I-school movement: a new facet of LIS education in India

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Abstract:

The traditional LIS education is more than hundred years old. In India, LIS education started in the year 1911. The information explosion and subject proliferation in the post industrial society brought major changes in global information environment. The second major thrust on global information scenario was imposed by internet and communication revolution since the late nineties of the last century. Meanwhile, a new global movement in LIS education started to incorporate paradigm shifts of information behaviour, which is known as i-school movement. In this paper, a brief description of global i-school movement is given with special emphasis to India. In India, though this movement was initiated less than a decade ago, but its preamble was started since after independence through the inauguration of INSDOC followed by DRTC. The course structure of the new courses has also been discussed and its similarities with traditional courses are highlighted.

Keywords: i-school movement-India, Global i-school movement, i-school, ISIM, LIS education in India, LIS curricula

Introduction:

We are now living in 21st Century AD, and at this particular temporal juncture it is interesting to note that the first library system in the world ever traced belonged to 21st Century BC that was situated in ancient Babylonia. The library system thus is an old and classical concept in the history of knowledge cultivation. But librarianship is not very old, rather an almost nascent concept compared to the age of the library system. The concept of librarianship is intrinsically imbibed in the concept of library education, which is the term for the educational preparation for professional librarians. There are master's, bachelor's, associate, and certificate programs in library science, which provide formal training of library professionals, library technicians, and clerks, as well as preparation for graduate, post-graduate and research-level studies in library science.

The concept of library professional or librarianship is new. Until the 19th century, the librarian or library-in-charge of an academic institution was normally a scholar, often a professor or lecturer with a special interest in the library. There were no training programs, and the new librarian was expected to follow the practices of other similar libraries. The growth and proliferation of newer subjects in the post-industrial society and information explosion created new thrusts on library systems. Information explosion and subject proliferation gradually necessitated the utility of knowledge organization. In earlier days documents were easily retrievable even without proper organization as the volume was thin. But information explosion and subject proliferation demanded proper organization of documents to enhance retrievability. The practice of knowledge organization was started through the inception of LIS education and perhaps it is the first practiced area in the history of LIS education. The term knowledge organization was popularly known at that time as library classification. The first systematic library classificationist was Melvil Dewey who established in 1887 the first library school in US. In India, the first ever library school started in 1911 at Baroda under the directorship of W.A. Borden, a direct disciple of Melvil Dewey. The first university level LIS course was initiated by Dickenson at Punjab University (now in Lahore, Pakistan) in 1915. This move was followed by library associations in India through developing training programmes for library professionals e.g. Andhra Desha Library

Association that started training course in 1920 at Vijayawada; Madras Library Association that started certificate course in 1929 at Madras and Bengal Library Association, which initiated training course in 1937. Andhra University started a certificate course on LIS in 1935 followed by University of Madras (postgraduate degree course in 1936) and Banaras Hindu University (postgraduate diploma course in 1942). Of these certificate level courses, only the same conducted by Bengal Library Association is still continuing and it is the longest running LIS course in India that recently completed glorious seventy five years (2012).

Post-independence era of LIS education in India is dominated by mainly university teaching departments. Delhi University started the first postgraduate degree course in 1948 (later changed to Bachelor of Library Science) and in 1957 Aligarh Muslim University initiated the first ever B. Lib. Sc. in India. University of Madras converted their diploma course into B. Lib. Sc. course in 1960. DRTC and INSDOC started two specialized courses in LIS in the year 1962 and 1964 respectively. IGNOU started its BLIS (in 1989) and MLIS courses (in 1996) through distance mode right from late eighties and this move was followed by different dual-mode state universities. At present there are about 90 universities in India that are imparting LIS education in different levels (ranging from certificate to Ph. D.). LIS courses are also offered by 5 open universities and 21 dual-mode universities/institute of correspondence education. Traditional universities are offering LIS courses in two modes, truncated courses (one year BLIS and one year MLIS) and integrated course (two-year integrated MLIS course).

In Bengal, the first milestone of LIS education at university level was laid down by the University of Calcutta in 1945. The University started a Diploma course in Librarianship since the year. In 1959, the "Department of Library Science" was started as a separate Department, which functioned under the Central Library previously. A separate and independent Faculty for Post Graduate Studies in Library Science was created under which the department was placed. From the 1969-1970 session the "Diploma" was replaced by Post Graduate Degree of Bachelor of Library Science (B.Lib.Sc). In 1998 the department has been renamed as the Department of Library & Information Science offering the course called Bachelor of Library & Information Science (BLISc). Besides the University of Calcutta, six other state universities (Jadavpur University, Rabindra Bharati University, University of Kalyani, University of Burdwan, University of North Bengal and Vidyasagar University) are presently conducting Bachelor's, Master's and Doctoral programmes in library and information science through regular mode. One state open university (Netaji Subhas Open University) is also conducting these programmes in LIS through distance mode.

LIS education: changing scenario

There are so many terms or subject descriptors that frequently used to describe the field of library and information science, for instance, *library science, library economy, librarianship, documentation, library studies, information studies, information management, information science, library and information scienc*e et al. The concept of library services prior to the concept of librarianship was mainly centered around store house concept or repository of books and other documents. Once the perception of librarianship came into being the library services gradually acquired new dimensions. The second paradigm shift in library services occurred since the beginning of ninth decade of the last Century with the advent of communication revolution due to internet. The world is going digital and the library services are no exception. So is the LIS education. LIS education in India is presently passing through a deliberation on Technology vs. Tradition. UGC Model Curriculum Report (2001) on LIS education (developed by a committee under UGC) observed that practical aspects of library automation and digitization have not received its due share in LIS syllabi. In late nineties LIS education in India has shifted its focus in the context of ICT-enabled tools, changing information seeking behaviour of users and distributed information network. Academia, practicing professionals and students need to acquire knowledge and skills related with emerging library and information technology in addition to existing

knowledge, tools and techniques. LIS education system in India now needs to face a valiant digital world to stay acquiescent with continuing changes in library and information services. There is an urgent need for reshaping LIS education in India as it completed the first century of its existence. The quandary for traditionalism makes many LIS professionals swinging between latest ICT-enabled tools and techniques and traditional document-based approaches. There should be a clear compatibility between these two approaches for long-term sustainability of LIS education in this new digital environment. It seems that there may be some sort of frequency mismatching between traditional LIS education and latest ICT-enabled tools and techniques that should be surpassed.

The information revolution in the post-industrial society resulted proliferation of the universe of subjects that radically turned over the classical knowledge map. The modes of study, research and all other forms of classical scholarly activities were drastically shifted to various new forms. These paradigm shifts eventually changed way of usage of documents and also information. The communication and internet revolution of early nineties in the last century accelerated this process. Earlier people stressed on documents that may be considered as macroscopic form of information collection, whereas current trends focus on piecemeal and fragmented approach to information that may be considered microscopic form of information. This shift of viewing information gradually coupled the terms like *information science* or *information studies* with *library science*. The LIS education as discussed above mainly concern with traditional approaches. Besides university-level PG courses and various certificate courses by professional associations, a new movement in information science education started since the late nineties known as information school or I-school movement. This movement focuses new features of information processing, organization and dissemination mainly in the context of electronic media and ICT enabled tools and techniques. But it is different from information technology courses that are totally belonging to the areas of computer science. The information science education through i-school movement hardly includes the traditional library-related features and studies. It is a global movement, and waved in our country also since last decade. But the seed of this movement was sown almost half century back through the foundation of INSDOC (Indian National Scientific Documentation Centre, New Delhi) in 1952 followed by DRTC (Documentation Research and Training Centre, Bangalore) in 1962.

INSDOC came into being in 1952 and was engaged in providing S&T information and documentation services through myriad activities such as abstracting and indexing, design and development of databases, translation, library automation, providing access to international information sources, human resource development, consultancy services in setting up modern library-cum-information centres. INSDOC was also host to the National Science Library and the SAARC Documentation Centre. National Institute of Science Communication and Information Resources (NISCAIR) came into existence on 30 September 2002 with the merger of National Institute of Science Communication (NISCOM) and Indian National Scientific Documentation Centre (INSDOC). Both NISCOM and INSDOC, the two premier institutes of the Council of Scientific and Industrial Research (CSIR), were devoted to dissemination and documentation of S&T information.

DRTC was established in January 1962 as a division of the Indian Statistical Institute. It developed as a result of social forces. Soon after independence, the Government of India created the Indian Standards Institution in 1947. In the same year, its Documentation (Sectional) Committee was formed with Prof. S R Ranganathan as chairman. A proposal was made to Union Ministry of Education for the establishment of a National Documentation Centre. The proposal was referred to a committee of professors which included Prof. S R Ranganathan. In 1949, the files were taken over by Dr. Shanti Swarup Bhatnagar. There was a keenly felt need for document services to support the work done in the national laboratories that were just being established. In 1950, Dr. K S Krishnan, the then Director of the National Physics Laboratory and Prof. S R Ranganathan were

authorized to negotiate with UNESCO for aid in setting up a National Documentation Centre. The result was the establishment of Indian National Scientific Documentation Centre (INSDOC) in 1952. By about 1955, some industries had been established. The research activities in the national laboratories had also begun to accelerate to a higher pitch. Specialist Libraries to support research activities were being established in some of these institutions.

I-school:

According to Wikipedia, an information school (sometimes abbreviated I-school or iSchool) is a university-level institution committed to understanding the role of information in nature and human endeavors. Synonyms include "school of information", "department of information studies", or "information department". Information school faculty conducts research into the fundamental aspects of information and related technologies. In addition to granting academic degrees, information schools educate information professionals, researchers, and scholars for an increasingly information-driven world. Information school can also refer, in a more restricted sense, to the members of the iSchools organization. Members of this group share a fundamental interest in the relationships between people, information, technology, and science. These schools, colleges, and departments have been either newly established or have evolved from programs focused on information systems, library science, informatics, computer science, library and information science and information science.

In a society that is progressively diverse in culture, language, and technology just like our nation, the field of library science and information science education has continued to develop and respond to the changing information environment. In India, the lingual and cultural pluralism particularly demands multi-dimensional and highly customized information environment. In USA, the i-School movement has attracted a good number of library and information science projects, as well as programs in computer science, while many library and information science projects have revised their mission and curricula to meet the information needs of a pluralistic world without changing the name of their programs. The LIS Schools thus actively participated in many i-school projects. Although i-Schools and LIS Schools may seem dichotomous, many of these schools share the history of library and information science education and may have more in common than their names imply. The i-school curricula is designed to shed light on the diversity and commonality of information science education in the 21st century by examining the similarities and differences of these two types of schools including their relationship to the tradition of library and information science education and the extent to which these schools are meeting the needs of a pluralistic world.

The initial phase of i-School movement comprised of academic programs that embrace new intellectual and professional challenges in an info-world. To meet various facets of global challenges of information behavioral issues the i-Schools eventually moved beyond traditional programs. The i-Schools straddle the academy's ancient engagement with information and the contemporary challenges of ubiquitous information affecting all aspects of society. The i-School movement is emergent; its equilibrium can only be found in an essential tension among competing visions in a world of rapid technical and social change. I-School identity is elusive and will remain so for the foreseeable future. Academic traditions are generally conservative and do not readily welcome new fields of endeavor. The most remarkable thing about the I-Schools is the variety of their origins and the broad embrace of their intellectual interests.

I-school- global scenario:

The forerunner nation of the global i-school movement is USA, where i-Schools have arisen in three principal ways: at first, from the re-purposing of pre-existing schools; secondly from the merging of pre-existing but disparate academic programs; and lastly from the creation of altogether new programs by hiring faculty primarily from outside the institution. Each brings different challenges at the detailed level of individual personalities and biases, but all three modalities of development show common characteristics in the struggle for identity. Information schools promote an interdisciplinary approach to understanding the opportunities and challenges of information management, with a core commitment to concepts like universal access and user-centered organization of information. The field is concerned broadly with questions of design and preservation across information spaces, from digital and virtual spaces like online communities, the World Wide Web, and databases to physical spaces such as libraries, museums, archives, and other repositories. Information school degree programs include course offerings in areas such as information architecture, design, economics, policy, security, and telecommunications; knowledge management, user experience design, and usability; conservation and preservation, including digital preservation; librarianship and library administration; the sociology of information; and human–computer interaction. The list of thirty six information schools worldwide is given below (other than India), which forms a consortium of 36 information schools in 11 countries.

Table 1: Global i-schools (other than India)

S.No.	Country	Institution	Academic unit
1	Australia	University of Melbourne	Melbourne School of Information
2	Australia	University of South Australia	School of Computer and Information Science
3	Canada	University of British Columbia	School of Library, Archival, and Information Studies
4	Canada	University of Toronto	Faculty of Information
5	China	Nanjing University	School of Information Management
6	China	Wuhan University	School of Information Management
7	Denmark	University of Copenhagen	Royal School of Library and Information Science
8	England	University College London	Department of Information Studies
9	England	University of Sheffield	Information School
10	Finland	University of Tampere	School of Information Sciences
11	Germany	Humboldt-Universität zu Berlin	Berlin School of Library and Information Science
12	Ireland	University College Dublin	School of Information and Library Studies
13	Scotland	University of Glasgow	Humanities Advanced Technology and Information Institute
14	Singapore	Singapore Management University	School of Information Systems
15	USA	University of California, Berkeley	School of Information
16	USA	University of California, Irvine	Donald Bren School of Information and Computer Sciences
17	USA	University of California, Los Angeles	Graduate School of Education and Information Studies
18	USA	Carnegie Mellon University	H. John Heinz III College
19	USA	Drexel University	College of Information Science and Technology
20	USA	Florida State University	College of Communication and Information
21	USA	Georgia Institute of Technology	College of Computing
22	USA	University of Illinois Urbana-Champaign	Graduate School of Library and Information Science
23	USA	Indiana University	School of Informatics and Computing
24	USA	Indiana University	School of Library and Information Science
25	USA	University of Kentucky	College of Communications & Information Studies
26	USA	University of Maryland	College of Information Studies
27	USA	University of Maryland - Baltimore	Department of Information Systems
28	USA	University of Michigan	The School of Information
29	USA	University of North Carolina	School of Information and Library Science
30	USA	University of North Texas	College of Information
31	USA	The Pennsylvania State University	College of Information Sciences and Technology
32	USA	University of Pittsburgh	School of Information Sciences
33	USA	Rutgers, the State University of New	School of Communication and Information

		Jersey	
34	USA	Syracuse University	School of Information Studies
35	USA	University of Texas, Austin	School of Information
36	USA	University of Washington	Information School
37	USA	University of Wisconsin–Milwaukee	School of Information Studies

Table 2: Country-wise distribution of global i-schools

Country name	No. of i-schools
Australia	2
Canada	2
China	2
Denmark	1
England	2
Finland	1
Germany	1
Ireland	1
Scotland	1
Singapore	1
USA	23
Total	37

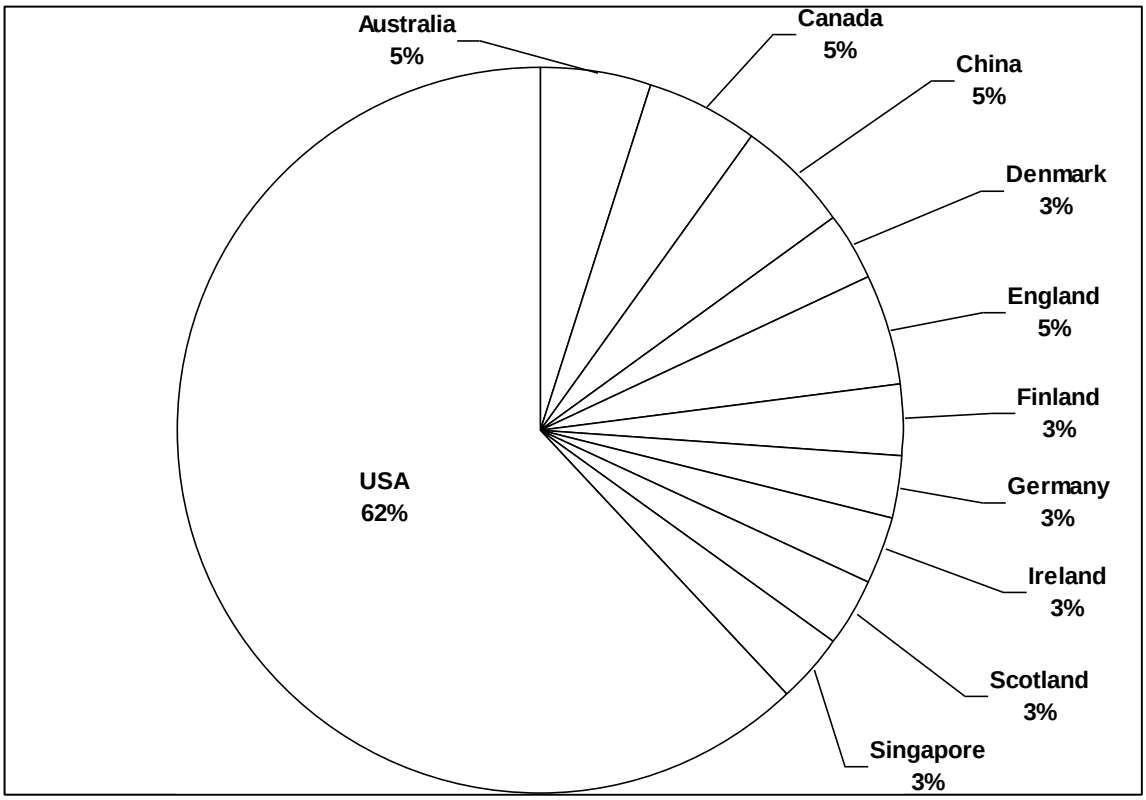

Figure 1: Country-wise percentage distribution of global i-schools

I-school movement in India:

As already mentioned, in India the seed of i-school movement was sown almost half century back through the foundation of INSDOC (Indian National Scientific Documentation Centre, New Delhi) in 1952 followed by DRTC (Documentation Research and Training Centre, Bangalore) in 1962. At present, there are nine institutions in India offering Master's Degree Program (M.Sc.) in Information Science, but these can not be reckoned as i-schools even in broad sense. Most of these institutions are actually technological and engineering colleges offering various bachelor's and master's degree programmes in major disciplines of engineering and technology along with information science. One full-fledged i-school, International School of Information Management (ISIM) has been established in 2005 in the state of Karnataka (Mysore) under the affiliation of the University of Mysore. The list of institutions offering Master's Degree (M.Sc.) in information science is given below:

Table 3: List of institutions offering M.Sc. in Information Sc. in India

S.No.	Name of institution	Affiliating body	Location
1	Bharathidasan University	State University	Tiruchirappalli
2	Birla Institute of Technology	Deemed University	Mesra
3	D.L.V Institute of Technical and Management Studies	Uttarakhand Open University	Dehradun,
4	Institute of Business Management and Technology	Kuvempu University	Bengaluru
5	Institute of Engineering and Management	West Bengal University of Technology	Kolkata
6	Jagarlamudi Kuppuswamy Chowdary College	Acharya Nagarjuna University	Guntur
7	Manipal University	Deemed University	Manipal
8	Mewar Institute of Management	Chaudhary Charan Singh University/ Meerut University	Ghaziabad
9	School of Information Sciences and Mass Communication	Assam University	Silchar

The course structure for M.Sc (Information sc) program in BIT, Mesra is given in Table 4. A look through it instantly reveals feeble similarities between syllabi of traditional library and information science and M.Sc. in information science courses only at facets like, knowledge organization, information processing, foundation of information science, information representation and repackaging, research methodology etc.

Table 4: BIT Meshra: Course Structure for M.Sc. (Information Sc.) program

1st Semester					
Theory Subjects:			**Sessional Courses:**		
Code	**Subject**	**Unit**	**Code**	**Subject**	**Unit**
IS530	Foundation of information science	1.0		Laboratory on IWT	0.5
IS534	Fuzzy logic and applications	1.0		Laboratory on C++	0.5
IS532	Knowledge organization and information processing	1.0			
	Data structures and programming concepts through C++	1.0			
	Operating systems	1.0			
IS536	Internet and web technologies	1.0			

2nd Semester					
Theory Subjects:			**Sessional Courses:**		
Code	**Subject**	**Unit**	**Code**	**Subject**	**Unit**
CS561	Data Communication and Networking	1.0	IS537	Laboratory on DBMS	0.5
	Management Information System	1.0		Laboratory on Prolog	0.5
IS541	Information Representation and Repackaging	1.0			
	Elective 1	1.0			
IS535	Database Management System	1.0			
	Artificial Intelligence	1.0			

3rd Semester					
Theory Subjects:			**Sessional Courses:**		
Code	**Subject**	**Unit**	**Code**	**Subject**	**Unit**
	Neural Network	1.0	IS544	Laboratory on Multimedia	0.5
IS540	Research Methodology And Quantitative Techniques	1.0		Laboratory on Matlab	0.5
	Software Engineering	1.0			
IS542	Digital Library & Multimedia	1.0			
	Elective 2	1.0			
	Network And Security	1.0			

4th Semester					
Theory Subjects:			**Sessional Courses:**		
Code	**Subject**	**Unit**	**Code**	**Subject**	**Unit**
	Project (16 Weeks)	3.0			

Besides, these schools of information science, the foundation of The International School of Information Management (ISiM), an autonomous constituent institute of University of Mysore, laid down another new milestone in the i-school movement in India. It was emerged from the realization that each new era and society demands new breed of professionals. Just as the industrial age, heralded the management sciences, the information age, is engendering a new domain, the information domain. The art, the science, technology, and management of information hold the key to business successes.

As mentioned in ISIM's URL, "Joe Tucci, Chairman of EMC^2 says 'Everything in the world is either energy or information'. The information overload presents huge challenges to organizations and societies – to capture, organize, retrieve, and archive relevant information. Tim Berners Lee, the father of the web said, information management is the way forward in this age of information overload. Peter Drucker, the renowned Management Guru, said, 'the emphasis will shift from the "T" in IT to the "I'" in the next information revolution'

So, what should the academia do? Thomas Friedman in his celebrated book 'The World is Flat' says, the right stuff to do for educational institutions in the flat world is to prepare the right graduates – who can help tell stories with technology, who can manage all the content that comes in via different media such as computers, cell phones, video iPods, and websites.

As IBM Attributes and Capabilities study (2005) indicated: Information is in silos and trusted information is not available and that is the information Challenge for businesses. Today's business challenge mandates a fresh approach to information management. As Jim Grey of Microsoft says today we need Tools and systems that

- Make it easy to **capture** & **present ;**
- Make it easy to **store, organize** & **access** ;
- Make it easy to **analyze** & **summarize**

"INFORMATION"

To meet these challenges of the information age, universities around the world began realigning and restructuring their academic programme resulting in the emergence of Information schools. ISiM was conceptualized and established in 2005, in partnership with some of the leading information schools in the US – the University of Michigan; University of Pittsburgh; and the Syracuse University.

ISiM is a new age school for the knowledge economy – established by the University of Mysore with munificent seed grants from the Ford Foundation and evolved on a public private partnership model. We are also defining a new educational model – inverse of distance education. Our students and the school are in Mysore, but our faculty and mentors are a distributed network of excellence drawn from our partners and other institutions. We follow a cluster-alliance partnership model.

ISiM is directed by an independent Governing Board chaired by the Vice Chancellor of the University of Mysore with eminent academics and industry stalwarts as members".
The vision and mission statements of ISIM are as follows:

Vision statement:

- To be a ground breaking higher education institution, shaping and defining the emerging new multidisciplinary domain of information.
- Redefining the academia – industry interaction through a process of continuous engagement of students and industry mentors in Open Community Projects
- To innovate in new institutional models
- To be a world class institution of higher learning – preparing professionals who can build information systems and help solve information asymmetry.

Mission statement:

- Shape and define the emerging new multidisciplinary domain of information through education and research
- Innovate and adopt new institutional models in education and research
- Engage all stakeholders – Academia, Industry, Government, NGO and others in solving information friction problems

The course structure for M.Tech program in Information Systems and Management degree is furnished below:

Table 5: Course structure: M.Tech (Information systems and management)

Semester 1:	
MISM 501	Statistics & Data Analysis
MISM 541	Information Economics
MISM 513	Theories of Information
MISM 515	Information Organization
MISM 521	Foundation of Software systems
MISM 502	Theoretical Foundation of Computing
Semester 2:	
MISM 516	Taxonomies, Ontologies and Semantic Web
MISM 532	Content Management and Electronic Publishing
MISM 522	Information Systems Design and Development
MISM 524	Internet Technologies
Semester 3:	
MISM 621	Data Mining and Data Warehousing
MISM 623	Information Retrieval Systems
MISM 625	Human Computer Interactions
MISM 643	Program Management & Management Strategies
Electives	651 Bio Informatics 652 Geo Informatics 654 Information assurance and security 655 Natural Language processing 656 Multimedia content management
Semester 4:	
MISM 642	IPR and Cyber laws

Electives	Any two of the following: 657 Information Industry and Entrepreneurship 653 Health Informatics 659 Enterprise Content Management 661 Pattern recognition and image processing 662 Computer Graphics 663 Text Mining 664 Cultural Informatics 668 Multilingual Information Management 665 e-Governance 666 E-Learning 658 Knowledge Management 667 Financial Information System
MISM 690	Major Project

A look through the Table 5 instantly reveals the similarity of this course with traditional BLIS/MLIS courses. There are so many common facets like, information economics, theories of information, information organization, taxonomies, ontologies, semantic web, content management and e-publishing, information retrieval systems, information systems design and development, natural language processing etc. that are taught in both courses. The BLIS/MLIS course content is rather less similar with M.Sc (Information sc) courses as listed in Table 3, but the similarity with M.Tech (information systems and management) course is higher.

Future direction:

It is thus an indication that the traditional LIS course structure and education is gradually undergoing through metamorphosis. The traditional course content built the basic foundation of the subject LIS, and the internet revolution is adding new dimensions to traditional mode of LIS education. The content and structure for both traditional BLIS/MLIS and current M.Sc/ M.Tech types of courses are not very close, but still there are fair similarities between these two. The notable point is that the areas like foundations of information science, information and knowledge organization, ontology, semantic web, information retrieval etc. are taught in both traditional and modern courses. It can thus be safely concluded that these areas in LIS are highly multidisciplinary compared to other domains. The course content and structure of the traditional courses, however should be reshaped in the context of internet revolution and i-school movement. Also, there is need for consonance between these two types of LIS courses, traditional and modern, so that one can complement the other and such complement will speed up sustenance of both types of courses. The boundary areas of the traditional courses should be more expanded also in this context.

Reference:

Cronin, B. (2005). An I-dentity crisis? The information schools movement. *International Journal of Information Management, 25:* 363–365.

Debons, A. & Harmon, G. (2006) The I-Conference in Retrospect. *Bulletin of the American Society for Information Science and Technology*, April/May.

Klein, J.T. (1990). *Interdisciplinarity: History, theory and practice.* Detroit: Wayne State University Press.

Lyytinen, K. and King, J. L. (2004). Nothing at the center? Academic legitimacy in the IS field. *Journal of the Association for Information Systems*, 55(6), 220-246.

www.bitmesra.ac.in

www.drtc.isibang.ac.in

www.iemcal.com

www.ischools.org

www.isim.ac.in

www.niscair.ac.in

www.ugc.ac.in

www.wikipedia.org