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MSc-Information Science: A Five year proposed Multiple Exit programme for healthy Information Infrastructure Building

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ABSTRACT

'Information' is a valuable name, weapon and facet for development. Today each and every one directly and indirectly associated with information or similar facet. The domain which is close with information is, Information Science. Several information activities are possible with the domain; for doing such work Information Science take the help of other tools and technologies; Such as Database, Networking, Multimedia, and Communication Technologies and so on. Thus, the traditional nature of Information Science changes and come as a new interdisciplinary Applied Science. The new nomenclature of Information Science is Information Science and Technology [IST]; Due to healthy integration of IT and Computing. The flagship programme of Information Science is MSc/MS- Information Science around the world; but most of the programmes are 1/ 2 year's duration after Bachelor Degree. This paper is talks about Information Science; including nature and educational programme around the world. Paper also mentions a proposed Five Years Integrated course on Information Science.

KEYWORDS : Information, Information Science, Computing, Documentation, Curriculum, Integrated Course, Information Infrastructure, MSc- Information Science

Introduction:

Information Science is an Applied Science responsible for information processing and management. Still educational programme around the world on Information Science is limited; thus related domain fulfils the aim and objective of Information Science. The domains are IT, Computer, Documentation, Computer Engineering, Library Science, ICT and so on. Though, Information Science is broad field than these and mainly offered interdisciplinary schools such as I-Schools/ Information Schools [01, 06]. The common available programme in Information Science are includes MSc- Information Science which is in Europe biased with traditional Documentation and Informatics gradients where as in USA and some other countries focused with Information System building, IT and Knowledge Management.

Objective:

The main aim and objective of this study is includes but not limited to Know the Basic about Information Science, its nature and charecteristics, worldwide educational programme, and proposed 5 Year integrated MSc-IS Strracture.

Information Science: Basics:

Information Science is an important techno integrated interdisciplinary knowledge cluster incorporated with computer science, information studies, documentation, IT, Information and Communication Technology, Management, Cognitive Science, Social Science and so on[02, 03, 08]. The interaction of Information Science with other domain changes the nomenclature too; today Information Science is also popular with Information Science and Technology, Information Science and Engineering, Information Science and Computing and some other related domain.

Information Science Education: World Wide and Indian Scenario:

Initially Information Science was a popular as a domain of Traditional Knowledge Management; with indexing, abstracting, cataloguing, classification and other domain for Information Processing and Management. But Technologies and their development of information activities reflects traditional nature of Information Science and thus in many countries, Information Science offered in same as of IT and Computing; but for some other user or domain and industries or activities.

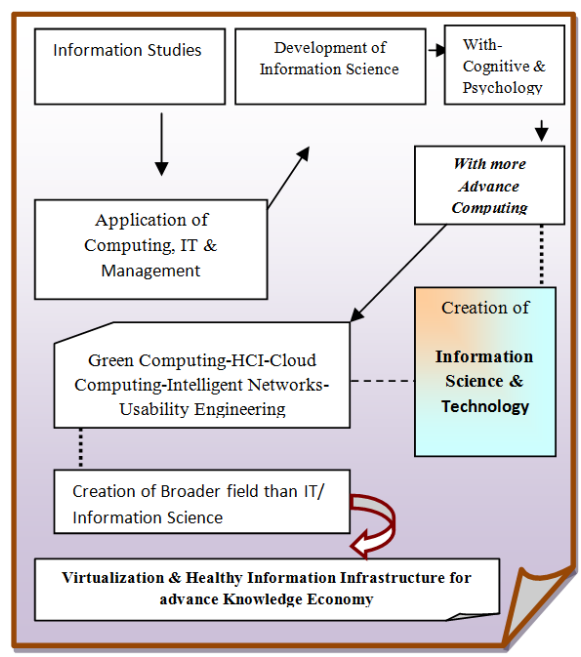

Fig: 1: Information Science- From its Background to emerging role to build healthy Information Infrastructure

During the late of 1990's and early 2000's Information Schools was launched with the flagship subject Information Science. The US based Information Science is still much more IT focused where as European and *Mainly South East Asian* countries still Documentation and Still Information Studies focused; where as traditional Knowledge Organization are teach to the students along with Computing. In this approach IT and computing deals with 30 % and 70 % with Knowledge Organization tools. Information Science curriculum of Penn State University, University of Pittsburgh, may look like IT/Computing; but main difference of such curriculum with European Information Science programme is that, these universities curriculum is build with an approach of Information-Technology-People integration [04, 05, 09, 10].

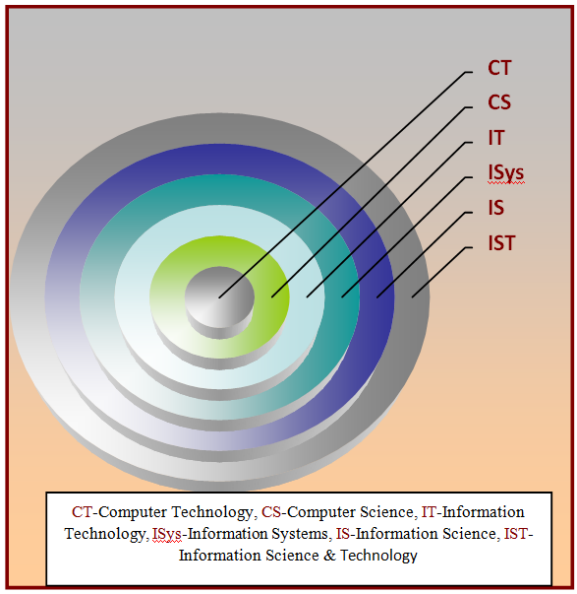

Fig: 2: The Technological Interaction of Information Programmes along with the smaller to broader Knowledge

Thus, Information programme here, close with societies and building connection between IT and Society. Information Science in India mainly offered in some of the institutes and total number is 7-8. The first institute which starts MSc-Information Science Programme is BIT Mesra, Ranchi. Apart from that, MCIS-Manipal University, Madras University, IEM-West Bengal, KITM-West Bengal, DATM-West Bengal, Techno-India; Slatlake, West Bengal, Techno India-Hooghly, WB, Dr. BS Roy Engineering College-Durgapur and some other University Such as Periyar University; all these institute offers MSc-Information Science.

MSc- Information Science [5 Years Integrated Proposed Programme]:

Here the proposed 5 year integrated programme prepare such a way; where any one with 10+2 from any discipline may enter in to the programme and depending upon need may exist with various nomenclature like:-

- After 1 year's- Diploma in Information Science and Technology.
- After 2 year's - Advance Diploma in Information Science and Technology.
- After 3 Year's - Associateship in Information Science.
- After 4 Year's- BS-Information Science.
- After 5 Year's - MS/MSc-IS

Before reaching Proposed 5 Years porogramme, lets check some 2 Years MSc-Information Science programme running in India University:-

BIT Mesra: - 1.Foundation of IS 2.Theory & Practices of Knowledge Organization and Information Processing 3. Fuzzy Logic & Neural Networks Applications 4 .Internet And Web Technology 5. Data Structures 6.Data Base Management System 7.Operating Systems 8.Computer Communication Networks 9.Management Of Information System & Centers10.Information Psychology &Information Architecture 11.Research Methodology &Quantitative Techniques 12.Digital Library And Multimedia And Other 2 Electives

WBUT:-1. *Mathematics for IS 2.Data structure with C/C++ 3.Computer organization 4.Business communication 5.Library and information science 6.Object technology 7.Operating system and system programming 8.Software engineering 9.Information theory 10.Soft computing 11.Digital image processing 12.Values & ethics in profession 1. Ee-commerce*

Here each paper has a proposed credit and total 93 credit is there for MS/MSc Degree while total 74credit is there for Lateral Out with BS-Information Science Degree. Here suggestion are also made that the paper needs any practical or industrial exposure or not. The 5 year integrated programme comes with one specialization which is offered in 10th Semester. Now lets look the 5 years proposed multiple exist Integrated MS/MSc- Information Science programme in Indian scenario.

Name of the proposed papers	Credit of the Paper	Lab [Yes/ No]	Industrial Exposure –Yes/No	Possible Departments; if not possible in house
Semester 1/ Year 1				
Information and Knowledge	3	No	No	In House is possible
Knowledge Management	3	No	No	In House is possible
Communication English	2	No	Yes	If Needed/ Possible in Literature/ Language Lab
Basic Science	2	Yes	No	If Needed/ Possible in IT/ Computing Department
Semester 2/ Year 1				
Computing and IT	3	Yes	No	If Needed/ Possible in IT/ Computing Department
Information Science and Technology	2	No	No	In House is Possible
DBMS	3	Yes	No	If Needed/ Possible in IT/ Computing Department
Web and Internet	3	Yes	Yes	If Needed/ Possible in IT/ Computing Department
Semester 3/ Year 2				
Knowledge Organization	3	Yes	No	In House is Possible
Advance Physical Science and Society	2	Yes	No	If Needed/ Possible in Science departments
Advance and Intelligent DBMS	2	Yes	Yes	If Needed/ Possible in IT/ Computing Department
PHP and Web	3	Yes	Yes	If Needed/ Possible in IT/ Computing Department
Semester 4/ Year 2				
Information Society	2	No	No	In House is Possible
Social Studies and Gandhism	2	No	No	If Needed History/ Social Science Department
Networking and Information Networks	3	Yes	Yes	If Needed/ Possible in IT/ Computing Department
Management Information Systems	2	No	No	If Needed/ Possible in IT/ Management Department
Semester 5/ Year 3				
CISCO and Advance Networks	3	Yes	Yes	If Needed/ Possible in IT/ Computing Department/ CISCO Lab
XML and Web Engineering	3	Yes	Yes	If Needed/ Possible in IT/ Computing Department
Technical Writing and Content Development	2	No	No	In House is Possible

Name of the proposed papers	Credit of the Paper	Lab [Yes/ No]	Industrial Exposure –Yes/No	Possible Departments; if not possible In house
Knowledge Organization and Discovery	2	Yes	No	In House is Possible
Semester 6/ Year 3				
Cloud Computing and Green Informatics	2	Yes	Yes	If Needed/ Possible in IT/ Computing Department
Knowledge Economy	2	No	No	In House is Possible
CISCO and Systems Administration	3	Yes	Yes	If Needed/ Possible in IT/ Computing Department/ CISCO Lab
Knowledge and Industries and Information Centers	2	No	No	In House is Possible
Semester 7/ Year 4				
ERP	2	Yes	Yes	If Needed/ Possible in IT/ Computing Department/ ERP/ SAP Lab
Indian Culture and Society	2	No	No	If Needed History/ Social Science Department
Advance Communication Language and NLP	2	No	No	Needed/ Possible in Literature/ Language Lab with IS Dept.
Information Foundation and Changing Scenario	3	No	No	In House is Possible
Semester 8/ Year 4				
Semantic Web	2	Yes	Yes	If Needed/ Possible in IT/ Computing Department
Knowledge Engineering	2	Yes	Yes	In House is Possible
Advance Computing and Information Services	2	Yes	Yes	In House is Possible
Semester 9/ Year 5				
Microsoft System Administration	3	Yes	Yes	If Needed/ Possible in IT/ Computing Department/ Microsoft Lab
Advance Informatics	2	No	No	In House is Possible
Business Intelligence	2	Yes	Yes	If Needed/ Possible in IT/ Computing Department/
Project	2	Varies Subject to Subject	Varies Subject to Subject	Varies Subject to Subject
Semester 10/ Year 5				
Elective-1	2	Varies Subject to Subject	Varies Subject to Subject	Varies Subject to Subject
Elective-2	2	Varies Subject to Subject	Varies Subject to Subject	Varies Subject to Subject
Elective-3	2	Varies Subject to Subject	Varies Subject to Subject	Varies Subject to Subject
Dissertation	4	Varies Subject to Subject	Varies Subject to Subject	Varies Subject to Subject

Fig: 3 The Proposed Model Curriculum

Suggestion:-

- Indian University departments and schools need to collaborate each other to offer various programme on Information Science;
- New Information Science nomenclature may be offers like- IST, ISE, ISC as discussed earlier;
- Proper Funding and financial assistance is needed to offer the programme.

Conclusion:-

Information Science is one of the important domains in Applied Science. Proper Information Systems helps in societal, economical, political and educational development may ways; thus Universities need to start and build such interdisciplinary programme for better Information-Technological and Societal Interaction, more better way.

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