

Education and Training for Medical Librarianship in in India

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Abstract:

The paper provides brief history of library and information science education in India leading to bachelor, masters and doctoral degree programmes . Various levels of courses in librarianship available in India are discussed in short. Presents the recommendations of various committees and commissions which impacted library and information science education to a great extent. Discusses in short recommendations of National Knowledge Commission, National Mission on Libraries and the University Grants Commission's Curriculum Committee. Examines the syllabus of 29 central universities and National Institute of Science Communication and Information Resources (NISCAIR), Documentation Research and Training Center and the University Grants Commission of India with reference to medical librarianship . Assesses the manpower requirement for medical librarians in in medical universities and colleges of India. Presents a syllabus for two- year integrated MLIS course for discussion.

1. Introduction:

History of education is centuries old in India. Taxila, Nalanda, Vikramshila were universities some 1600 – 1700 years back. They had big libraries. During European period education flourished in India. Warren Hastings founded Calcutta Madarsah in 1781, Lord Cornwallis

established Sanskrit College in Banaras (1792) and William College, Calcutta (1800), Lord Minto's public libraries (1811) and Delhi College (1829) are some landmarks in India. 1857 is landmark when three universities were established in Calcutta, Bombay and Madras and their libraries in 1873, 1880 and 1904 respectively. [1]

The history of Medicine in India is also ages old. Atharvaveda possibly dates back to II millennium BC is on medical science. Ayurveda flourished in 2000 – 3000 BC. Dhanvantari is believed to be God of Medicine in India. During Buddhist period King Ashoka established hospitals and medical schools. In 317 BC Alexander invaded India and brought Greek and Indian Medicine together. During 13th century Unani medicine came to India through Muslim rulers. In 16th century, Allopathic and Homeopathic system came during British rules. First medical school called Native Medical School was started in Calcutta in 1824 followed by Madras in 1835. Similarly Bombay (1845), Hyderabad (1846) and Indore (1848) had started medical schools. In 1857 when universities at Calcutta, Madras and Bombay were started, some schools were converted to medical colleges and started MBBS degrees. ICMR was founded in 1911. Medical Council of India (MCI) was founded in 1934. All India Institute of Medical sciences (AIIMS) came into existence in 1956. Thus medical libraries emerged in medical schools and colleges. Now there are 7 medical universities and 236 medical colleges in India [2].

2. Education for Librarianship in India:

Education for Library and Information Science in India is now a century old. The credit of opening Library and Information Science education in India goes to great library lover, the King of erstwhile princely state of Baroda (Vadodara), Maharaja Sayaji Rao III Gaikwad, who invited an American Mr. William Alanson Borden in 1911. He was the first teacher in librarianship in India invited by the king. Mr. Borden was appointed as advisor by Maharaja Sayaji Rao of Baroda (1910-13) to advise development of the state library & library development plan in Baroda state (Later Gujarat). He opened regular school to train staff and started first journal "Library Miscellany".[3]

Four years later in 1915, another American librarian Asa Don Dickinson (1876–1960) was appointed librarian of Punjab University, Lahore (Now in Pakistan) and started three months apprenticeship training for working librarians. He initiated first university course. He introduced DDC for the first time in India and a training program at first formal library school at the university level. He published book "Library Primer: a manual". He also formed Punjab Library Association. This is beginning of Library and Information Science education at university level in India. In UK the first full time library science school was set up at London University in 1919 and remained only full time school till 1946. The Punjab university course was first in Asia and IInd in world after first one in USA at Columbia University. It was continued till 1947 as 6 month's course. It became a mile stone in the development of Library and Information Science education as a discipline. Probably Dickinson was the first to use Library Science instead of Librarianship. [4]

After these two great efforts, Indians started taking initiatives in librarianship and library schools. In 1920 Andhra Desa Library Association in Southern State of India started certificate course. In 1929, Madras Library Association (MALA) started a School of Library Science for training academic librarians of the state as an undergraduate 3 months summer course. Dr. Rangnathana taught in this course and acted as Honorary Director of the school. It was taken over by University of Madras in 1931 with a certificate course till 1937 when it was superseded by a one year full time Post-graduate Diploma course in librarianship. Till 1944 Dr. S.R. Ranganathan worked as the University Librarian (1931 – 44) of Madras University and was sent to England for formal library training .He was the first person to start a PG Diploma course at university level. Thus India became one of the countries to introduce full time PG course at the university level. [5]

Bengal Library Association in 1935 started summer course which was changed to a certificate course in 1937. In 1935, Andhra University too started Diploma course which was upgraded to PG Diploma in 1961. Banaras Hindu University, Banaras became second to start PG Diploma in 1941. It started MLIS in 1965 which was discontinued in 1968-69 but restarted in 1969 – 70 (when first author was a student of the course). In 1943 Bombay University started part time PG Diploma. In 1945 University of Calcutta started one year Diploma which was continued till 1968 and was upgraded to BLSc in 1969. Dr. Ranganathan moved to University of Delhi and the first batch started Diploma in 1948 which was changed to BLSc in 1949. In 1949 2 yrs MLIS was introduced instead of BLSc. Ph. D. was too introduced in 1949 in Delhi University. It was first in entire British Commonwealth. But first Ph.D. was awarded in 1957 under Prof. Ranganathan. M. Phil started at University of Delhi in the year 1972. [6]

3. Level of courses:

The librarianship in India has changed enormously during last hundred years. It is new subject in a way though profession is as old as manuscripts came in existence, seen its existence during Mughal period as Nizam/ Darogha were appointed for libraries, started budding during British period with the arrival of Borden and Dickinson and flourished after Dr. Ranganathan arrival on the scene. [7] It has changed itself from time to time to meet the new challenges. Various levels of courses have been introduced to meet the requirements of manpower development from time to time. These are:

1. Certificate: For matriculates to work on junior post in libraries
2. Undergraduate Diploma For intermediate pass students to work on junior professional posts
3. PG Diploma/ Bachelor Degree: For graduates to work on professional posts:
It is Ist professional degree to graduate in any discipline
4. Masters degree: For graduate in LISC to work as on senior posts. Clearing National Eligibility Test (NET) is required for post of librarian in UGC/CSIR approved grades equivalent to lecturers/ Assistance professor.
5. Associateship: Specialised training in librarianship provided by NISCAIR, DRTC in India to prepare for research work.
6. M.Phil; Research degree course for MLISc or equivalent. It provided exemption from NET till 1999.
7. Ph.D.: Research degree course for MLISc. Also provides exemption from NET if obtained with new UGC rules, 2009.
8. D.Lit.: Research degree available at few universities. There are very few takers of this degree.

Traditionally librarianship was considered to be an art and remained with Faculty of Arts or in most of the universities for long time and or in Faculty of Social Sciences in few universities. A few universities put it under Faculty of Journalism or Faculty of Education. But with the inclusion of computers and communication technologies, there has been pressing demand to switch over to other faculty especially Faculty of Science, Information Technology and in some cases under a new faculty –Faculty of Library and Information Science. In Vikram University the author was succeeded in switching the subject from Faculty of Arts to the Faculty of Information Technology along with Department of Computer Science. This asymmetrical treatment be discontinued and looking to its nature and course contents and adoption of more and more computer in the syllabi, it should be either Faculty of Information Technology or Faculty of Science. The best will be in as independent Faculty of Library and Information Science.[8]

4. Committees and Commissions on libraries and LIS education:

The higher education was a priority soon after independence of India in 1947. By that time India had few universities after the establishment of first three universities in 1857 at Calcutta, Bombay and Madras. Soon after independence Government of India set up RadhaKrishnan Commission [9]. On the recommendation of the commission, University

Grants Commission (UGC) was established in 1953 and become a statutory body in 1956. The University Education Commission (1948-49) and Education Commission 1964-66 were appointed by Government of India. National Policy on Education was adopted in 1968. A new National Education Policy came in 1986 and was accepted by Parliament which was revised on the suggestions of Ram Murty Committee and Janardan Reddy Committee in 1990 and 1992 respectively. Library and Information Science being in higher education also been affected. Some important and far reaching impacts on libraries, Library and Information Science education of these committees / commission have been discussed in brief.[10]

Government of India and UGC have setup some committees / commissions. These are as follows:

- a). Inter University Board of India (1945): It was formed which is later known as - Association of Indian Universities in 1973. For LIS, it resolved that “In order to maintain uniformity of standards at various centres for training for librarianship it is necessary that only graduates be admitted to the diploma course.”
- b). Advisory Committee for Libraries: (K P Sinha Committee,1958): The Govt. of India set up a 9 member committee which recommended mainly for public libraries but also recommended for training for librarianship. It recommended (1) to set an expert committee to suggest complete re-organization of syllabus, teaching methods and examination in prevailing diploma courses; (2) to provide financial assistance to universities by UGC for establishing full fledged Library and Information Science teaching departments; and (3) the teachers in Library and Information Science should have same terms and conditions as in other departments.
- c). Institute of Library Science (1959): The Institute of Library Science was established by Ministry of Education at University of Delhi to impart instruction mainly to public librarian. It was closed down in 1964 and was merged with the Library Science Department of the University of Delhi, Delhi.
- d). Working Group of Planning Commission of India: Working Group on Modernization of Library Services and Informatics (1985 – 90) was set for the 7th Five Year Plan (1985 – 90) to set up a National center for Education and Research in Library and Information Science along the lines of NCERT, etc; LIS schools should offer specialization on different areas; organize continuous education programs for teachers and working librarians; and provide grants for research fellowship, travel grants, fellowships etc. in Library Science schools.
- e). National Policy on Library and Information System (1986): ILA and RRRLF prepared separate draft on this issue. ILA draft proposed establishment of National Centre for Education and Research in Library and Information Science. RRRLF draft called for uniform pattern and advocated for specialized courses by universities and leading organizations such as INSDOC, DRTC, RRRLF and National Library. After these efforts, Government of India

set up Committee on National Policy on Library and Information System (CONPOLIS) with Prof. D.P. Chattopadhyaya as its Chairman in 1985. It submitted its report - National Policy on LIS System in 1986. It was subsequently assessed by Empowered Committee which in 1988 suggested that an accreditation agency for LIS courses should be established; establish National Centre for Higher Education & Research in LIS; and IT should be used as a tool for maintenance of standards in LIS education.

f). National Knowledge Commission (2005): It is a land mark in the history of development of Library and Information Science in India. Government of India under the chairmanship of famous educationist Sam Pitroda established National Knowledge Commission in the year 2005 which has recommended overall modifications of Library and Information Science education in India mainly (a). Establishment of National Mission on Libraries; (b). Assessment of manpower requirements and steps to be taken to meet it; (c). Establishing Advanced training Institutes in Library and Information Science; and (d). Setting-up computer centers in all Library and Information Science departments, etc.

g). National Mission on Libraries (2012): As per recommendation of National Knowledge Commission, Government of India has setup the Mission on libraries called National Mission on Libraries (2012) under the Chairmanship of Prof. Deepak Pental, Vice Chancellor of University of Delhi, Delhi with ten members. (One of the member is Retd. Professor from Vikram University, Ujjain) for three years terms and management support from RRRLF with following objectives:

Advising Government of India on all Library and Information sector matters; it will work on preparing long term plans and preparation of National Policy on Library and Information Science interacting with State Governments; encouraging partnership; coordinating with stake holders and others; collaborating with counterpart agencies in other countries and securing public support and help states in library acts, etc. It will also review and assess current status of Library and Information Science education and in services training facilities with agencies such as UGC and universities to address the identified issues. Its first meeting was held on 18.05.2012. Working group on Library and Information Science education is also formed with A R D Prasad as Chairman and Swapan Chakraborty as Member. [11] The first meeting also considered establishment of Indian Institute of Library and Information Science, up gradation of selected university departments, apprenticeship at MLISc level with stipend, organization of short term courses and training of young students abroad for one year MLISc in ICT.

Beside Govt. of India's initiatives, UGC also established committees to promote LIS education in the country namely:

a). Library Committee (1957) chaired by Dr. S.R. Ranganathan; It published its report in 1965 and recommended that university departments should offer only BLIS, MLIS and Ph. D. Courses; and Diploma be converted to Degree Besides its also recommended to appoint a Committee to look into quality of standards of library education.

b). Review Committee of Library Science in Indian Universities (1961) : It was also chaired by Dr. S R Ranganathan, published its report in 1965. It designed syllabus for BLIS, MLIS courses and changed the nomenclature of the course and made provision of 6 months apprenticeship.

c). UGC Curriculum Development Committees (1990) and (2001): Two Curriculum Development Committees have been setup by UGC. The first with Prof P.N. Kaula as chairman submitted its report in 1992. One of the important recommendations was to treat library and Information Science departments as science departments. It drafted a model curriculum also. The other is Karisidappa Committee (2001). It was chaired by Dr. C R Karisidappa. It submitted its report in 2001 and recommended for two years integrated MLISc course, and lay emphasis on practical components in certain papers.[12]

5. Modes of Library and Information Science education in India:

There are two types of degree courses available in India in Library and Information Science education

One year Bachelor Degree course- BLISc + one year Master Degree course – MLISc or Two years integrated Master Degree course - MLISc

Besides the courses are conducted in an annual exam mode or semester system made of 6 months each. One year BLISc may have 2 semester examinations or 1 annual examination. On the other hand two years MLISc Degree may have 4 semester examinations or 2 annual examinations. No degree is awarded at the end of 1st year in case of two years integrated MLISc system. UGC Curricular Committee has suggested later but most of the universities prefer one year BLISc and one year MLISc course. Many universities have adopted semester system also.

6. Courses on Medical Librarianship:

This part of the paper studies courses available for Medical librarianship. In Great Britain, medical was considered to be as one of the subject for which librarians will be required. The qualifications for medical librarians were still the same as that of librarians generally. London Medical Librarians considered that training for medical librarianship should differ from training for other branches of librarianship in 1947.

In earlier days, as in case of universities, where librarians were and still are, scholars in some academic fields, librarians of medical corporations in England too were physicians. Later such scholars acted more or less in advisory capacity due to increase in literature and beyond control of a single individual, with an assistant or sub librarian. Slowly 'sub' became librarian and librarian became Honorary. A medical librarian has to be a person with knowledge of medicine as layman. A trial run of a course was done by N W Polytechnic, London with a

special course in medical librarianship in (1952–53) and (1955–56) batch. No one provided such special course before it. Medical Libraries are dependent on assistants from general libraries and learn to work in medical libraries after some experience, know something of medical subjects, terminology and tools etc. In 1964 Library Association (London) adopted a paper on medicine [13]. In India, Medical Librarianship, as in case of Great Britain too is considered to be a job of a general librarian with a BLISc / MLISc degree, even to the extent that they are not supposed to have a basic knowledge of Biological Sciences. There is no school of librarianship which has a course specifically meant for special libraries so to say medical libraries.

Now the question is how the medical libraries different from general libraries? In short, subject matter is different – specialized. Working with it requires a good knowledge of very specialized terminology. Moreover the needs of the people using them are also different so much so of what they require is for today or delay means frustration. It is right time now to consider for a specialized librarian for various subjects. Not only their basic qualification should be different but also their courses and training in librarianship should be specialized to fulfill specialized needs of the very special clientele.

With these objectives in mind and to evaluate present situation in India the paper has collected data from various Central Universities in India. It studied availability of Library and Information Science courses in 29 Central universities of India. Out of 29 universities, only six universities have one year BLISc and one year MLISc courses while seven universities have two years integrated MLISc courses. 16 central universities do not have Library and Information Science education. Out of the 13 universities, syllabus of three universities is not available on internet. The syllabus of 10 Central Universities is available and has been analysed from the point of view of Medicine and Health Science as part of these courses. Not a single university has specialised BLISc/MLISC

1. University of Delhi, Delhi: It has an elective paper on Health Science Libraries and their development at MLISc level.
2. Indira Gandhi National Open University, Delhi: It has one year MLISc course. It has no paper on Medical or Health Science Libraries.
3. Central University of Himachal Pradesh, Kangra: It has one year MLISc course only but has no paper on Medical or Health Science Libraries.

4. University of Jammu and Kashmir, (Jammu): It also has Health Science Information System as optional paper.
5. Dr. Harisingh Gaur Central University, Sagar: It has one year MLISc course. It has a paper in which one unit includes not on the subjects. Information sources and products in Science, Engineering and Technology but.
6. Mizoram University, Aizwal: It has two years MLISc course and has 17 papers but there is no course / paper on Medical or Health Science Libraries.
7. Pondicherry University, Puducherry: It has two years MLISc course but does not have paper on Medical or Health Science Libraries.
8. Aligarh Muslim University, Aligarh: It has only one year MLISc course but does not have a course of Medical or Health Science Libraries.
9. Babasaheb Bhimrao Ambedkar University, Lucknow: It has two years MLISc course. It has two elective papers out of which one paper is on Health Science Information System. (see Appendix)
10. Banaras Hindu University, Banaras: It has two years MLISc course and has an elective paper on Information sources and products in Science and Technology only. Specifically there is no course on Medical or Health Science Libraries.

Besides syllabus of Documentations Research and Training Center (DRTC), NISCAIR (INSDOC) and UGC Model syllabus have also been studied.

11. NISCAIR (INSDOC): Associateship in Information Science (AIS) (A Master Degree Course) is a 4th semester course divided in two years. The minimum requirement for the course is either a Master Degree or 4 years Degree like BE/MBBS or BLISc with one year experience afterwards. second year is devoted to Dissertation work. In the second semester, paper ten has six optional elective subjects. Medical Information System is one of these elective papers. The syllabus also includes one elective paper on Patent Information system which is of great importance to Medical and Health Science.
12. Documentation Research and Training Center (DRTC), Bangalore: It has two years Associateship program of 4 semester with the 21st paper as an elective paper on the subject but detailed syllabus is not available.

13. UGC Model Curriculum: The paper 15th is elective having 10 papers, out of which Health Science Information System is listed in S. No. 4 but detailed syllabus is not available.

Thus we find syllabus of only three Central Universities and NISCAIR have subject on Medical and Health Science. Not a single university in India has a specialized course for such libraries.

7. Requirement for the Course:

Looking to the unavailability of a specialized course in Medical and Health Science and requirement of the Medical colleges, Homeopathic and Ayurvedic colleges, Veterinary colleges, and other paramedical colleges in large number, we suggest to start a course of Medical and Health Science Libraries at BLISc / MLISc level or two years integrated course by some Medical universities in India in various regions.

The manpower requirement in future will be enough for specialized course, as the employment opportunities for courses run by NISCAIR and DRTC are sufficient for their specialized courses in librarianship. Similarly if we organize specialized course in this field and have control over mushrooming, if placement cell is founded in such university, the takers will surely be available.

The minimum requirements for a two years integrated course leading to MLISc degree in Medical and Health Science MLISc (M&HS) or a new degree Master in Health Science Library and Information Science (MHLIS) by a Medical university should be as follows:

1. Science subject at Intermediate level.
2. Biological Sciences at graduate level with at least IInd Division.
3. Fluent knowledge of English (may be assessed with scores at international level exam).
4. Or BAMS/ MBBS/ B. Pharma/ BSc Nursing/ BHMS/ or equivalent BVSc/ MVSc
5. Post Graduate Botany, Zoology, Biotechnology, M. Pharma etc. (Preferential)

8. Human Resources Requirement:

At present there are 8 Medical Universities and 236 Allopathic Medical Colleges in India. Karnataka tops the list with 36 medical colleges followed by 28 in Maharashtra and 21 in Andhra Pradesh. If the List of Ayurvedic, Unani, Homeopathic, Pharmacy, Paramedical

Sciences, Nursing and Dental Colleges are not included in the list, the number will reach to more than thousands. If on an average 3 qualified staff is appointed in one large medical college, the demand will definitely increase to over thousand in near future. If Medical Council of India take little initiative and preference is given to specially qualified librarians, running such a course in one or two universities with 25 – 30 students in one batch, will be a success. If we consider demand of such specialized professionals in South East Asian countries, it demands will be more. Hence there is need for a specialized course in Medical and Health Science Library Science in India and South East Asia.

9. Conclusion:

With the above study, it is evident that like other new courses emerged in later 20th century and early this century due to pressurizing demand in industry and society, there is immediate need for very specialized courses in librarianship. Librarianship is no more a general course fit for libraries all but requires specialized training and education for various types of libraries – Medical and Health Science libraries being one of them. It is suggested that a medical university in India and at least one in South East Asia should take initiative to start requirements of doctors, students, faculty and colleges and large hospitals for sponsorship of candidates and recruitment facilities. For this purpose model syllabus has been prepared (Appendix 3) which may be adopted with or without modifications to start with. We can hope that time has come when such courses must be started in India and South Eastern Asia without farther delay to meet next the special requirements of doctors and students, faculty and patients as well. A course in general librarianship is no more sufficient to fulfill demand of the specialized programme.

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Appendix 1: Library and Information Science Courses in Central Universities in India

S.No.	State	University Name	BLIS	MLIS	Syllabus Availability	MHS Availability
1	Andhra Pradesh	University of Hyderabad, Hyderabad	X	X	X	X
2	Arunachal Pradesh	Rajiv Gandhi University, Itanagar	X	X	X	X
3	Assam	Assam University, Silchar	X	√ 2Yrs	X	NA
4	Assam	Tezpur University, Tezpur	X	X	X	X
5	Bihar	Central University of Bihar, Patna	X	X	X	X
6	Chhattisgarh	Guru Ghasidas Vishwavidyalaya, Bilaspur	√	√	X	NA
7	Delhi	University of Delhi, Delhi	√	√	√	√
8	Delhi	Indira Gandhi National Open University, New Delhi	√	√	√	X
9	Gujarat	Central University of Gujarat, Gandhinagar	X	X	X	X
10	Haryana	Central University of Haryana, Gurgaon	X	X	X	X
11	Himachal Pradesh	Central University of Himachal Pradesh Kangra	X	√ 2Yrs	√	NP
12	Jammu and Kashmir	Central University of Kashmir, Srinagar	X	X	X	X
13	Jammu & Kashmir	Central University of Jammu, Jammu	√	√	√	YES
14	Jharkhand	Central University of Jharkhand, Ranchi	X	X	X	X
15	Karnataka	Central University of Karnataka Gulberga	X	X	X	X
16	Madhya Pradesh	Dr. Harisingh Gour Vishwavidyalaya, Sagar	√	√	√	NP
17	Manipur	Manipur University, Imphal	X	X	X	X
18	Meghalaya	North Eastern Hill University, Shilong	X	√ 2Yrs	X	NA
19	Mizoram	Mizoram University, Aizwal	X	√ 2Yrs	√	NP
20	Orissa	Central University of Orissa, Koraput	X	X	X	X
21	Puducherry	Pondicherry University, Puducherry	X	√ 2Yrs	√	NP
22	Punjab	Central University of Punjab, Bathinda	X	X	X	X
23	Rajasthan	Central University of Rajasthan Jaipur	X	X	X	X
24	Uttar Pradesh	Aligarh Muslim University, Aligarh	√	√	√	NP
25	Uttar Pradesh	Babasaheb Bhimrao Ambedkar University, Lucknow	X	√ 2Yrs	√	YES
26	Uttar Pradesh	Banaras Hindu University, Varanasi	X	2 Yrs	√	NP
27	Uttar Pradesh	University of Allahabad, Allahabad	X	X	X	X
28	Uttarakhand	Hemwati Nandan Bahuguna Garhwal University, Garhwal	X	X	X	X
29	West Bengal	Visva Bharati Shantiniketan Kolkata	X	X	X	X

NP = No Paper on Health Science 6,

NA = Syllabus not available 7

YES = Paper or Unit on Health Science and Medical Libraries

Appendix 2: Syllabus on Medicine and Health Science Librarianship available in different

Universities:

University of Delhi, Delhi

Paper – HEALTH SCIENCE LIBRARY AND INFORMATION SYSTEM

UNIT – I: Health Science Libraries and their Development

Objectives and Functions
History and Development of Libraries with Special Reference to India
Role of Medical Libraries
Information Policies in Health and Family Welfare
Agencies and their Role in the Promotion and Development of Medical Libraries in India

UNIT – II: Collection Development and Management

Periodicals, Conference Literature, Grey Literature, Patents, Standards, Specifications and Government Publications
Non-Book Materials
Electronic Resources and Online Databases

UNIT – III: Library Organization and Administration

Organizational Structure
Staff Manual, Library Surveys, Statistics and Standards, etc.

UNIT – IV: Information Services

CAS, SDI, Abstracting and Indexing Services
Library Bulletin, Newspaper Clipping Services
Computerized Services
Resource Sharing and Networking
Information Literacy Programmes

UNIT – V: Financial and Human Resource Management

Determination of Finance, Sources of Finance
Types of Budget
Nature, Size, Selection, Recruitment, Qualification and Training Responsibilities and Duties
Competency Development

University of Jammu and Kashmir, (Jammu)

Paper : HEALTH SCIENCE INFORMATION SYSTEM (Optional)

Unit I 1.1 Growth and Development of Health Science

1.2 Types of Health Science Libraries

1.3 Users of Health Science Information

1.4 Health Science Information System: Components

Unit II 2.1 National Medical Library (NML)

2.2 World Health Organization (WHO); Information Services

2.3 Indian Council of Medical Research (ICMR); Information Services

2.4 Central Drug Research Institute (CDRI), Central Food Technology Research Institute (CFTRI); Information Activities

Unit III 3.1 Primary Sources of Information in Health Science

3.2 Secondary Sources of Information in Health Science

3.3 Internet based resources in Health Science

3.4 CD-ROM based resources in Health Science

Unit IV 4.1 HELLIS

4.2 Medical Literature Analysis Retrieval System (MEDLARS)

4.3 Biological abstracts (BIOSIS), Excerpta Medica

4.4 Trends in Health Information Systems

Babasaheb Bhimrao Ambedkar University, Lucknow (Uttar Pradesh)

Paper: HEALTH SCIENCE LIBRARY AND INFORMATION SYSTEMS AND SERVICES

UNIT-I	<ul style="list-style-type: none">• Health Information: Definition, Need, Purpose and Functions. Growth & Development of Medical Education and Research in India with Particular Reference to 19th and 20th centuries• Genesis and Development of Health Science Libraries in India.• National Medical Library of India.• National Library of Medicine, USA.
UNIT-II	<ul style="list-style-type: none">• Health information: Sources, Services, Products and Marketing.• Collection development and Management: Periodicals, Conference literature, Grey Literature, Patents, Standards, Govt. Publication, Non-Book Materials: E-documents• Health Science Information Systems: Concept, Need and Functions.
UNIT-III	<ul style="list-style-type: none">• Health Sciences Database: IT for health sciences, IT in occupational Health Libraries and Information Centres.• Role of MEDLARS, CD-ROM and WHO in Health Information• Internet Searching: Panorama of the Information Available at the Nuclear Medicine Websites
UNIT-IV Databases.	<ul style="list-style-type: none">• Resource Sharing and Networking: Need and Types of Networks; OCLC
UNIT-V	<ul style="list-style-type: none">• Information Services: CAS, SDI, Abstracting and Indexing, Computerized Services.• Personnel Management: Nature, Size, Selection, Recruitment, Qualification, Training, Responsibilities and Duties.• Health Sciences Library Ethics: Ethics for Online Intermediaries in Health Science Librarianship

NISCAIR (INSDOC)

Paper: MEDICAL INFORMATION SYSTEMS

	<p>Health science information Genesis, growth and developments; Scope and trends; Education and research in India Users of Health Science Information Categories, role, functions and needs Types of Health Science Libraries/Information Centres According to parent body i.e. Medical Colleges, Institute of higher learning, universities, research institutes, societies, hospitals etc. Health science information and global issues HELLIS, MEDLARS, BIOSIS etc. The role and functions of National Medical Library The role and function of other national and international organisations delivering Health Science Information: WHO; ICMR; Department of Biotechnology, Council of Ayurveda and Siddha; Council of Homoeopathy; Unani System; National Institute of Health and Family Welfare; CDRI, CFTRI, NIN, NII, NIC, etc. Medical information sources Printed Sources : Primary, Secondary and Tertiary Non-print Sources: Audio Visual Material; Microforms; Electronic form-online databases and databases on CD-ROM. Interpersonal Sources of Information Medical information services and products Current Awareness Services: SDI Services, Indexing and Abstracting Services, Literature Search, Evaluation of information services and products. Organisation of medical information systems Community level; Hospital level; Academic level</p>
	<p>Hypertext, Hypermedia, Multimedia applications in biomedical information systems. Expert system/Artificial intelligence applications for biomedical information.</p>

Appendix 3: Model Syllabus for Course on Medical and Health Science Librarianship

Paper I: Foundations of Medical and Health Science Library and Information Science

1. Brief History of education
2. History of medical education in UK, USA & India
3. History of Library and Information Science education in India
4. Types of libraries and their functions
5. Types of special libraries and their functions
6. Types of medical libraries and their functions
7. Role of libraries in medical education
8. Development of medical libraries with special reference to India
9. Librarianship as a profession
10. Professional Associations Medical Libraries Associations in USA, UK and India
11. Medical Council of India
12. Committees and Commissions of higher education, library education and medical libraries in India, National Mission for Libraries
13. Role of WHO / UNESCO in Medical Sciences in India
14. Right to Information, Intellectual Property Rights, Patents, Delivery of Books Act.

Paper II: Information Organization, Processing and Retrieval (Theory and Practice)

1. Universe of subjects and their modes of formation
2. Mapping of Universe of Subjects in Colon subject, Dewey Decimal Classification and Universal Decimal Classification with special reference to Medical Science and allied subjects.
3. Subjects within ambit of Medical Sciences and allied subjects
4. Introduction to terminology specially used in Medical Sciences
5. Classification need, purpose, definition, Species of classification
6. Trends in classification, Automatic classification, classification online, Web OPAC
7. Cataloguing – definition, need and purpose
8. Types of cataloguing – Classified and Alphabetical

9. Basic knowledge of CCC and AACR II – single and multiple authors, corporate authors, pseudonyms.1
10. Bibliographic Description, ISBD, FRBR
11. Machine Readable Catalogue (MARC), Online Public Access Catalogue (OPAC)
12. Indexing – Precis, Popsi, Thesaurus, Subject Headings with special reference to Mesh

Paper III: Information Organization and Processing (Practice)

1. Classification of medical literature according to Colon Classification
2. Classification of medical literature according to UDC
3. Cataloguing of supple books by CCC and AACR of medical books and allied subjects.
4. Preparation of Subject Heading of medical books and allied subjects
5. Cataloguing by MARC, Online Catalogoing

Paper IV: Library Management

1. Principles of Administration – POSDCORB, Library authority, Library committee.
2. Acquisition – selection procedure, ordering receipt, payment, online payment, foreign exchange, publishers, venders, librarians relationship.
3. Management – principles, theory / Total Quality Management (TQM)
4. Human Resources – classification, job description, qualification, etc.
5. Departmental libraries and their management ,
6. PEPT, CPM, ISO9000, Reporting – SWOT Reengineering, annual report, library statistics,
7. Financial management – Resources mobilization, budgeting, PPBS, Zero based budgeting, etc. Cast benefit, outsourcing.

Paper V: Information Technology (Basic)

1. Components, definition, need, objectives,
2. Computer hardware – History, Generations, Processes, Types of memory, peripherals, operating systems, RAM, ROM, Computer language, Information storage media, viruses and anti-viruses,
3. Office automation, Word processing, Excel, Dos, Windows – 8, Microsoft, MS-Word, MS-Power point,PDF files, data compression, Android, DTP, Applications (Apps) useful for libraries, E-publishing, Free online books, Internet – connecting links, Protocol, Browser, Navigator, Internet

explorer, search engine, security. Harding of DBMS in Medicine (Practice), dbase, Foxpro, CDS/ISIS. Practice of use of Operating system, Word processor, Spread sheets, use of DBMS software. Teleconferencing, Video conferencing, Telemedicine. Wireless technologies, - Bluetooth, WiFi modem, Dongle, Open source software.

Paper VI: Information Technology (Practice)

Practical application to medical and health sciences

Paper VII: Information System

1. Information System – Components, structure, functions, services, types – libraries, development of centers, referral centers, databanks.
2. LAN, MAN, VAN, Bus, Star, Ring topologies
3. Global Information System – INIS, Medlars, - PubMed. Indmed, Info Trac, IPC, HWRC, Infonet, N-List, TKDL
4. International Bodies – UNESCO, IFLA, NLM (USA, UK, India), Delnet,
5. CD ROM databases in medical and allied subjects.

Paper VIII: Information Sources

1. Documentary and non-documentary, primary, secondary, and tertiary with special, reference to Medical or Health Sciences
2. Grey literature, Government Publications, Patents, Non-book materials (As per INSDOC)
3. Practical study to evaluate of information sources in Medical & Health Science
4. Compilation of Current Awareness Services/ Bibliography/ Content List/ Press Clipping

Paper IX: Digital Libraries

1. Meaning, purpose, need, historical development
2. Digitization, hardware, software, OCR's, scanners
3. Standard Meta data
4. Digital Library Software- Dspace, Greenstone, Print, OAI, Harvester
5. Storage Media,
6. Data Ware Houses, Data Mining and Metadata, Personal Digital Libraries, Digital Libraries of Medical Science
7. Digital libraries in Medical and Health Science
8. Personal Digital Libraries

Paper X: Library Automation (Theory and Practice)

1. Concepts, definition, need and purpose
2. Facets of Library Automation
3. Library Automation software: SOUL, LIBSY, etc.
4. Practical work of library automation techniques

Paper XI: Patent Information System

Definition/ digital, qualified and natural rights, applicant application, applicability success, challenges

1. Invention, types, legal protection, Intellectual Property Rights
2. Stages of patenting policy, evaluation of innovation, agency of patent
3. Patenting in India- Patent Act, mechanism and processing Indian Patent office
4. Draft of patent Document, text, classes.. , invention, processing, acceptance procedures
5. Challenging a patent: Draft, filing, reasons for challenges, support documents
6. Patent search, patent classification, cataloguing, database, websites
7. Study of five success stories of challenges to patents abroad in this field of medical sciences

Paper XII: Web Technology and Internet

1. Hyper Text Marc Language (HTML), TCP/IP and internet protocol
2. URL, RSS, Social networking, blogs, facebook, twitter- creation of blog of library
3. Search engines, search algorithm
4. Website technology, creation of web, maintenance of web

Paper XIII: Research Methodology, Statistics and Bibliometrics

1. Research methodology, Research design, hypothesis, Review of literature, sampling, data collection and analysis, Report and presentation of data
2. Fundamentals of statistics, Mean, mode, median, standard deviation, binomial, poisson, geometrics and negative binomial and distributions test
3. Bibliometrics, Informetrics, scientrometrics, sociometrics, genesis: definition, scope and purpose

4. Bibliometric laws: Bradford law, growth rate and doubling time, collaboration coefficient, dominance factors, etc. Half-life, obsolescence, citation analysis. scientometric study of Nobel Prize winners in medical and Health science.

Paper XIV: Information Literacy Programme

1. User education: Definition, need, purpose, methods of user education, barriers in user education
2. Information literacy: Definition, need, purposes
3. Use computers, search strategy, search from database
4. Organization of Information Literacy program to Under-graduate and post graduate students/ Research Scholars/ Doctor and patient.

Paper XV: Introduction to Medical and Health Science, subjects, terminology

1. Introduction to term in Medical and Health Science
2. Use of dictionaries, thesaurus, encyclopedia in medicine on-line and off-line reference works in Medical and Health Science, study of 5 reference source published on-line.

Paper XVI: Apprenticeship on a subject related to medical library - Dissertation work