3.4 Reference Desk	▪ Understand services available at the reference desk
8.3.5 Membership	▪ Understand the importance of Library membership
8.3.6 Issue and Return of Books	▪ Understand the process of book issue and return system as privilege to the members

CHAPTER 9 LIBRARIANSHIP IN PAKISTAN

CONTENTS	LEARNING OUTCOMES
9.1 History of libraries in Pakistan	Students should able to: ▪ Discuss the history of librarianship in Pakistan ▪ Describe the history of library and information science education in Pakistan
9.2 Library Education in Pakistan	▪ Discuss library and information science education programs in Pakistan
9.3 Library Literature in Pakistan	▪ Discuss important library science books and journals published in Pakistan
9.4 Eminent Personalities	▪ Discuss eminent librarians and library science educators in Pakistan e.g.; Asa Don Dickinson; Lala Labhu Ram; Dr. Abdul Moid; Dr. Anis Khurshid (pride of performance); Hafiz Akhtar? Air Commodore Inam–ul–Haq, Dr. Mohd Ali Kazi and others ▪ Define the role of professional associations for development of profession ▪ Discuss important Library associations and their specific function in Pakistan
9.5 Library Associations in Pakistan	

CHAPTER 10 MAJOR LIBRARIES OF PAKISTAN

CONTENTS	LEARNING OUTCOMES
	Students should able to:
10.1 Punjab University Library Lahore	▪ Describe the purposes, collection, services and management system of Punjab University Library Lahore
10.2 Punjab Public Library Lahore	▪ Describe the purposes, collection, services and management system of Punjab Public Library Lahore
10.3 National Library of Pakistan Islamabad	▪ Describe the purposes, collection, services and management system of National Library of Pakistan Islamabad
10.4 Quaid-e-Azam Library Lahore	▪ Describe the purposes, collection, services and management system of Quaid-e-Azam Library Lahore
10.5 Liaqat Memorial Library Karachi	▪ Describe the purposes, collection, services and management system of Liaqat Hali Library Karachi
10.6 Sandiman Library Quetta	▪ Describe the purposes, collection, services and management system of Sandiman Library Quetta
10.7 Nishtar Public Library Peshawar	▪ Describe the purposes, collection, services and management system of Nishtar Public Library Peshawar
10.8 Central Library Bahawalpur	▪ Describe the purposes, collection, services and management system of Central Library Bahawalpur
10.9 Shams-ul-Ulma Dawood Pota Public Library Hyderabad	▪ Describe the purposes, collection, services and management system of Shams-ul-Ulma Dawood Pota Public Library Hyderabad
10.10 State Bank of Pakistan Library Karachi	▪ Describe the purpose of State Bank of Pakistan Library Karach.

PRACTICES FOR GRADE XI

No.	CHAPTER	PRACTICAL	REQUIREMENTS
1	**Introduction to library**	• Write a note on the major components of a Library System.	Library Science Reference Books
2	**Art of writing and printing**	• Visit a nearby printing press and write a report on your observations of the printing process	Study tour
3	**Evolution of writing material**	• Evaluate a given writing medium and report its merits and demerits	Library Science Reference Books
4	**Historical development of Libraries**	• Write a short note about any one given ancient library	Library Science Reference Books
5	**Types of libraries and their functions**	• Write an essay on salient feature of a particular type of library	Library Science Reference Books
6	**Role of library in modern society**	• Write an essay on Role of Library in your personal life • Study the Library of Congress or British Museum Library in detail and write an	Guided tour of College Library

		essay about their collections and services	
7	**Nature and types of Library Materials**	• Visit your Library and identify and make a list of various types of materials in the library • Locate specific information in relevant reference sources	Library Science Reference Books
8	**Using Books and Libraries**	• Take a book from the library and list its parts and their contents	Library Books
9	**Librarianship in Pakistan**	• Write an essay on Pakistan Library Association (PLA)	Internet Websites or Library Science Reference Books
10	**Major Libraries of Pakistan**	• Visit any major library and write a report on your observations.	Study Tour

GRADE XI PERCENTAGE WEIGTAGE CHAPTERWISE TIME

Class XI

Chapters	Periods	Weightage in %
1	6	5
2	12	10
3	12	10
4	16	15
5	14	10
6	12	10
7	12	10
8	12	10
9	12	10
10	12	10
Total	120	100%

Chapters	Theory	Practical	Assessment	Weightage in %
1	4	1	1	5
2	9	2	3	10
3	9	1	2	10
4	12	1	2	15
5	10	1	2	10
6	9	1	2	10
7	9	1	2	10
8	9	1	2	10
9	9	1	2	10
10	9	1	2	10
Total	89	11	20	100%

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3.3 Library Equipments

    3.3.1   Audio Visual Equipment

    3.3.2   Micro forms Readers

    3.3.3   Computer

    3.3.4   Printers

    3.3.5   Photo Copiers

CHAPTER 4   PURCHASING AND ACQUISITION OF LIBRARY MATERIALS

4.1 Selection of Material

    4.1.1   Selection Tools

4.2 Participants in selection process

    4.2.1   Library Committee

    4.2.2   Library Users

    4.2.3   Faculty

4.3 Purchase/ Subscription of library materials

4.4 Sources of acquiring Materials

    4.4.1   Purchasing

    4.4.2   Gift and Donations

    4.4.3   Exchange

4.5 Maintaining Acquisition Records

CHAPTER 5 LIBRARY CLASSIFICATION

    5.1   Knowledge and Book Classification

    5.2   Features of Good Classification scheme

    5.3   Important Library Classification schemes

    5.4   Dewy Decimal Classification (first and second summary)

    5.5   Assigning Call Number

CHAPTER 6 CATALOGUING

    6.1   Definition and importance

    6.2   Forms of Catalogue

CHAPTER 7 THE CIRCULATION SYSTEM

CHAPTER 8 REFERENCE AND REFERRAL SERVICES

8.1 The Reference Function

 8.1.1 Current Awareness Services

  8.1.1.1 New Arrival

  8.1.1.2 Current Periodical Content

  8.1.1.3 News Clipping

  8.1.1.4 Selective Dissemination of Information

 8.1.2 Document Delivery Services

 8.1.3 Library Orientation and User's Education

  8.1.3.1 Library tours

  8.1.3.2 Classroom Lectures

  8.1.3.3 Training Workshops

8.2 The Referral Function

 8.2.1 Reference Desk

 8.2.2 Signs System

 8.2.3 Library Website

 8.2.4 Leaflet, Bulletin, Brochures

CHAPTER 9 BASIC REFERENCE SOURCES

9.1 Encyclopedia

9.2 Dictionary

9.3 Bibliography

9.4 Almanacs and year books

9.5 Maps and atlases

CHAPTER 10 ONLINE INFORMATION RESOURCE

10.1 Importance and use of Online Information Resources

10.2 Online Searching

10.3 The Online Public Access Catalogue

10.4 The online Database

10.5 Online Journals and E-Books

10.6 Digital Libraries

STUDENT LEARNING OUT COMES FOR GRADE XII

CHAPTER 1   LIBRARY AND INFORMATION SCIENCE

CONTENTS	LEARNING OUTCOMES

1.1   Introduction
 	
1.2   Definitions
 	
1.3   Emergence of Library Science
 	
1.4   Information Science
    1.4.1   Information and
             communication
             technologies
 	
        1.4.1.1   Computers
        1.4.1.2   Internet
        1.4.1.3   World Wide Web
	Students should be able to:
	• Discuss the importance of library science
	• Discuss various library & information Science definitions
	• Discuss the emergence of library science
	• Write the factors which framed the subject of library science
	• Define information science
	• Define information communication technologies
	• Discuss major information communication technologies
	• Brief description of computers
	• Brief description of internet
	• Brief description of world wide web

CHAPTER 2 LIBRARY ADMINISTRATION AND MANAGEMENT

CONTENTS	LEARNING OUTCOMES
	Students should be able to:
2.1 Library Administration and Management	▪ Define Management
	▪ Differentiate Management and Administration
	▪ Discuss the importance of library administration and management
2.2 Library Budget	▪ Define Library Budget
	▪ Describe the library budget elements
	▪ Identify common sources of library budget including Government Funding, Parent Institute and Donations
2.3 Library Staff	▪ Discuss the special nature of library staff
2.3.1 Professional	▪ Discuss the various staff categories
	▪ Define Professional staff of a library
2.3.2 Semi – Professional	▪ Discuss the administration role and duties of professional staff
	▪ Define Semi – professional Staff
2.3.3 Non-Professional	▪ Discuss the role and duties of semi – professional staff
	▪ Define non – professional staff
2.4 Modern Management of Library	▪ Discuss the role and duties of non-professional staff
2.4.1 Computerized Library Management Systems	▪ Define the modern management

CONTENTS	LEARNING OUTCOMES
2.4.2 Electronic Security Systems	- Describe the computerized library management systems - Explain the impact of computer use on library management - Explain the use and impact of electronic security system in a library
2.4.3 Internet	Explain the use and impact of Internet on library services

CHAPTER 3 LIBRARY BUILDING AND PHYSICAL FACILITIES

CONTENTS	LEARNING OUTCOMES
3.1 Library Building	Students should able to: Define special features of library building
3.1.1 The Collection Areas	- Describe the collection areas - Discuss the special requirements for Books, Periodicals, Reference and Reserve Collections areas - Describe special requirements for book collection and reading area
3.1.2 The Reading Areas	- Define the reading areas - Discuss the general reading, group study and individual reading facilities in a library
3.1.3 Administration / Staff Areas	Discuss the Administrative / Office requirements in a library
3.1.4 Specials Service Areas	Describe the specials requirements for Audio Visual

3.1.5 Technical Processing Areas	Room, Computer / Internet Access Rooms and Users' Education Rooms etc.
	▪ Describe special requirements for Cataloguing, Ordering and preparation of Books and other materials
3.2 Library Furniture	▪ Discuss the special nature of library furniture
	▪ Describe special items of library furniture including Reading Tables and Chairs, Study Carrels, Books Shelves, Display Shelves, dictionary Stands etc.
3.3 Library Equipments	▪ Describe the need for specialized equipment in the library
3.3.1 Audio Visual Equipment	▪ Describe various Audio Visual equipments used in the library
3.3.2 Micro forms Readers	▪ Describe Micro forms Readers
	▪ Discuss their use in the library
3.3.3 Computer	▪ Describe Computers
	▪ Discuss their use in the library
3.3.4 Printers	▪ Describe Printers
	▪ Discuss their use in the library
3.3.5 Photo Copiers	▪ Describe Photo Copiers
	▪ Discuss their use in the library

CHAPTER 4 PURCHASING AND ACQUISITION OF LIBRARY MATERIALS

CONTENTS	LEARNING OUTCOMES
	Students should be able to:
4.1 Selection of Material	▪ Discuss the need and importance of selection of library material
	▪ Explain important factors to be considered for selection of library material
4.1.1 Selection Tools	▪ Explain how the material should be selected according to the level of readers
	▪ Discuss major selection tools including books in-print, publishers catalogues and websites, lists from book sellers, periodical directories
4.2 Participants in selection process	
4.2.1 Library Committee	▪ Discuss various participants involve in selection process
	▪ Define Library committee
	▪ Explain the role and responsibilities of library committee for selection of library material
4.2.2 Members of Library	
4.2.3 Faculty	▪ Define members of library
	▪ Explain the role of members of library for selection of library material
4.3 Purchase / Subscription of library materials	▪ Define faculty
	▪ Explain the role and

	responsibilities of faculty for selection of library material in case of academic libraries
4.4 Sources of acquiring Materials	
4.4.1 Purchasing	▪ Discuss the quality and quantity factors for purchase / subscription of library materials
	▪ Discuss various sources of acquiring library material
4.4.2 Gift and Donations	▪ Define purchase of library material
	▪ Explain the process involve in purchase of library material
4.4.3 Exchange	▪ Define gifts and donations
	▪ Explain the importance of gifts and donations
	▪ Discuss library policies for accepting the gift and donations
4.5 Maintaining Acquisition Records / Accessioning	▪ Define acquisition of library material through exchange process
	▪ Explain the process of establishing exchange of materials with other organization and libraries
	▪ Explain the importance and use of accession register
	▪ Discuss various elements of accession register

CHAPTER 5 LIBRARY CLASSIFICATION

CONTENTS	LEARNING OUTCOMES
	Students should be able to:
5.1 Knowledge and Book Classification	■ Define Classification
	■ Differentiate among knowledge and book classification
	■ Explain the need of book classification in library
5.2 Features of Good Classification scheme	■ Define book classification scheme
	■ Explain important features of good classification scheme
5.3 Important Library Classification Schemes	■ Describe important library classification schemes and their features
5.4 Dewy Decimal Classification (DDC) - first and second summary	■ Explain the main features of Dewy Decimal classification
	■ Discuss the volumes of Dewy Decimal classification scheme
	■ Discuss the first and second summaries of DDC
	■ Explain the components of Call No.
	■ Discuss the use of cutter table
5.5 Assigning Call Number	■ Identify the places where a Call No. is recorded (spine, back, slip, book card, verso of title page)

CHAPTER 6 CATALOGING

CONTENTS	LEARNING OUTCOMES
6.1 Definition and importance	Students should be able to: ▪ Define the catalogue ▪ Explain the need, purpose and importance of cataloguing ▪ Understand cataloguing process ▪ Discuss the objectives of cataloguing
6.2 Forms of Catalogue	▪ Differentiate the catalogue and a list of library books ▪ Describe the various forms of catalogue
6.2.1 Book and Card Catalogues	▪ Explain three key search option to trace any book (author, title subject)
6.2.1.1 Types (Author, Title, Subject, Dictionary, Classified)	▪ Give examples of Book and Card Catalogues ▪ Discuss the specific features and use of Author catalogue ▪ Discuss the specific features and use of Title catalogue ▪ Discuss the specific features and use of Subject catalogue
6.2.2 Computerized Catalogue	▪ Discuss the specific features and use of Dictionary catalogue ▪ Discuss the specific features and use of Classified catalogue

	▪ Define the computerized catalogue
	▪ Discuss the salient features of computerized catalogue
6.3 Cataloging Rules (AACR- II)	▪ Discuss the importance of standardization of cataloguing
	▪ Describe briefly the history of cataloging rules with specific reference to Anglo American Cataloguing Rules (AACR-II)
6.3.1 Sources of Cataloguing Information	▪ Locate the information required for cataloguing in the book
6.4 Areas and Elements (first level of description only)	
6.4.1 Title and Statement of Responsibility	▪ Use and apply the rules of AACR-II to determine the main entry
	▪ Identify various parts of the catalogue entry
6.4.2 Edition	▪ Describe the title and statement of responsibility area
6.4.3 Publication and Distribution	▪ Discuss the elements of title and statement of responsibility area
	▪ Describe edition area
	▪ Describe Publication and Distribution area
6.4.4 Physical Description	▪ Discuss the various elements of publication and distribution area
6.4.5 Series	▪ Describe physical description area
	▪ Discuss the various elements of physical description area
6.4.6 Note	▪ Describe series area
	▪ Discuss the various elements of

6.4.7 Standard Number	series area
	▪ Describe the note area
	▪ Discuss important forms of notes
6.5 Subject Headings	▪ Describe the Standard Number area
6.6 Preparing Books for Shelving and Circulation	▪ Explain how the subject heading is a part of cataloguing
	▪ Discuss the importance of Sear's subject heading
	▪ Discuss the need and importance of preparing books for shelving and circulation
	▪ Define labeling and identify the places of labels
	▪ Tell why the ownership stamping of book is essential

CHAPTER 7   THE CIRCULATION SYSTEM

CONTENTS	LEARNING OUTCOMES

7.1   Definition
 	
7.2   Policies, Rules and Regulations
 	
    7.2.1   Eligibility / Membership
 	
    7.2.2   Fee and Security
 	
    7.2.3   Loan Rules
 	
7.3   The Books Issue / Return process
    7.3.1   Types of Charging Systems
    7.3.1.1 Ledger
    7.3.1.2 Card (Newark / Brown's Charging System)
    7.3.1.3 Automated Issue / Return
 	
7.4   Reminder / Overdue Notice
	Students should be able to:
	
	- Define the circulation system
	- Discuss the need and importance of circulation system
	- Describe the use and importance of library Policies, Rules and Regulations
	- Understand eligibility criteria for library membership
	- Discuss the membership procedure
	- Understand the need for membership fees and library security
	- Discuss the background and example of loan rules
	- Discuss the purpose and importance of book issue / return process
	- Define the charging system
	- Describe the ledger charging system
	- Describe the card based charging system

7.5 Fines 7.6 Inter – Library Loan	▪ Describe briefly the Newark and brown's charging system ▪ Describe the automated issue / return system ▪ Compare the efficiency and advantages of automated and Manuel charging systems ▪ Discuss the need for sending reminder and overdue notices to the library users ▪ Discuss the types of fines ▪ Understand the implication of fines regarding security and discipline ▪ Define the Inter – Library Loan (ILL) ▪ Discuss the importance of ILL

CHAPTER 8 REFERENCE AND REFERRAL SERVICES

CONTENTS	LEARNING OUTCOMES
	Students should be able to:
8.1 The Reference Function	■ Discuss the importance of library Reference services for the users
	■ Define the Reference Function of the library
8.1.1 Current Awareness Services	■ Discuss the importance of Current Awareness Services
	■ Discuss the various types of Current Awareness Services
8.1.1.1 New Arrival	■ Describe New Arrival Service
8.1.1.2 Current Periodical Content	■ Describe Current Periodical Content Service
8.1.1.3 News Clipping	■ Discuss the News Clipping Service
8.1.1.4 Selective Dissemination of Information	■ Discuss Selective Dissemination of Information Service
8.1.2 Document Delivery Service	■ Describe the Document Delivery Service
	■ Discuss its importance for the users
	■ Discuss various delivery methods
8.1.3 Library Orientation and Users' Education	■ Define the Library Orientation and Users' Education
8.1.3.1 Library tours	■ Understand the importance of library tours to quaint the user with to library Facilities and Services
8.1.3.2 Classroom Lectures	■ Use the Classroom Lectures to educate the students on library

8.1.3.3 Training Workshops	Rules and Policies
	• Discuss the need for training workshops to provide in-depth knowledge of library resources and their usage
8.2 The Referral Function	• Define the Referral Function of the library
8.2.1 Reference Desk	• Discuss the importance of the Referral Function for the users
8.2.2 Signs System	• Discuss the role of reference desk
	• Discuss the role of sign and guide system to help the users'
8.2.3 Library Website	• Discuss the role and importance of library website to highlight the library resources and services
8.2.4 Leaflet, Bulletin and Brochures	• Define the Leaflet, Bulletin and Brochures
	• Discuss the need and importance of marketing materials to enhance the use of the library

CHAPTER 9 BASIC REFERENCE SOURCES

CONTENTS	LEARNING OUTCOMES
	Students should able to:
9.1 Encyclopedia	▪ Define encyclopedia
	▪ Identify the various types of encyclopedia
	▪ Demonstrate skills for using encyclopedia
	▪ Identify some national and international examples of encyclopedia
9.2 Dictionaries	▪ Define Dictionaries
	▪ Identify the various types of Dictionaries
	▪ Demonstrate skills for using Dictionaries
9.3 Bibliographies	▪ Identify some national and international examples of Dictionaries
	▪ Define Bibliographies
	▪ Identify the various types of Bibliographies
	▪ Demonstrate skills for using Bibliographies
9.4 Almanacs and Year Books	▪ Identify some national and international examples of

	Bibliographies
	• Define Almanacs and Year Books • Identify the various types of Almanacs and Year Books • Demonstrate skills for using Almanacs and Year Books • Identify some national and international examples of Almanacs and Year Books
9.5 Maps and Atlases	• Define Maps and Atlases • Identify the various types of Maps and Atlases • Demonstrate skills for using Maps and Atlases • Identify some national and international examples of Maps and Atlases

CHAPTER 10 THE ONLINE INFORMATION RESOURCES

CONTENTS	LEARNING OUTCOMES
	Students should be able to:
10.7 Importance and use of Online Information Resources	▪ Discuss the importance of Online Information Resources
10.8 Online Searching	▪ Define Online Search
	▪ Discuss simple techniques used for making Online Searches
10.9 The Online Public Access Catalogue	▪ Define Online Public Access Catalogue
	▪ Discuss the role of Online Public Access Catalogue for informative access and retrieval
10.10 The online Database	▪ Define online database
	▪ Give examples of various forms of online database
10.11 Online Journals and E-Books	▪ Define Online Journals and E-Books
	▪ Discuss their importance to facilitate the users' access any time and from anywhere
10.12 Digital Libraries	▪ Define digital library
	▪ Give example of Higher Education Commission Library

PRACTICES FOR GRADE XII

No.	CHAPTER	PRACTICAL	REQUIREMENTS
1	Library and Information Science	• Write a note to discuss library science as a scientific discipline	Library Science Reference Books
2	Library Administration and Management	• Write an essay on duties of Professional staff	Course Books
3	Library Building and Physical Facilities	• Visit a library • Identify and list components of various library areas in the building	Library Tour
4	Purchasing and Acquisition of Library Materials	• Make a list of steps involved in library book acquisition	Course Books
5	Classification	• Assign 3-digit classification numbers to given books using the Dewey's Decimal Classification Scheme	Copy of Summary 2 of Dewey's Decimal Classification Scheme
6	Cataloguing	• Prepare Main Card of 10 books using AACR II • Apply Broad Subject Headings to 10 titles using the SEAR's List of	SEAR's List of Subject Headins Copy of AACRII College Library

		Subject Headings	
7	**The Circulation System**	• Study the Circulation System of your College Library and write a note on the method used	College Library
8	**Reference and Referral Services**	• Obtain a library handbook and identify the information is available	Sample Library Handbook
9	**Basic Reference Sources**	• Locate particular information for the users in the library Reference resources.	Reference books in the library
10	**Online Information Resources**	• Study the various types of Online Information Resources available on the Internet	The Internet Access Computers

GRADE XII PERCENTAGE WEIGHTAGE CHAPTER WISE TIME ALLOCATION

Class XII

Chapters	Periods	Weightage in %
1	12	10
2	12	10
3	12	10
4	12	10
5	12	10
6	12	10
7	12	10
8	12	10
9	12	10
10	12	10
Total	120	100%

Chapters	Theory	Practical	Assessment	Weightage in %
1	8	2	2	10
2	8	2	2	10
3	8	2	2	10
4	8	2	2	10
5	8	2	2	10
6	8	2	2	10
7	8	2	2	10
8	8	2	2	10
9	8	2	2	10
10	8	2	2	10
Total	80	20	20	100%

INSTRUCTIONS IN THE CLASS ROOM

A good teacher is expected to follow the following guidelines.

1. Thorough grinding and mastery of the subject matter which he/she teaches.

2. Scholarly attitude towards teaching/learning in the class and on the campus of the school i.e. thoughtfully reflective personality.

3. Highly polished communication skills in writing, speaking, and listening.

4. Respectful of the methods of science and mindful of the nature of scientific knowledge

5. Practicing believer in the core values of science such as:

   Longing to know, questioning everything, collecting data and looking for meaning in them, demand for verification, respect for logic, consideration of the premise and paradigm, consideration of the consequences.

6. Letting students express their understanding i.e. their version of what was taught in the class and why.

7. Giving more time to what students think and less time to what teachers think

8. Realizing that students construct their own knowledge and that this construction is greatly influenced by what the student already knows i.e. his/her prior knowledge. This implies that no student comes to the class room with empty head and that no information can be transferred intact from the head of the teacher to the head of the student.

9. There are various theories and models available which deal with understanding the process of learning. Teacher must base his practice of teaching on some theory and be able to explain or try to explain what works in the class room and why.

10. Teacher should realize that teaching is not just drilling information into the head of students nor is it just muddling through to teach as he was taught. It is a form of scholarship in which teachers are involved in action research. They look for new examples and non-examples. They sequence information in different ways and look for the best sequence. They diagnose the learning difficulties of students by looking into their prior knowledge where they search for misconceptions and knowledge gaps. They focus on the learning styles of individual students and recognize slow and fast learners.

11. Students watch their teachers and notice so many things about them and they talk about what they like or do not like. Teaching is close to show business and we can borrow much from the people in the show business.

12. Facility of well organized libraries should be present which must be equipped with latest and up-to-date knowledge and teachers should encourage the students to use the libraries and latest development of the concerned subject

TEACHING-LEARNING PROGRAM:

The topics, or objectives within topics, can be taught in any order keeping in view the needs of teachers and students.

It will be clear that achievement of the educational objectives requires thoughtfully designed teaching situations. It is assumed that students will achieve the educational objectives by way of ongoing interaction between theoretical information and practical experience; it therefore follows that the teaching approaches and materials used should:

- represent Library Science as part of the process of scientific inquiry (rather than a rhetoric of conclusions)
- Use inquiry-based teaching strategies where possible.
- be student-centered, assisting students to derive their own concepts from evidence and providing practical opportunities to develop individual reasoning abilities and motor skills
- Exemplify the concept from local scenario.
- When beginning a new area of study, provide very direct, concrete experience – through classroom, laboratory and field work – or the next best substitute when direct experience is not feasible.
- Provide rewarding opportunities to apply scientific understanding and ways of thinking to problems, especially everyday ones.
- Provide opportunities, refine ideas through dialogue with others, and work with them in ways like to foster cooperative abilities.
- Provide opportunities to develop skills of written and oral communications.
- Use testing as a diagnostic as well as an achievement tool.

Teachers' Training and Refresher Courses

Effective and meaningful education of Library Science can only be guaranteed if the teacher, the key pivot of change, is developed enough in contents as well as methodology. In-service trainings may help the teachers to become familiar with a variety of strategies for successful delivery of the curriculum.

The curriculum development and revision is a continuous process in all stages of education so is the process of updating the teacher education programs at pre-service as well as at in-service stages. If the teacher is not fully equipped and trained to handle the new curricula, the curriculum transaction would not be appropriate and consequently, the learning will be inadequate. Teachers' training needs the following actions:

1. Pre-service teacher training institutions are strengthened and their curricula be revised to met the demands of fast changing and developing world.

2. In-service training should cover contents and methodologies. Content upgrading in Library Science is an urgent need for effective teaching. Emphasis should specifically be laid on learner-centered and activity based approaches, classroom demonstrations, active participation by the students, and field interactions should become major components of in-service training programs. Workshops seminars and extension lectures should be organized more frequently and regularly and particularly in summer vacation.

✓ Well-equipped resource centers should be established at the training institutions for a ready help to the needy teachers.

Assessment and Evaluation in Library Science

The purpose of assessment is to find out whether students have acquired the kind of skills, knowledge, and understanding that we set as goals for our courses.

This purpose is achieved traditionally by conducting an examination at the end of the session called summative assessment. In this form of assessment, teachers require students to express their understanding of what teachers taught them and the performance of students is measured as grade points. This is a convenient form of assessment because it is easy to carry out and it does not consume much time.

However, this form of assessment is a single snap shot at the end of the session and does not provide opportunity either to the student or to the teacher to interact formatively through out the session as the student strives to develop his understanding of the content and purpose of the course.

This vacuum can be filled by using **FORMATIVE ASSESSMENT**, which is an ongoing process through out the session and uses Test – Feedback – Adjust cycle repeatedly to improve students' performance and efficiency in learning.

Guidelines for appropriate Assessment

Assessment Procedures

1. In addition to the end of the session exam, the practice of formative assessment should be used through out the session.

2. Tasks in the Formative mode of assessment should include

   - **Homework**
   - **Quizzes**
   - **Frequent written tests**
   - **Group discussion**
   - **Oral Presentation**

3. Feedback on students' work in the above tasks should be provided to the students.

4. Question setting should be specifically directed to finding out the following Skills,

   Knowledge and Understanding according to the Bloom's Taxonomy as given below

   a   **recall and retrieve** information related to the contents of the course.

   Leading words for setting questions:

   List, define, identify, label, tabulate, name, who, when, Where and so on.

   b   **Comprehend** the information i.e. do they know what it means.

   Leading words for setting questions:

   Interpret, predict, distinguish, differentiate, estimate, discuss etc.

   c.   **Apply** their knowledge i.e. do they know what is it good for.

   Leading words for setting questions:

   Demonstrate, show, solve, classify, illustrate, modify, change, discover etc.

d   **Analyze and synthesize** information i.e. taking things apart and putting together. Leading words for setting questions:

Analyze: analyze, separate, explain, arrange, compare, infer

Synthesize: combine, integrate, rearrange, create, formulate, design etc

Evaluate information i.e. weighing available options leading words for setting questions:

Decide measure recommend, select, conclude, compare, summarize etc.

5. Assessment should measure the capacity of students for critical judgment.

6. Assessment should focus on learning potentials for future learning at their own.

7. The question paper should cover the entire syllabus.

8. There should be choice in the paper.

9. The paper should include Essay type questions, Short questions and MCQS.

10. Assessment should not judge weaknesses only but it must also focus on students' strength and capabilities.

11. The assessment should be able to measure the initiative and drive of the students.

12. The teacher must make sure that the student during assessment feels comfortable and relaxed rather than tense and anxious.

13. Assessment language should be simple, clear, and unambiguous.

FORMATIVE ASSESSMENT

The formative assessment should be a part of the classroom learning. Following may be the devices on which the said objectives can be achieved:

- Objective enhancement-worksheets, quizzes, and tests
- Observation
- Review questions
- Classroom discussions
- Oral presentation

The formative assessment should be cumulative and comprehensive and cover all objectives as per curriculum. Grading of students should be done through the use of assessment instruments that cover the expectations as defined by the objectives of the curriculum.

Evaluation Strategy:

An external examination is recommended at the end of the course. This evaluation should measure all the domains of learning and through it, the attainment of the objectives can be measured. The weightage of the different domains of learning is given below;

Learning Domains for Measurement	Weightage In Evaluation
Knowledge, Comprehension, Analysis, Evaluation, Synthesis, Application:	60%
Skills of Communication, Initiating and Planning, Designing Experiments and Interpreting Data:	20%
Manipulative skills (Performing Practical Work)	20%

Weighing of Assessment Objectives

Theory assessment: The theory examination is suggested to consist of a wide variety of questions. The assessment should be designed to examine the candidate's under standing of the whole syllabus and should test the following range of abilities.

Knowledge and understanding (recall 30%)	60%
Higher abilities (handling information, application. and problem solving etc.)	40%

Practical Assessment: This is designed to test Experimental skills and investigations.

Suggestions for Structuring Assessment and evaluation Tools:

More Emphasis should be on;	Less Emphasis should be on;
• Assessing what I most highly valued	• Assessing what is easily measured
• Assessing rich, well-structured knowledge	• Assessing discrete knowledge
• Assessing scientific understanding and reasoning	• Assessing scientific knowledge
• Assessing to learn what students do understand	• Assessing to learn what students do not know
• Assessing achievement and opportunity to learn	• Assessing to learn what students do not know
• Students engaged in ongoing assessment of their work and that of others	• Assessing only achievement
• Teachers involved in the development of external assessments	• Development of external assessments by experts alone

■ Assessment pattern is subject to the requirement, policies, and procedures of the Examination Boards.

- Question paper should be based on the curriculum not on a particular textbook.
- Questions involving unfamiliar contexts or daily-life experiences may be set to asses candidates' problem-solving and higher-order processing skills. In answering such questions, sufficient information be given for candidates to understand the situation or context. Candidates are expected to apply their knowledge and skills included in the syllabus to solve the problems.

GENERAL INSTRUCTIONS TO AUTHORS

The National Curricula should be a reflection of our national needs and aspirations. This requirement can be met only if the textbooks are written in accordance with this curriculum. This curriculum meets not only the general aims and objectives but also fulfills the specific requirements of the individual subjects. Keeping these points in view the authors should observe the following points, while writing the textbooks.

1. The authors should adhere to the learning outcomes of each concept or chapter as mentioned with the contents in the curricula.

2. The continuity of the concepts with the earlier classes, their integration and logical development should be ensured.

3. Horizontal and vertical overlapping of the concepts should be avoided.

4. The textbook should be informative and interactive with questions to be put at suitable intervals to provoke the students to think.

5. The details of the treatment of the concept should be properly classified into headings and subheadings.

6. The language used should be simple, clear, straight forward, unambiguous and easily comprehensible by the students of the particular level.

7. Simple questions may be asked within the chapter, which requires students to recall, think, and apply what they have just learnt as well as to reinforce the learning of the concepts and principle.

8. The new advancements and development in the subjects should be incorporated where appropriate.

9. The examples and applications should be from every day life and be supportive of our cultural values.

10. Photographs, diagrams and illustrations should be clear, labeled and supportive of the text. Material. Related flow charts and graphs may be given wherever needed.

11. Key points at the end of each chapter should provide a summary of the important concepts and principles discussed in the chapter

12. Review questions should be given at the end of each chapter requiring students to recall, think and apply what they have learnt in this chapter. This should start from simple questions increasing the complexity gradually and should test knowledge, understanding and skills of the students. The last few questions should encourage the student to apply the concepts studied in this chapter.

13. Each chapter should be accompanied with its precise and coherent summary to be given at the end of this chapter.

ELECTRONIC INSTRUCTIONAL MATERIAL:

Electronic instructional material is gaining popularity in the developed world. Educational technology providers are successfully marketing courseware with instructional management, assessment, individualized learning paths and professional development. Growing numbers of teachers have convenient and immediate access to entire libraries of instructional video correlated to curriculum. As far the educational scenario in Pakistan and other developing countries is concerned, lack of resources (particularly in schools) would hold back the evolution of electronic publishing in place of or along with printing.

It may be considered that a good ratio of the students of all classes have access to computer technologies. They should be given chances of self learning (rather exploring the knowledge) and it can be made true by converting the data of the textbooks into electronic formats e.g. CD-ROMs. The CD-ROMs should be made available at the retail outlets. Where students don't have computers at schools/colleges or at homes, they may explore the CD-ROM at internet café.

The flow sheet diagrams are more important to convey the desired learning. Printed textbooks cannot tackle the diagrams that need 3-dimensional view for their understanding. Diagrams, photographs and animations should be published in electronic format i.e. CD-ROM that can be made an accessory item with the printed textbook., Such a CD should also have installed software for students' assessment and evaluation in the form of tests, quizzes and games.

CHAPTER ORGANIZING SYSTEM

Chapter Organizing system – It should be taken into account that a consistent numbering system leads the students through each chapter at a glance in the beginning to conceptual heading throughout and finally to the summary of key concepts at the end. Each chapter should be organized in the following pattern:

CHAPTER NAME

Outline:

Major Concepts:

- 1.1::::::::::::::::
- 1.2::::::::::::::::
- 1.3::::::::::::::::

_____ Introduction _____

_____

_____

_____

1.1 MAJOR CONCEPT

(Depth of the topic should be kept with the teaching periods advised in the curriculum)

_____

_____

| Tit Bits: |

_____ _____
_____

_____
_____
_____

_____ +-----------+
                                 | STS |
_____ | Connection|
                                 +-----------+
_____

Subheading # 1.1.1

_____
_____
_____
_____

Subheading # 1.1.2

_____ +-----------+
                                 | Critical |
_____ | Thinking |
                                 +-----------+
____

_____
_____

+---+
| **Practical Activity:** |
| |
| _____ |
| _____ |
| _____ |
| |
| |
| |
+---+

EXERCISE:

The exercise should include;

- Multiple Choice Questions

- Short Questions

- Extensive Questions

(Questions should be made that can check learning outcomes in all the domains i.e. knowledge, comprehension, application, evaluation, synthesis and connection with technology and society.)

SALIENT FEATURES OF THE CURRICULUM

The curriculum is fully in harmony with the National Priorities and will provide an important momentum for achieving our vision for students.

Configuration with the Restructured Schemes of Studies:

The Ministry of Education went through an arduous exercise for restructuring the National Schemes of Studies. The Curriculum Development Team; while designing the curriculum, selecting the syllabi contents, carving the learning outcomes (including practical skills) and suggesting the timeframes and evaluation strategies for the contents, maintained a concrete configuration with the restructured schemes of study.

The Focused Areas:

It has been focused that the curriculum provides to the students:

- Challenges and Enjoyment
- Breadth
- Progression
- Depth
- Personalization and Choice
- Coherence
- Relevance

Reduction in Load:

Since it was important that the quality of Library Science education at the secondary level was not compromised in any way, the reduction in load from the syllabus required a very careful selection of topics to be taught. The Team chose to leave topics out if:

- **The question about why the student needs to study the topic at the particular stage could not be answered;**
- **The topic had no direct relevance to the student i.e. was not contextual;**

- The content was repetitive across stages with no change in expected understanding, and
- Any topic was in isolation with no evident horizontal or vertical linkages.

The need for a network of ideas and cross-linking between the areas being identified was deemed very important. While deciding on the chapters/topics and the depth of each topic for the secondary level, a holistic view of the syllabus across all stages from the primary to the higher secondary and beyond was taken. Reducing the use of too many technical terms and avoiding very large numbers of examples will also help to make the content a little lighter. The importance of careful selection of illustrations and their use to make the concepts more explicit was stressed; in Library Science, the quality of illustrations can make or mar any attempt at good textbooks/teaching.

The curriculum also takes up issues pertaining to environment, health and other ethical issues that arise with any interference of human beings in the natural processes, which have great relevance from the societal point of view.

Reasoning Vs Comprehension:

In secondary and higher secondary classes, abstraction and quantitative reasoning come to occupy a more central place than in the primary and elementary classes. We have to avoid the attempt to be comprehensive. A topic can be made comprehensive in two ways;

- Adding many more concepts than can be comfortably learnt in the given time frame
- Enumeration of things or types of things, even where there is no strong conceptual basis for classification

In the present revision, no attempt is made to be comprehensive. Unnecessary enumeration is avoided. The process by which factual knowledge can be acquired is more important than the facts themselves.

The New Library Science Curriculum
Strengths

- Has a concrete structure, and well sequenced yet offers flexibility and maintains the momentum over all years of high school Library Science.

- Highlights the degree of students expectations by laying out baseline levels of achievement at the end of grade X and XII respectively. These expectations are reflected within the Standards and Benchmarks as well as the Aims and Objects sections of the document.

- Emphasizes on Higher Order Thinking through the seven year period. Students are encouraged to think at higher levels for themselves, becoming independent of the teacher----a life-long learning skill.

- Focuses on all the cognitive levels of the Revised Bloom's taxonomy. There is a conscious effort to shift from simply knowing, remembering, and understanding to the more complex applying analyzing, evaluating, and creating skills required for success in this 21st century world.

- Makes positive connections among the contents taught, skills acquired, and a variety of real-life situational applications. The abstract begins to be more meaningful and students realize the "why" in their learning requirements.

- Bridges the gaps between content knowledge and practical experiences by tying the two together. All practical work and field work activities are now connected to their respective topics and where there are none, it clearly states so.

- Has done away with redundant and repetitive topics and this made room to accommodate more current and contemporary Library Science topics that affect the lives of students today and will do so in their future as well. Provides flexibility to the teachers in terms of teaching time and preparation.

- Allows students to experience the learning of science by doing science and not just listening to science.

- Focuses on providing "thinking"-----creative, critical, and analytical--- opportunities to students and teachers.

- Provides a chance to honestly compare the document with any similar document from around the globe.

- Provides opportunities to explore the Library Science subject and discover the wonder of science for oneself.

Tremendous amounts of time, effort and energy have gone into the preparation of the document. Hours have been spent discussing, arguing and compromising on issues and topics as they arose. This document in your hands is the result of well thought out procedures and processes. Let our children begin to experience education in the truest sense of the term.

GLOSSARY OF TERMS USED IN LEARNING OUTCOMES/ ASSESSMENT

This glossary is intended to ensure that terms commonly used in the context of learning outcomes and assessment are appropriately interpreted so that no confusion what-so- ever arises in their use.

These words are listed below along with their contextual meaning.

We urge the users of these terms to strictly follow this glossary and associate meanings to the key words as given in this glossary.

- **Define (the term(s)...)** is intended literally. Only a formal statement or equivalent paraphrase, such as the defining equation with symbols identified, being required.

- **What is meant by ...** normally implies that a definition should be given, together with some relevant comment on the significance or context of the term(s) concerned, especially where two or more terms are included in the question. The amount of supplementary comment intended should be interpreted in the light of the indicated mark value.

- **Explain** may imply reasoning or some reference to theory, depending on the context.

- **State** implies a concise answer with little or no supporting argument, e.g. a numerical answer that can be obtained 'by inspection'.

- **List** requires a number of points with no elaboration. Where a given number of points are specified, this should not be exceeded.

- **Describe** requires candidates to state in words (using diagrams where appropriate) the main points of the topic. It is often used with reference either to particular phenomena or to particular experiments. In the former instance, the term usually implies that the answer should include reference to (visual) observations associated

with the phenomena. The amount of description intended should be interpreted in the light of the indicated mark value.

- **Discuss** requires candidates to give a critical account of the points involved in the topic.

- **Deduce/Predict** implies that candidates are not expected to produce the required answer by recall but by making a logical connection between other pieces of information. Such information may be wholly given in the question or may depend on answers extracted in an earlier part of the question.

- **Suggest** is used in two main contexts. It may either imply that there is no unique answer or that candidates are expected to apply their general knowledge to a 'novel' situation, one that formally may not be 'in the syllabi'.

- **Calculate** is used when a numerical answer is required. In general, working should be shown.

- **Measure** implies that the quantity concerned can be directly obtained from a suitable measuring instrument, e.g. Mass using a balance.

- **Determine** often implies that the quantity concerned cannot be measured directly but is obtained by calculation, substituting measured or known values of other quantities into a standard formula e.g. relative molecular mass or ideal gas equation.

- **Show** is used where a candidate is expected to derive a given result. It is important that the terms being used by candidates are stated explicitly and that all stages in the derivation are stated clearly.

- **Estimate** implies a reasoned order of magnitude statement or calculation of the quantity concerned. Candidates should make such simplifying assumptions as may be necessary about points of principle and about the values of quantities not otherwise included in the question.

- **Sketch**, when applied to graph work, implies that the shape and/or position of the curve need only be qualitatively correct. However, candidates should be aware that, depending on the context, some quantitative aspects may be looked for, e.g. passing through the origin, having an intercept, asymptote or discontinuity at a particular value. On a sketch graph it is essential that candidates clearly indicate what is being plotted on each axis.

- **Sketch**, when applied to diagrams, implies that a simple, freehand drawing is acceptable; nevertheless, care should be taken over proportions and the clear exposition of important details.

Compare requires candidates to provide both similarities and differences between things or concepts.

Section 6

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