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Contextual Analysis of ICT Contents in LIS Postgraduate Degree Curriculum: A Study

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ABSTRACT

The content of Library and Information Science (LIS) curriculum has drastically evolved in the recent decades. With the penetration of Information and Communication Technology (ICT), technological components have becomes the main focus of the discipline. The present paper analyses the ICT contents of postgraduate degree courses in select universities across India. It also analyses the expectation of the professionals with regard to course content and relevancy of the curriculum in the contemporary times. The present study system suggests that maintaining homogeneity and standardised curriculum will help in keeping Indian syllabi at par with international standards.

Keywords: Information communication technology competencies, LIS curriculum, universities, library professionals

1. INTRODUCTION

The objective of any curriculum is essentially, to impart knowledge and skill-sets to students. LIS curriculum is no different from other subjects. Varalakshmi[1] stated that LIS curriculum is designed in a manner entailed, encompassing all nuances of LIS profession in academia outlook of the student. Ganaie[2] reported that curriculum is designed to prepare the students to assimilate a working knowledge about the areas and acquire skills relevant in field. Among other skills, in Internet era and continuously evolving technology, ICT has becomes integral part of LIS curriculum. The ICT component of the LIS curriculum outlines specifically what people need to do, where people need to be effective in their roles and establish how their roles could relate to university library goals. The study shows that post graduate degree is many of 1, 2 or 5 years of duration in most universities. This paper examines the ICT component in Masters Courses across selected 37 LIS departments of universities/institutes and level of compliance with UGC model curriculum 2001[3]. Out of all the departments offering Master's degree courses, 18 offer 1-year, 20 offer 2-years postgraduate degree and 02 are offering 5-years integrated course.

2. LITERATURE REVIEW

Momentous literature is available in reference to ICT course contents in LIS curriculum. Ranganathan[4] stated that cultivation of man's ability and skills should go on throughout life and this can be achieved through education. Aina[5], Sharma[6] and Kavulya[7] in separate studies on LIS curriculum find that there is a gap in professional competencies versus LIS teaching. It was observed that though the relevance of ICT was stressed, only a few institutions had incorporated ICT in their syllabus. Since it is been identified that library staff need to develop there ICT competencies to perform better in this modern time, many researches have come-up with various possible suggestions for corrective measures to be taken in this regard. Karisiddappa[8] discussed the LIS education scenario in the developing countries and stressed the need for model curriculum to impart ICT competent workforce. The adoption of modular approach is a way of convergence of the present and future needs of a dynamic curriculum. Mondal[9] and Singh[10] explained that the LIS curriculum required constant monitoring and a statutory body like ALA to accredit programs according to international standards. The LIS professionals in Indian Universities lack ICT skills and encounter problems in the job market. Susan[11] in her research study concluded that most of the library professionals do not have an optimistic approach towards the application of ICT based services in libraries. This may be mainly because of lack of adequate ICT infrastructure in university libraries. Majority of the professionals irrespective of their age, experience or qualifications had suggested the need for more ICT oriented topics in the curriculum. It was further recommended that multi-media laboratories should be made compulsory in universities that offer LIS courses. Ganaie[2], Mahmood[12], opines that remodelling of LIS curriculum has to be done by planning and proper integration of ICT into library education. Pradhan[13],

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Rukwaro & Bii[14], concluded that LIS programs have reviewed their curricula in light of the needs of society and the market but continued reviews are needed to meet future needs. They all recommend fine tuning of the curriculum with ICT to meet the market needs.

3. OBJECTIVES OF THE STUDY

The main objectives of the study are:

(a) Holistic review and analyses of ICT course contents of postgrduate degree curriculum incorporated in LIS courses across select 37 LIS departments in India

(b) Evaluate level of compliance to UGC model curriculum 2001, and

(c) Scrutinising level of homogeneity prevalent in ICT course content across select 37 LIS departments.

4. RESEARCH METHODLOGY

The methodology adopted to evaluate the curriculum was on basis of questionnaires and e-mails sent to selected universities. The clarifications as and when desired and required were sorted out by establishing contact via e-mail and telephonically. Efforts were also made to complete the data from other sources such as website of respective university wherever incomplete data was received.

The research is restricted to select number of universities offering the pattern of LIS education spread across in India. The selected universities from each region, i.e., East, West, North and South of India represent the different regions of the country. An insight into Master's degree courses offered by LIS departments and subsequent analysis comprise scope covered under this study. The present scenario was analysed and the following 37 LIS university departments and institutes were identified towards the study:

- Aligarh Muslim University, Aligarh, Uttar Pradesh (AMU)
- Andhra University, Vishakhapatnam, Andhra Pradesh (AU, Vis)
- Annamalai University, Annamalai Nagar, Tamil Nadu (AU, Ann)
- Banaras Hindu University, Varanasi, Uttar Pradesh (BHU)
- Bangalore University, Bangalore, Karnataka (BU, Ban)
- Bundelkhand University, Jhansi, Uttar Pradesh (BUJHANSI)
- Documentation Research & Training Centre, Bangalore, Karnataka (DRTC)
- Dr. Babasaheb Ambedkar Marathwada University, Aurangabad (BAMU)
- Dr. Harisingh Gour University, Sagar, Madhya Pradesh (DHSGSU)
- Gujarat University, Ahmedabad, Gujarat (GU, Ahm)
- Gulbarga University, Gulbarga, Karnataka (GU, Gul)
- Guru Nanak Dev University, Amritsar, Punjab (GNDU)
- Gauhati University, Guwahati, Assam (GU, Guw)
- Indira Gandhi National Open University, New Delhi (IGNOU)
- Jiwaji University, Gwalior, Madhya Pradesh (JU, Gwa)
- Kurukshetra University, Kurukshetra, Haryana (KUK)
- Maharaja Krishnakumarsinhji Bhavnagar University, Bhavnagar, Gujarat (MKBU)
- Maharaja Sayajirao University of Baroda, Baroda (MSU)
- Mangalore University, Mangalagangothri, Karnataka (MU, Man)
- Manipur University, Imphal, Manipur (MU, Imp)
- North-Eastern Hill University, Shillong, Meghalaya (NEHU)
- Osmania University, Hyderabad, Andhra Pradesh (OU)
- Punjab University, Chandigarh, Chandigarh (PU)
- Rabindra Bharati University, Kolkata, West Bengal (RBU)
- Savitribai Phule Pune University, Pune, Maharashtra (SPPU)
- Tata Institute of Social Sciences, Mumbai (TISS),
- Tilka Manjhi Bhagalpur University, Bhagalpur (TMBU)
- The University of Burdwan, Burdwan, West Bengal (BU, Bur)
- University of Calcutta, Kolkata, West Bengal (CU, Kol)
- University of Calicut, Kozhikode, Kerala (CU, Koz)
- University of Delhi, Delhi, New Delhi (DU)
- University of Kashmir, Srinagar, Jammu and Kashmir (KU, Sri)
- University of Kerala, Thiruvananthapuram, Kerala (KU, Tri)
- University of Lucknow, Lucknow Uttar Pradesh (UL)
- University of Mumbai, Mumbai, Maharashtra (MU, Mum)
- University of Rajasthan, Jaipur, Rajasthan (UR)

- Utkal University, Bhubaneswar, Orissa (UU)

5. FINDINGS AND ANALYSIS

5.1 Master's Course-One Year

Out of the 37 departments, 49% were conducting one-year MLISc course. The papers being offered at post-graduate level (semester-wise) and the topics covered for ICT related course contents (topic-wise) are shown in Table 1 and Table 2 respectively. It is evident from Table-1 that LIS departments offering Masters Course had followed a multi facted course structure comprising conventional along with emerging topics such as 'ICT basics' and 'Digital Library Systems'. It was observed that there exists difference in paper's nomenclature in addition to the difference in number of topics and papers being taught in various LIS departments. Most departments have merely re-labeled the nomenclature of the papers.

Table 1, analyses shows that the main paper taught under the scope of study is 'Information and communication technology (Theory & Practice)'. On the basis of nomenclature, it was revealed that 18 papers were taken up in these 18 departments. The minimum number of papers being taught is 01 and maximum are 04, which lead to following observations:

(a) 89% department follows semester system while 11.11% follows annual system.

(b) 22% departments teach ICT related paper in 1st semester only with theory and practice as separate papers.

(c) 22% departments had taken classes in 2nd semester only wherein 75% departments conduct theory and practice as separate papers while 25% department conduct theory and practice as combined paper.

(d) Wherever semester system is followed, 22% departments teach papers in 1st semester only with theory and practice as separate papers.

(e) Overall, 28% departments conducted combined classes of both theory and practice as a single paper.

(f) 72% departments teach theory and practice as separate papers.

Table 1. Papers at master's level-1 year

S. No.	Name of university	Paper offered (semester – I)		Paper offered (semester – II)	
		P-1:Theory	P-2: Practice	P-1:Theory	P-2: Practice
1.	AMU	Information technology-I	Information technology-I	Information technology-II	Information technology-II
2.	BUJHANSI	Information technology Applications	Information technology-Applications	-	-
3.	DHSGSU	-	-	Information technology applications to library and information centers (T & P)	
4.	GNDU			Information technology: applications	Information technology: applications
5.	IGNOU	Fundamentals of information and communication technologies (T & P)			
		Information communication technologies: application (T & P)			
6.	JU, Gwa	-	-	Information technology applications (theory & practice)	
7.	KUK	Advanced ICT application in LIS-I (theory & practice)		Advanced ICT application in LIS- II (theory & practice)	
8.	MKBU	-	-	Information technology applications	Information technology applications
9.	MSU	Library automation	Introduction to information technology	Library networking	Information technology applications
10.	OU	Information technology	-	Library automation & networking	Software for libraries & information centers
11.	RBU	Information communication technology	Information communication technology	Digital library systems	Digital library systems
12.	TMBU	Information technology & its applications (theory & practice)			
13.	BU, Bur	Library information technology- I	Library information technology- II	Automated & digital library system-I	Automated& digital library system-II
14.	DU	ICT application in LIS	-	-	ICT application in LIS
15.	KU, Tri	IT applications in LIS	IT applications in LIS	-	-
16.	UL	IT applications	IT applications	-	-
17.	UM, Mum	ICT in libraries	ICT in libraries	-	-
18.	UR	ICT application in LIS	-	-	ICT application in LIS

5.2 ICT Related Course Content/Topics at Master's Level-1 Year

Table-2 revealed that more than 51 topics under these 18 papers were being taught in these 18 departments. Wherever observed that topics from various departments overlaps with each other in terms of contents, then those topics were combined and considered as one paper e.g. 'Information technology basics', 'Information technologyfundamentals', 'Information technology overview', 'Information technology', 'Information technology in LIS', 'Introduction to IT', 'Basics of information technology', 'IT: Concepts and system' and 'Basics of IT in LIS' topics from separate departments were taken-up as one paper as T1-'Information technology basics'. These 51 topics, when merged in 08 topics, resulted in observations given as under:

(a) 100% departments found to teach topics from T1 to T7.

(b) 56% departments found to teach topics in Recent/ current trends in information technology.

(c) 44% departments were found to have coverage with up to 88% compliance with UGC model curriculum 2001.

(d) 56% departments were found to have excellent coverage with up to 100% compliance with UGC model curriculum 2001.

5.3 Master's Course-Two Years

As shown in Table 3, as per the classification of papers, it was acknowledged that 23 papers were imparted in above mentioned 02 departments. The minimal papers available out of 37 departments, 54% were conducting 2-years integrated MLISc course. Semester-wise papers offered by these are shown in table-3 and the ICT related course contents (topic-wise) are shown in table-4. In view of the classification of papers, it was observed that 49 papers were imparted in above mentioned 20 departments.The minimal papers taught (including core and elective) is 02 and maximum no of papers taught are 10. Also, the minimum number of papers (core+elective) being taught in single semester is 01 and maximum is 04. The observations of Table 3 are as follows;

(a) 60% departments conducted classes of ICT related paper (core) in all the four semesters followed by 20% departments conducted classes in three semesters, followed by 04 (20%) departments conducting classes in two semesters.

(b) The maximum number of papers (core) taken up is 09 as offered by DRTC followed by 08 core

Table 2. ICT related course content/topics at master's level–1 year

S. No.	Name of university	T1: Information technology basics (T+P)	T2: Operating system and programming (T+P)	T3: ICT Applications & networking (T+P)	T4: Internet technologies & e-learning (T+P)	T5: DBMS (T+P)	T6: Library automation & software's (T+P)	T7: Digital library systems (T+P)	T8: Emerging trends, current trends in IT (T+P), artificial intelligence & expert systems	Coverage (compared with UGC model curriculum 2001) (percentage)
1	AMU	√	√	√	√	√	√	√	√	100
2	BUJHANSI	√	√	√	√	√	√	√	√	100
3	DHSGSU	√	√	√	√	√	√	√	×	88
4	GNDU	√	√	√	√	√	√	√	√	100
5	IGNOU	√	√	√	√	√	√	√	×	88
6	JU, Gwa	√	√	√	√	√	√	√	×	88
7	KUK	√	√	√	√	√	√	√	√	100
8	MKBU	√	√	√	√	√	√	√	√	100
9	MSU	√	√	√	√	√	√	√	√	100
10	OU	√	√	√	√	√	√	√	×	88
11	RBU	√	√	√	√	√	√	√	×	88
12	TMBU	√	√	√	√	√	√	√	×	88
13	BU, Bur	√	√	√	√	√	√	√	×	88
14	DU	√	√	√	√	√	√	√	√	100
15	KU, Tri	√	√	√	√	√	√	√	√	100
16	UL	√	√	√	√	√	√	√	√	100
17	UM, Mum	√	√	√	√	√	√	√	√	100
18	UR	√	√	√	√	√	√	√	×	88
TOTAL		**18**	**18**	**18**	**18**	**18**	**18**	**18**	**10**	**-**

Table-3 Papers at master's level (MLISc/ MLIS/MSC (LIS)/ AIS/ MS-LIS) – 2 years

S. No.	Name of university	Course name	Paper offered (1st Year)		Paper offered (2nd Year)	
			Semester-I	Semester-II	Semester-III	Semester-IV
1	AU, Vis	Core	Information communication technologies (T)	Information communication technology (P)	Automation & networking of library and information centers (T) automation & networking of library and information centers (P) Digital libraries	-
		Elective	-	Collection development & Management of electronic resources	-	Engineering and technological library & Information system
2	AU, Ann	Core	Introduction to information technology (T)	Academic library system: automationin academic library INFLIBNET	-	Application of computers to information storage and retrieval
		Elective	-	-	Computerized database & internet, documentary & electronic sources	-
3	BHU		Computer Basics & Applications	Computer Applications (P)	Information technology & system design	Information technology applications (P)
4	BU, Ban		-	Information technology- I (T) Information technology-I (P)	-	Web technologies Library automation & digital library Information technology-II (P)
5	DRTC	Core	Library management library automation Foundations of computers & information technology	Digital libraries Data structures and computer programming	Information storage, retrieval and DBMS Content Management Systems Web technology and web-based information services	Networking technology and library networks Semantic Web
		Elective	-	-	-	Data & text mining
6	BAMU		Search strategies (T & P) Information technology literacy (T & P)	Use of Non-Book Material (T) Information technology basics (T & P)	Electronic Information Sources (T & P) Electronic publishing (T & P)	Information technology: applications (T & P) Web page design (T & P)
7	GU, Ahm	Core	Fundamental of information technology (T & P)	Library management software (T & P)	Electronic information management	Network & internet (T & P)
		Elective	-	-	Resource consortia, web technologies (T & P)	Digital information management (T & P)
8	GU, Gul	Core	Fundamental of computers (T & P)	Library automation (T & P)	Technologies for information management (T & P)	Networks and networking Internet and electronic publishing (T & P)
		Elective	-	-	-	Digital Libraries

9	GU, Guw	Core	Computer applications in LIS (T)	ICT Applications in library & information system (P)	Library software packages (T & P)	Digital library system (T & P)
		Elective	-	-	Web resources, bibliometrics & webometrics	-
10	MU, Man		Information technology-I (T)	Information technology- II (T)	Information technology-basics (P)	Information technology-IV(T)
				Information technology-I (P)	Information technology-II (P)	
11	MU, Imp		-	Information technology-basics (T)	Information technology applications (T)	Information technology& networking
				Information technology-basics (P)	Information technology (P)	
12	NEHU		Introduction to information technology (T)	Library software packages (P)	DBMS, Information communication technology	Digital libraries
13	PU		Information technology: basics	-	Information technology applications (T&P)	-
14	SPPU	Core	Information technology: basics (T& P)	-	Information technology applications (T)	-
					Information technology applications (P)	
		Elective	-	-	-	Multimedia application development
15	TISS	Core	Information communication technology and libraries (T&P)	Information storage and retrieval (T&P)	Web technologies and web-based information services (T&P)	Semantic web technologies
				Elements of programming and data structures	Digital libraries (T&P)	
					Knowledge discovery and data management	
		Elective	-	-	Community information systems	School library and information system and ICT
16	TMBU		Information technology-basics (T)	Information technology-basics (P)	Information technology applications (T)	Information technology applications (P)
17	CU, Kol		Application of information technology (T)	Information communication technology (T)	Application of information technology (P)	Information communication technology (P)
18	KU, Sri	Core	Information technology (T)	Information technology (P)	-	Information technology applications (P)
		Elective	-	-	Digital library system	-
19	KU, Tri	Core	Information system: E-resources (T)	Information technology applications in LIS (T)	Information technology applications in LIS (P)	Bibliographic organisation of electronics sources
		Elective	-	-	DBMS, Information System & Networks	-
20	UU	Core	-	Library automation packages (T & P)	Information technology & networking	-
		Elective	-	-	-	Digital library

papers offered by BAMU. TISS offered 07 papers as core. The minimum number of 02 papers (core) was offered by 02 departments (PU and UU).

(c) 55% departments had offered ICT related paper as elective either in two or three semesters. 15% departments offered ICT related paper (elective) in two semesters while 40% departments found to offer elective paper (ICT related) only in one semesters. 45% departments did not offer any elective paper.

(d) The maximum numbers of papers (core+elective) were offered by DRTC which is 10 (09 core & 01 elective) followed by 09 by TISS (07 core & 02 elective). AU-Vis offered 07 papers (05 core & 02 elective) followed by 06 papers (05 core & 01 elective) by GU-Gul. GU-Guj also offered 06 papers (04 core & 02 elective) followed by 05 papers (04 core & 01 elective) by 02 departments (GU-Ass & KU-Tri).02 departments (AU-Ann, SPUU & KU-Sri) offered 04 papers (03 core & 01 elective) followed by 01 department (UU) offered 03 papers (02 core & 01 elective).

5.4 ICT Related Course Content/Topics at Post Graduate Level-All Semesters-Two Years

Table 4 reveals as many as more than 72 topics under these 53 papers were taken up in these 20 departments. Wherever observed that topics from various departments overlap with each other, then those topics were combined and considered as one paper e.g. 'Digital library system', 'Open source digital repository' 'Electronic thesis & dissertation management', 'Electronic library', 'Hybrid library', 'Virtual library', 'Electronic publishing', 'Digital information management' 'Digital librarys software' and 'Institutional repository' topics were combined as T7-'Digital library systems'. These 72 topics, when merged in 08 topics, resulted in observations as follows:

(a) All the departments found to teach topics from T1 to T6.

(b) 90% departments found to teach topics in 'Digital library system (T7)'.

(c) 25% departments found to teach topics in Recent/ current trends in information technology, Artificial intelligence & Expert systems (T8).

(d) 10% departments (MU-Imp and NEHU) are found to have satisfactory coverage with up to 75% compliance with UGC model Curriculum 2001.

(e) 65% departments (AU-Ann, BHU, BU-Ban, GU-Guj, GU-UU) were found to have coverage with up to 88% compliance with UGC model Curriculum 2001.

(f) 25% departments (AU-Vis, DRTC, BAMU, TISS and KU-Tri) were found to have excellent coverage with up to 100% compliance with UGC model Curriculum 2001.

Table 4. ICT related course content/topics at master's level all semesters-2 years

S. No.	Name of university	T1: Information technology basics (T+P)	T2: Operating system and programming (T+P)	T3: ICT Applications & networking (T+P)	T4: Internet technologies & e-learning (T+P)	T5: DBMS (T+P)	T6: Library automation & software's (T+P)	T7: Digital library systems (T+P)	T8: Current Ttends in IT (T+P), atificial intelligence & Expert Systems	Coverage (compared with UGC model curriculum 2001 (persentage)
1	AU,Vis	√	√	√	√	√	√	√	√	100
2	AU, Ann	√	√	√	√	√	√	√	×	88
3	BHU	√	√	√	√	√	√	√	×	88
4	BU, Ban	√	√	√	√	√	√	√	×	88
5	DRTC	√	√	√	√	√	√	√	√	100
6	BAMU	√	√	√	√	√	√	√	√	100
7	GU, Ahm	√	√	√	√	√	√	√	×	88
8	GU, Gul	√	√	√	√	√	√	√	×	88
9	GU, Guw	√	√	√	√	√	√	√	×	88
10	MU, Man	√	√	√	√	√	√	√	×	88
11	MU, Imp	√	√	√	√	√	√	×	×	75
12	NEHU	√	√	√	√	√	√	×	×	75
13	PU	√	√	√	√	√	√	√	×	88
14	SPPU	√	√	√	√	√	√	√	×	88
15	TISS	√	√	√	√	√	√	√	√	100
16	TMBU	√	√	√	√	√	√	√	×	88
17	CU, Kol	√	√	√	√	√	√	√	×	88
18	KU, Sri	√	√	√	√	√	√	√	×	88
19	KU, Tri	√	√	√	√	√	√	√	√	100
20	UU	√	√	√	√	√	√	√	×	88
Total		20	20	20	20	20	20	18	05	-

5.5 Master's Course-Five Years Integrated (BLIS+MLIS)

Out of 37 departments 5% departments were conducting 5 years integrated MLISc course. The details of semester-wise papers offered and the topics covered for ICT related course contents are as shown in Table 5 and Table 6 respectively. Evidently in Table 5, as per the classification of papers, it was acknowledged that 23 papers were imparted in above mentioned 02 departments. The minimal papers available in 5-years degree course

are 07 and maximum is 14. Both the departments taught ICT related paper as a core paper. The following are the observations:

(a) CU-Kol offered maximum number of 14 papers in 08 semesters.

(b) AU-Ann offered a minimum number of 07 papers being taught in 06 semesters.

(c) The maximum number of core papers taught in single semester is 04 offered by CU-Kol in 10th semester. The minimum number of core papers taught in single semester is 01 offered by both the departments.

5.6 ICT Related Course Content/Topics at Master's Level-5 Years Integrated (BLIS+MLIS)

Table 6 revealed that as many as more than 47 topics under these 23 papers were taught in these 02 departments. These 47 topics, when merged in 08 topics points to following conclusions as follows:

Table 5. Papers at master's level-5 years integrated (BLIS+MLIS)

S. No.	Name of university	Semester no.	Paper offered semester I to semester X (2 semesters per year)
1.	AU, Ann	Sem-3	Computer & its application
		Sem-5	DBMS
		Sem-6	Computer networks
		Sem-7	WINISIS (T & P)
		Sem-9	Introduction to it
		Sem-10	Introduction to web designing & web hosting in libraries
			Digital library
2.	CU, Kol	Sem-1	Computer fundamentals (theory)
		Sem 2	Computer fundamentals (practice)
		Sem-4	ICT applications (theory)
		Sem-5	Library automation and networking (theory)
			Library automation and networking (practice)
		Sem-6	Digital content management
			ICT applications -1(practice)
		Sem-7	ICT applications - 2 (practice)
		Sem-9	Digital library and related concepts
			Web content management and social networking
		Sem-10	Digital library management (practice)
			Library website design (theory)
			Library website design (practice)
			Digital preservation (elective)

(a) Both departments found to teach topics from T1 to T7.

(b) CU-Kol found to have coverage with topics in recent/ current trends in information technology, artificial intelligence & expert system (T8).

(c) Department of AU-Ann was found to have coverage with up to 88% compliance with UGC model curriculum 2001 while Cu-Kol was found to have 100% compliance.

7. OBSERVATIONS AND RECOMMENDATIONS

The survey had revealed varied results. It could be inferred that existing ICT content being prevalent in various LIS curriculum are not standardised. It was further observed that some of the departments were not in compliance with the UGC Model curriculum 2001 as far as ICT course contents are concerned. They merely tweaked, re-devised and modified their syllabus in line with the local scenario and demands. In the current scenario, the UGC Model Curriculum 2001 could be construed as outdated and deficient to the rapid changes in ICT technologies prevalent in the present environment. It is particularly so due to the enormous gap in time around fifteen years (from 2001 to 2015). Therefore, the curriculum requires urgent revision by

Table-6 ICT related course content/ topics at master's level 5 years integrated (BLIS+MLIS)

S. No.	Name of university	T1: Information technology basics (t+p)	T2: Operating system and programming (t+p)	T3: ICT applications and networking (t+p)	T4: Internet technologies and e-learning (t+p)	T5: dbms (t+p)	T6: Library automation& software's (t+p)	T7: Digital library systems (t+p)	T8: Recent trends, current trends in it (t+p), artificial intelligence & expert systems	Coverage (compared with ugc model curriculum 2001) (percentage)
1	AU, Ann	√	√	√	√	√	√	√	×	88
2	CU, Kol	√	√	√	√	√	√	√	√	100
Total		02	02	02	02	02	02	02	00	

accommodating, incorporating and pruning the emerging trends and management aspects. The curriculum should be vibrant enough to concentrate more on upcoming and newer technologies and advancements in the field of LIS with the sole focus on practical components

viz, mobile applications in libraries, electronic audit of information, etc.

It is opined that some topics such as historical background and development of computers, outdated languages could be considered for deletion in specific areas. Further it is also suggested that other topics such as wireless sensor networks, cloud computing and security, web entrepreneurship, content delivery technologies for creative social media and convergence, Cyber-Physical systems (CPS) could be included in the LIS syllabi. The following teaching methods could also be considered:

(a) Lectures (2 hours for 4 days per week),

(b) Practical exercises (4 hours for 4 days per week),

(c) Field work (05 hours for 02 days per week), and

(d) Work in a library as intern apprentice while pursuing LIS courses.

Taking into account the competence of the students, present ICT environment and existing infrastructural facilities in the LIS departments and libraries, the revision of syllabus every five years would be beneficial for both theory and practical classes. There is urgent requirement that papers approved by the LIS departments in curriculum must be uniform while conforming to standards lay down worldwide in field of LIS. This, by itself, could raise the levels of LIS professionals and attain the expertise and caliber of international standards while maintaining unique identity of particular contextual uniqueness of curriculum in our country.

8. CONCLUSIONS

The LIS departments could do better by offering as many courses possible that deal with current issues. These should be designed and taught in such a manner so that they could prepare the graduate and post graduate professionals to easily respond, adapt to changes in the work place. Taking into consideration the potential benefits of ICT, this study set out to evaluate and offer recommendations in ICT competency framework that could help the faculty, staff, practitioners and students in LIS to take full advantage. Accordingly, the paper also provides scope and opportunity for furthering evaluation and research in area of curricula of Master's degree and opportunity to forge newer structural constructs of library syllabi and LIS course contents.

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