PROSPECTUS

1. About NISCAIR

National Institute of Science Communication and Information Resources (NISCAIR), a constituent establishment of Council of Scientific & Industrial Research (CSIR), was formed by the merger of Indian National Scientific Documentation Centre (INSDOC) and National Institute of Science Communication (NISCOM) with effect from September 30, 2002. It embodies synergy of the core competencies and resources of INSDOC and NISCOM. INSDOC came into existence in 1952 and was engaged in providing S&T information and documentation services through myriad activities such as abstracting and indexing, library automation, access to international information sources, human resource development, consultancy in setting up modern library-cum-information centres and so on. With the formation of NISCAIR the multifaceted activities of INSDOC and NISCOM have been amalgamated, making the newly emerged institution capable of providing best platform for developing human resources using available modern ICT infrastructure in an effective manner.

The **Mission Statement** of the NISCAIR is : *"To become the prime custodian of all information resources on current and traditional knowledge systems in science and technology in the country and to promote communication in science to diverse constituents at all levels, using the most appropriate technologies".*

To accomplish this mission, the Education and Training Division (ETD) of NISCAIR assumes the major responsibility of executing the related **mandate** i.e. *"To develop human resources in the field of science communication, library, documentation and information science, and S&T information management systems and services"*.

Erstwhile INSDOC started offering an advanced training course in Documentation and Reprography in August 1964. In 1977, the course was renamed as Associateship in Information Science keeping in mind the changing context of information requirements. The course has been revised from time to time in the last forty five years to suit the changing needs of the country and to incorporate the expanding dimensions of documentation and information science. In the light of the new situation developing in the country and the region, the course has now been thoroughly redesigned to suit not only Indian needs, but also the needs of other developing countries. From the Academic Session 1999-2001, one seat has been earmarked for each nation in the South Asian Association for Regional Cooperation (SAARC).

The Education and Training Division of NISCAIR organises and oversees the activities related to the Associateship in Information Science (AIS) programme which is a two year advanced Master's degree level academic course in information science & documentation. In addition, the ETD conducts various short-term courses and attachment training programmes in various areas of information technology and computer applications of library and information science. NISCAIR is also designated as Programme Study Centre for several courses of Indira Gandhi National Open University (IGNOU), such as Masters in Computer

Applications (MCA), Master of Library & Information Science (MLISc) and Bachelor of Library & Information Science (BLISc).

The Education and Training Division of NISCAIR, thus is dedicated to the qualitative educational facilities in the core disciplines of the institute inducting students from India, SAARC and neighbouring countries.

2. BOARD OF STUDIES

The course is run under the overall guidance of Board of Studies consisting of eminent information professionals, industry personnel, planners and academicians of the country. The members of the present Board of Studies are:

1.	Director National Institute of Science Communication and Information Resources (NISCAIR) 14-Satsang Vihar Marg New Delhi-110 067	Ex-officio Chairman
2.	Dr Naresh Kumar Head, R&D Planning Division CSIR, Rafi Marg New Delhi 110 001	Member
3.	Prof. S B Ghosh Retd Professor Indira Gandhi National Open University XY 72, Sarojini Nagar New Delhi - 110 0 23	Member
4.	Dr Jagdish Arora Director, INFLIBNET Centre, Opp Gujarat University Guest House P B No. 4116, Navrangpura Ahmedabad – 380009	Member
5.	Dr Ravinder Kumar Chadha Jt. Secretary, Lok Sabha Secretariet F-130, E-Block, Parliament Library Building New Delhi - 110 001	Member
6.	Dr. A L Moorthy Director, DESIDOC Metcalf House Delhi 110 054	Member
7.	Prof. Amitabha Chatterjee Department of Library & Information Science Jadavpur University Kolkata 700 032	Member

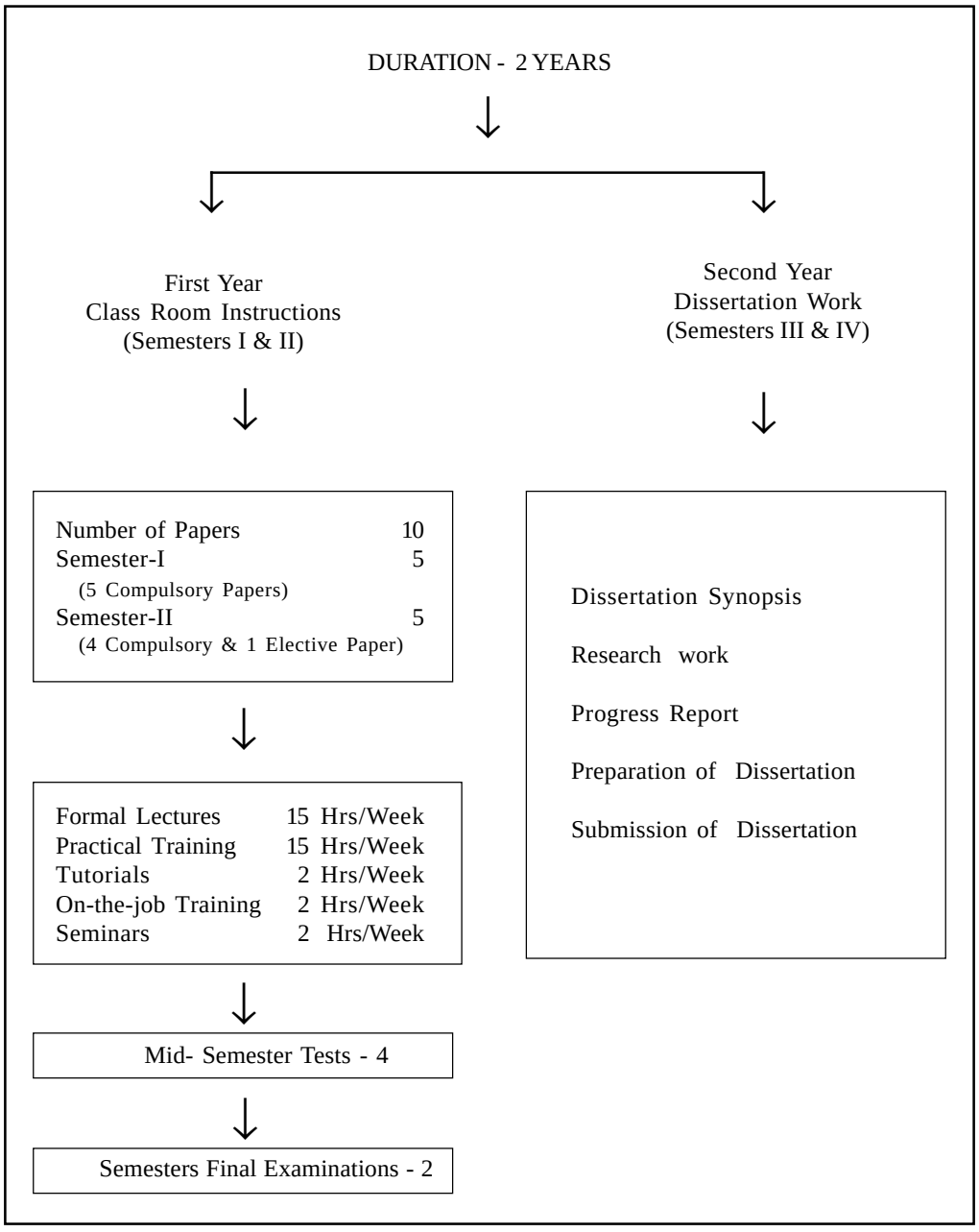
8.	Prof. P B Mangla Emeritus Professor EB-210 Maya Enclave New Delhi -110 064	Member
9.	Prof. S. Arunachalam Distinguished Fellow The Centre for Internet & Society 14 Cunninghan Road Banglore – 560 052 (Karnataka)	Member
10.	Dr. Dinesh Kr. Gupta Head, Department of Library & Information Science Vardhaman Mahaveer Open University Rawatbhata Road Kota 324 010 Rajasthan	Member
11.	Prof. J. N. Gautam Head, School of Studies in Library & Information Science Jiwaji University Gwalior, MP	Member
12.	Prof. C. R. Karisiddappa Emeritus Professor Department of Library & Information Science Dharwad, Karnataka 580 003	Member
13.	Head, ETD National Institute of Science Communication and Information Resources (NISCAIR) 14, Satsang Vihar Marg New Delhi – 110067	Ex-officio Member Secretary

3. OBJECTIVES

The objectives of the course are to provide the students with

- an understanding and appreciation of the vital and pervasive role of information as an essential input in all developmental activities;
- a thorough insight into all techniques of information handling with special emphasis on the application of information technology;
- full comprehension of the global nature of information for proper cooperation and coordination among countries; and
- necessary skills and information technology background for designing, implementing, operating and managing information systems

4. COURSE STRUCTURE



5. ACADEMIC PROGRAMME

The medium of instruction of the course is English. The course covers comprehensively all aspects of information science and technology with particular emphasis on the practical aspects. The academic programme is as below:

FIRST YEAR

SEMESTER I

Paper 1 Information, Knowledge and Society
Paper 2 Information Sources
Paper 3 Information Processing, Organisation and Retrieval
Paper 4 Information Systems and Services
Paper 5 Fundamentals of IT and DBMS

SEMESTER II

Paper 6 Technical Writing
Paper 7 Library Automation and Digital Librarires
Paper 8 Internet Concepts, Resources and Services
Paper 9 Information System Management
Paper 10 Elective (Subject to feasibility - Any one of the following)
1) Intellectual Property Rights
2) Business Information Systems
3) Knowledge Management

SECOND YEAR

SEMESTERS III AND IV

Paper 11 Dissertation

5.1 Selection of Topics for Dissertation

a) An Expert Committee comprising inhouse faculty members and external experts decides the topics of dissertations of the students. The Committee also decides the Guides (both external and internal) in consultation with the students.

b) A student may choose an external guide for his/her dissertation with prior approval of the Expert Committee. In such a case, the Committee will nominate a Scientist of NISCAIR as the Internal Guide.

5.2 Colloquia and Seminars

An important feature of the course is the periodical holding of colloquia and seminars which provide opportunities to the students for debating, articulation and collective thinking. Besides, the students may also have opportunities to participate in seminars, workshops and short term courses conducted by NISCAIR from time to time.

5.3 Field Work

Opportunities will be provided to the students to visit, observe and study the working of a variety of institutions such as documentation and information centres, libraries, government departments connected with industrial development, planning, etc.

6. FACULTY AND STAFF

The course is conducted by well-trained and experienced teachers working in the ETD and other Divisions of NISCAIR. The services of experts from inside and outside the organisation are also availed for running the course.

7. ADMISSION

a) The minimum qualification for admission to the course is a minimum of 50% aggregate marks in:
   i) Master's degree; or
   ii) Four-year plus degree like B.E./M.B.B.S.; or
   iii) Bachelor's degree *plus* B.Lib.Sc. *plus* one year of relevant experience after B.Lib.Sc.

Note: *Students who have appeared in the final year examination of M.A./M.Sc./M.Com./BE /MBBS will also be eligible for applying for admission to the Course. However, their cases will be considered only in the event of their results being declared before the final selection and their obtaining a minimum of 50% aggregate marks.*

b) Candidates should be below forty years of age as on August 01, 2009. For sponsored candidates, the age limit may be raised to fifty years at the discretion of the Chairman of the Board of Studies.

c) Barring foreigners, all candidates will have to appear in an admission test to be held simultaneously in New Delhi, Kolkata and Bangalore. The admission test will be of two-hour duration and is intended to test the candidates' skill in English language, general knowledge, basic mathematics and logic to ascertain their aptitude towards information science. Candidates found successful in the admission test will be called for interview for final selection only at New Delhi. Short listed outstation candidates appearing for interview will be paid 2nd class sleeper return rail fare or equivalent as per shortest route. The result of the admission test and list of selected candidates will be displayed on the notice board and on the website (http://www.niscair.res.in) of NISCAIR. In case of any dispute on the selection of candidates, the decision of Director, NISCAIR will be final and binding.

d) In all, there are 25 seats for admission. Out of these, three seats are reserved for candidates belonging to SC/ST category and these candidates will be considered for admission provided the minimum admission requirements are fulfilled by them. If no suitable SC/ST candidates are found, the seats will be treated open.

In addition, there are seven seats for candidates from SAARC countries. For these candidates, there will be no written test, but eligibility conditions as at 7(a) will apply.

e) Selected candidates will have to deposit the requisite fees within the stipulated date failing which the seat will be offered to candidates on the waiting list.

f) **How to apply:** The prospectus and the application form can be obtained from **Head, ETD** from **May 18, 2009** onwards in person (by cash) or by sending a self addressed envelope (25cm x 20 cm size) affixing Rs.25/- postage stamps and enclosing a DD/Postal Order for Rs.200/- drawn in favour of **Director, NISCAIR,** payable at **New Delhi**. Application form can also be downloaded from the website at **http://www.niscair.res.in**.

Completed application form should be submitted latest by **June 18, 2009** to Head, Education and Training Division, 14 Satsang Vihar Marg, New Delhi 110067. Application forms downloaded from the website should be sent alongwith a DD/Postal Order for Rs. 200/- drawn in favour of **Director, NISCAIR,** payable at **New Delhi**.

8. ATTENDANCE

A candidate will be debarred from appearing in the examination if he/she fails to get a minimum of 75% attendance in each paper during the formal period of the course.

9. EXAMINATION

Students fulfilling all the requirements including attendance will be permitted to appear in the examinations at the end of each semester.

10. EVALUATION

The performance of the students during the first year is evaluated by written examination, sessionals and seminars. Each theory paper along with its corresponding sessionals carries 100 marks (50+50). The two seminars (one in each semester) carry 50 marks (25+25). The dissertation submitted by the student at the end of the second year carries 200 marks. The total marks thus work out to be 1250.

11. ELIGIBILITY FOR THE AWARD OF ASSOCIATESHIP

To qualify, a student should secure:

a) a minimum of 40% marks in each theory paper and 50% in each sessional,
b) a minimum of 50% marks in the aggregate in each paper,
c) a minimum of 50% marks in the aggregate in dissertation, and
d) a minimum of 50% marks in the aggregate.

The grades awarded are:

Distinction	75% and above
First Class	60% and above, but less than 75%
Second Class	50% and above, but less than 60%

A student not securing the qualifying marks mentioned above in the first chance may reappear in the respective paper/s and/or sessionals and resubmit dissertation as the case may be. The date of completion of the course will be reflected in the marksheet/certificate.

The dissertation is to be submitted by each student on or before 31st August of the due year. If the student failes to submit the dissertation by the due date, he/she has to apply for extension giving genuine reasons for which he/she could not complete the work. The competent authority may extend upto a maximum period of one year after reviewing the progress of the student. The extension is not automatic. The student is also required to submit the progress report as mentioned in the calendar.

If a student fails to submit the dissertation even after the extended period, he/she can submit it within four years from the date of commencement of the course. In this case, the student will be awarded only a II class even if he/she obtains a first class or distinction marks in aggregate.Dissertation submitted **after four years** will, in no case, be accepted for evaluation.

12. REAPPEARANCE AT THE WRITTEN EXAMINATION

Students who fail to qualify the theory papers in the first attempt may reappear in the individual papers in a semester, but they will have to reappear in these papers within a period of 4 years from the date of commencement of the course. The examination will be based on the syllabus of the current year. The number of chances for reappearance in any paper is restricted to a maximum of two. A fee of Rs. 200/- for each paper will be charged. A fee of Rs. 1500/- will be charged for reappearing in all the papers of a particular semester.

13. AWARD OF THE ASSOCIATESHIP

NISCAIR will award the Associateship in Information Science to the successful students.

14. ACCREDITATION

The Government of India and the Union Public Service Commission have recognised this course as equivalent to a Master's Degree for recruitment to superior posts under the Central Government where specialisation in Information Science and Documentation is required. UGC has not recognized the Course as an eligibility criteria for UGC-NET, however, the universities like Andhra, Burdwan, Dharwar, Gulbarga, Jadavpur, Jiwaji, Kerala, Kurukshetra, Sardar Vallabh Bhai Patel, Vidyasagar, Kolkata, IGNOU have recognised this course as equivalent to M.L.I.Sc. for conducting research leading to the award of doctoral degree.

15. FEE

The total fee for the entire course is Rs. 5,000/-, which is payable at the time of admission by Demand Draft drawn in favour of **Director, NISCAIR payable at New Delhi**. The fee for students from the countries of the South Asian Association for Regional Cooperation (SAARC) is Indian Rs. 15,000/- and fee for students from other foreign countries is US $ 2,000/-. Fee once deposited will not be refunded.

16. CALENDAR

The course is of two years duration. While the first year is the formal training period requiring compulsory attendance, the second year is devoted to the preparation of dissertation. The calendar of events is given inside the front cover page of the Prospectus.

17. SCHOLARSHIPS

a) The award of the scholarships will be recommended by the Scholarship Award Committee on the basis of students' performance in the mid-semester tests in the first semester.

b) Each scholarship is of the value of Rs. 2,000/- per month and is awarded for a maximum period of 9 months only.

c) The students having minimum of 75 % attendence will be considered for award of scholarship.

d) The progress of the scholarship holders will be reviewed regularly by the Scholarship Award Committee.

e) The scholarship may be terminated without assigning any reason whatsoever.

18. DISQUALIFICATION

A student may be disqualified from the course at any time under any one or more of the following circumstances:

a) Regular non-submission of assignments

b) Regular non-appearance in class tests/seminars

c) Unsatisfactory performance during the course

d) Less than 75% attendance in each paper during the formal period of training

e) Indulging in unfair means during examination

f) Misbehaviour and misconduct within or outside NISCAIR premises.

19. DIVISIONAL FACILITIES

The Info-Tech laboratory of ETD is well equipped with over 80 networked Pentium systems and a good number of audio-visual equipments. The division has Internet and LAN facilities. Every student is given adequate computer time to develop good command over application packages like MS-Office, SQL Server, Winisis, web design, programming concepts and operating systems.

20. CENTRAL FACILITIES

Students are provided hands-on experience in on-line searching of international databases through DIALOG and STN access available at NISCAIR.The other facilities available at NISCAIR include e-mail, Internet Access on dedicated LAN, Electronic Access to Full Text Journals, Document Scanning, Photocopying equipments, etc. CD-ROM facility to search International Databases like SCI SEARCH, LISA and many others is also available.

In addition to an extensive collection of reference material on science and technology, the National Science Library (NSL) of NISCAIR has a very comprehensive collection of documents in library science, documentation, information science and technology, computer science, communication, reprography and other media technologies, management, etc. The NSL has over 2000 full-text Journals on CD-ROM. The students have a unique opportunity to make use of this excellent collection.

SAARC Documentation Centre (SDC) has been set up at NISCAIR for exchanging S&T information among SAARC nations and has been functioning since January, 1994. As part of various programmes planned by SDC for execution during the next 2-3 years, human resource development in the area of information science and technology in the SAARC region has been accorded top priority.

21. HOSTEL FACILITIES

Limited hostel facilities are available to a few students from outside Delhi.

22. EMPLOYMENT OPPORTUNITIES

The course provides bright employment opportunities to the students. Students who have emanated from this course are now heading Library/Information Divisions of many CSIR laboratories, S&T institutions, and corporate sectors within the country and abroad.

23. VENUE

The course will be conducted at NISCAIR, 14, Satsang Vihar Marg premises which is located to the south of IIT Campus and east of Jawaharlal Nehru University Campus near Qutab Hotel.

24. CONTACT PERSON

For all correspondence, please contact/write to :

Head, Education and Training Division
NISCAIR, 14 Satsang Vihar Marg
New Delhi 110 067 (INDIA)
Phone: +91-011-2686 3521 EPBAX: 26560141/143/165/Extn. 201
E-mail: renuarora@niscair.res.in, natarajan@niscair.res.in
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SYLLABUS

SEMESTER I

PAPER 1: INFORMATION, KNOWLEDGE AND SOCIETY

UNIT 1 - Information overview, information generation and communication

Information & Knowledge
Meaning, definition, properties, scope
Boundaries of each, overlapping areas, conceptual differences

Generation & Flow
Factors responsible for generating information
Communication media: human, written, print, electronic
Flow dynamics, Technology transfer
Barrier to information flow (linguistic, religious, political, others)

Growth & Obsolescence
Factors of growth, Birth of a subject
Ramification of a subject

Information Science as a Discipline

UNIT 2 - Information and Society

Use, misuse & abuse of information
Causes: political, religious, natural, translational, etc.

Economic, Societal & Cultural aspects
Social implications of information
Economical, Political, Cultural implications
Information professionals & institutions

Impact of Digitization and web on Information availability
Information Society/Knowledge Society
Information Literacy

Information & Government
Information Policy
Right to Information, Freedom of Information
IPR issues
Role of information in planning, decision making, management, national development, S&T innovation, forecasting, etc.

UNIT 3 - Bibliometrics

Meaning, definition, scope
Concepts of bibliometrics, librametrics, informetrics, scientometrics, webometrics and cybermetrics
Bibliometric and other indicators
Citation studies, Bibliometrics laws & Bibliometric tools and techniques

UNIT 4 - Economics of Information

Economics of Information and Information Economics (Basics)
Economic principles relevant to information
Information as a resource and factor of production
Economics of information sources and production
Impact of Electronic Publishing
Information industry

PAPER 2: INFORMATION SOURCES

UNIT 1 - Overview

Origin, development, types and their characteristics, utilization, evaluation and limitations. Guidelines for evaluation and limitations.

UNIT 2 - Documentary Sources

Print Sources, Computerized databases, Multimedia, Web based Information Sources, etc.

Primary Primary periodicals, technical reports, conference documents, standards, patents, theses, trade literature, monographs, treatises, etc.

Secondary Dictionaries, encyclopaedias, yearbooks, almanacs, handbooks, bibliographies, gazetteers, abstracting and indexing periodicals, maps and atlases, guidebooks, etc.

Tertiary Guides to reference sources, bibliography of bibliographies, directories, etc.

Mixed Newspapers, popular periodicals, technical, etc.

Computerized data bases, Multimedia, Web based Information Sources, etc.

UNIT 3 - Non-Documentary Sources

Human: Consultants, experts/resource persons, extension workers, representatives of firms, technological gatekeepers, invisible colleges, common men (priest, village head, postman, receptionist, etc.), others.

Organisations: International agencies, Govt., ministries and departments, R&D organisations, academic inistitutions, learned societies, publishing houses, press, broadcasting stations, museums, archives, exhibitions & trade fairs.

UNIT 4 - Information sources by subjects

Sciences, Social sciences and Humanities

UNIT 5 - Information Search

Searching – Manual and Electronic; Analysis and understanding of the query; Identification of the sources(s); Getting the relevant available source; finding out the information; Preparation of the answer & Advanced online search.

PAPER 3: INFORMATION PROCESSING, ORGANISATION AND RETRIEVAL

UNIT 1 - Organisation of information, Bibliographic Description and Record Formats

Intellectual organisation of information

Content analysis
Subject representation and Information storage and retrieval

Bibliographic Description

Overview, scope, objectives
ISBDs
AACR-II
Rules for bibliographic description

Record Formats

Standards, ISO 2709
MARC, UNIMARC, CCF, INDIMARC
MARC21/Dublin Core

UNIT 2 - Indexing Methods and Techniques

Indexing

Concepts, theories and methods
Indexing Process
Exhaustivity and Specificity

Indexing Languages

Definition, need, purpose, characteristics
Vocabulary control – Semantics and Syntactics
Classification schemes (UDC)
Subject headings- LCSH
Thesaurus- Design and Construction

Indexing Systems

Pre-coordinate – Concepts and basics of a few select systems like
Chain Indexing, PRECIS and POPSI
Post -coordinate
Automatic Indexing - Computer based indexing system and methods
Citation Indexing

Web Indexing

Directories, search engines, role of metadata
Semantic web and associated technologies

UNIT 3 - Information Retrieval and IR System Evaluation

Information Storage and Retrieval Systems

Planning, Design and Development
Search strategies
Search Process
Searching Techniques
Tools for searching – Boolean operators, Fuzzy logic, proximity operators, truncation, etc.

IR System Evaluation

Need and purpose
Evaluation Criteria
Methodology
Experiments and Case studies

PAPER 4 : INFORMATION SYSTEMS AND SERVICES

Part I - Information Systems and Networks

UNIT 1 - Information Institutions, Resource Sharing and Networking

Components of Information Institutions: Libraries, Documentation/Information Centres, Databanks, Information Analysis Centres, Referral Centres.
Resource Sharing, Networking & Consortia: Structures, Functions and Services

Library Networks & Consortia in India: Development, Characteristics, Functions and Services; DELNET, INFLIBNET, INDEST, CSIR e-journal Consortia

UNIT 2 - National and International information Systems and Programmes

National Information System: UK, USA
Regional Information System: SAARC, PADIS
Global Information System: INIS, BIOSIS
Role of International Bodies: UNESCO, IFLA

Part II – Information Products & Services

UNIT 3 - Information Products

Information Users: Needs, user and user studies

Design and development of information products

Specific types of information products/services

Current Awareness services: Title announcement, SDI/alerting services, Research-in-Progress, Press clipping services

Indexing, Condensation, Consolidation and Compilation products: Abstracts, Abstracting & Abstracting services, Indexing Bulletins, subject bibliographies

Information Products/Services : Design and development, use and maintenance of conventional products/information products

UNIT 4 - Information Services

Literature search and Referral services

Document delivery; Reprographic services, Document scanning , ARIEL

Translation Services : Translation journal; Translation bank

Standards : For library, documentation and information services

Marketing of Information Products and Services

PAPER-5: FUNDAMENTALS OF IT AND DBMS

UNIT 1 - Computer Hardware, Software and Operating systems

Basics: Von Neumann Architecture, Computer Generations, Classification of computers, Computer Organisation

Data Representation: ASCII, BCD, UNICODE &Numbering systems (Binary, Octal, Hexadecimal)

Processor Types: CISC, RISC

File Formats: Image, audio, video, text

Memory Hierarchy: Register, Cache, RAM, ROM, DRAM, Flash Memory

Secondary Storage: Characteristic of Hard disk and CD-ROM, DVDs, Pen Drives, Cartridge Tape Drives etc. IDE, SCSI Interfaces

Printers: Types and characteristics

Scanners: Types and characteristics

UNIT 2 - Computer Software

Operating System: Functions of operating system

Types of OS: Serial Processing, Batch Processing, Multiprogramming OS, Distributed OS and Network Operating System

File Systems: FAT, NTFS, UNIX File system

Principles of Programming

Generations of Languages, Assemblers, Interpreters and compilers
Algorithms, Flowcharts, Pseudo codes
Centralised processing and Client Server architecture, N-tier Architecture
Software Development Life Cycle

UNIT 3 - DBMS

Introduction

File based systems and their limitations

DB approach, database models

Architecture

Three level architecture of DBMS

Elements of DBMS: Host language interface, precompiler, DDL, DML, File manager, DB manager, DB Administration, Data dictionary, Data files and indexes

Entities, attributes, relationships, ER diagram

Relational model: Domains, attributes, tuple, relations

Keys: Primary keys, foreign keys, indexes

Conversion of ER diagram to relational database

Normalization : 1NF, 2NF, 3NF, BCNF

UNIT 4: Structured Query Language

CREATE, SELECT, INSERT, UPDATE, DELETE, GRANTING PERMISSIONS, VIEWS, CURSORS, TRIGGERS

Lab Work

MS Windows : Installation and configuration of Windows, applications, device drivers, printers, creating users and groups, file sharing, system settings

Microsoft Office : Word, Excel, PowerPoint

MYSQL/ SQL Server : Installation and configuration of MYSQL/ SQL Server, Database Design and creation, SQL commands, Assigning roles and Permissions to users, Functions, Indexing

SEMESTER II

PAPER 6: TECHNICAL WRITING

UNIT 1 - Technical Communication and Linguistics

Communication Process
General overview; Popular/Technical writing; Characteristics features of technical writing; Target groups in written communication; Reader-writer relationship; Level of technicality in scientific communication.

Linguistics
Language as a medium of expression of thought; Functional style, semantics, syntax and diction; sentence structure and readability; Aberration in technical writing.

UNIT 2 - Categories of Technical Communication

Structure, Function and Types of Technical Communication
Definition, purpose, types, characteristics, functions, structure, Collection, organisation and presentation of data.

Technical Papers/ Articles, Short communication, Review articles, Technical reports, Popular articles, Monographs, Dissertations; House bulletins; Extension literature.

Information Analysis, Consolidation and Repackaging Products - Technical Digests, Trend Reports, State-or-the-art reports, Annual Reports, Manuals, Handbooks and Directories.

UNIT 3 - Editing and Editorial Tools

Technical Editing
Introduction, Editor: Functions, qualifications and special skills, Editorial process, Evaluation process, Editor-author-referee relationships in quality control, Manuscript preparation, proof reading and print production.

Editorial Tools
Dictionaries, Style manuals, standards specifications, etc.

UNIT 4 - E-Publishing

Web-based , Online Documentation

Lab Work
Electronic publishing, Aldus Pagemaker, Corel-Draw, HTML, Design and Creation of Web page

PAPER 7: LIBRARY AUTOMATION AND DIGITAL LIBRARIES

UNIT 1 - Library Automation

Basics : Library automation software, OPAC, Retrospective Conversion Techniques

Automating Identification Methods: Bar coding, RFID

Selection criteria for hardware and software

Library Automation Software: WINISIS, JAVAISIS, WWISIS

UNIT 2 - Digital Libraries

Overview of digital library

Definition, Need for a digital library, Types
Components of a digital library- Collection, network, organization, browsing and interfaces
Advantages and limitations

Digitization and Tools

Techniques of digitization, resolution, imaging

Formats

Character sets such as Unicode
Files and Formats of documents, images, video, audio, etc.
Conversion from one format to another
Usage of XML

Metadata

Role of metadata and Metadata types; Standards (Dublin-core, etc)

UNIT 3 - Digital Preservation

Overview, Need, Challenges, DP strategy – migration, replication, computer archeology, standards, Universal virtual computers, DP metadata and Institutional Repositories.

Creation of digital libraries

Process of planning, creating and managing a digital library

Lab

MYSQL : Installation and configuration of MYSQL, Database design and creation, SQL commands, Assigning roles and permissions to users, Functions, Indexing

Digital library: Installation, configuration and working in of Greenstone/D-Space.

PAPER 8: INTERNET CONCEPTS, RESOURCES AND SERVICES

UNIT 1 - Fundamentals of Networking

Introduction to Computer Networks, uses

Classification	**:**	LAN, MAN, WAN: Internet, Intra-net, Extra-net
Networking Models	**:**	ISO OSI, TCP/IP reference Model
Network Topologies	**:**	Bus, Ring, Star, Mesh
Switching Techniques	**:**	Circuit Switching, Packet Switching
Network Devices	**:**	NIC, Modem, Amplifier, Repeater, Hub, Bridge, Switches, Router, Wi-Fi devices
Network Connectivity	**:**	Dial-up, Leased Line, ISDN, RF etc.
Network Addressing	**:**	MAC address, port address, Domain Address, IP address
Protocols and Services	**:**	IP, TCP, DNS, SMTP, PoP, FTP, Telnet, HTTP, Search engine, Proxy, Firewall, Web server
Network Security	**:**	Authentication, Firewalls, IDS, Virus, Spywares, Maintenance

UNIT 2 - Resources

Search Engines	**:**	Introduction, Categories: Primary, Meta, specialized Search Engines, hybrid, Subject gateways, Directories, Open source softwares: concepts, Licensing
Searching Techniques	**:**	Basic Search, Advanced search: Boolean operators, Proximity operators, wild cards, phrases
Evaluation	**:**	Capabilities: Search Results, Relevance ranking

UNIT 3 - Services

World Wide Web, Web Servers, Proxy Servers, Domain Name Servers, Email, Conferencing: Audio and Video, Chat & instant message, User Groups, Discussion Board, Bulletin Board

UNIT 4 - Web Site Development

Introduction, Principles of Web design, Software Tools, Markup Language: HTML, DHTML, XML: Syntax & commands, Text, Tables, Images, Links, Frames, Style sheet and layering. Scripting Languages

Lab

Network Basics

Installation and sharing of Resources on Network: Files, Printers, Scanners
Installation and configuration: Mail Clients, Web Servers, Database servers

Creating Web pages

Using MS FrontPage / Macro media dream weaver

Formatting of text, headings and lists, working with images and sounds
Creating Links, Using Tables, Frames and Forms
Scripts
Basic structures; Connecting with databases for updating and retrieving information
Linux
Basic commands, creating users and groups, changing permissions, pipes, filters, redirection

PAPER 9 : INFORMATION SYSTEM MANAGEMENT

UNIT 1 - Management Perspectives and Functions

Management concept - Historical overview; Management of components of information system; Principles of management ; Styles/schools of management; Elements of Management

Planning - Planning process; Type of plans; Techniques of planning; Factors and steps in planning

Organising - Principles; Types of organizational structure coordination; Departmentation and Hierarchy; Organsational charts; Change management; Reengineering

UNIT 2 - Human Resource Management

Staffing - Staffing requirements; Recruitment process; Salary administration; Development of skills and expertise to handle information organizations; Staff communication; Staff development

Directing - Work assignment and supervision; Leadership; Span of control; Motivation

Monitoring and Control Techniques- Systems approach, work flow and organisation of routines; Operations research; Network analysis; MBO, MIS and TQM

UNIT 3 - Financial management and Budgeting

Financial Management - Financial estimation; Budgeting - techniques, control system, types (including ZBB); Costing, cost analysis, cost benefit analysis and pricing

UNIT 4 - Library/ Information Centre Management

Physical Facilities - Building, equipment, furniture , environment, resources; Ergonomics

Collection development Management of various divisions, services and automation aspects

Marketing Principles and Techniques

PAPER 10 : ELECTIVE (any of the following – technical feasibility)

10(1): INTELLECTUAL PROPERTY RIGHTS (IPR)

UNIT 1 - Overview of IPR

Patents, Designs, Trade Marks, Trade secrets; Copyrights and related rights, Geographical Indications, Plant Variety and Farmers Rights

Basics of Patents
Definition, Patentability of invention: Types of invention; who can apply for patent? Legal Protection of computer software and multimedia products; Product and process patent; IPR in Biotechnology and Nanotechnology.

Patenting in India
Indian Patent Act; Indian Patent Office: Structure and Jurisdiction

UNIT 2 - Stages of Patenting

Patent Drafting and processing
Drafting, structure, text, claims, typist format of invention, definition of invention, drawings, processing of an application through national and Patent Cooperation Treaty (PCT) systems, example of complete specification, post acceptance proceedings.

Patent Opposition and Revocation
Procedure of opposition; procedure to counter an opposition; patent revocation in India; case studies.

UNIT 3 - Patent Information

Patent as Source of Information and sources of Patent Information, Patent classification and cataloguing; International Patent Classification**;** Patent search; Sources of patent information in India and abroad; Patent databases and Patent Cooperation Treaty (PCT) Minimum Documentation; Derwent Innovation Index, STN, Delphion, DIALOG and other CD-ROM Databases; websites;

UNIT 4- Patent as a Strategic Tool

International and regional agreements
Trade Related Aspects of Intellectual Property Rights (TRIPS), Paris Convention, World Intellectual Properties Organisation (WIPO) and Patent Cooperation Treaty (PCT)

Lab Work
Searching and showing International Patent Databases like Derwent Innovation Index, STN, Delphion, DIALOG and other CD-ROM Databases. Drafting of Patent.

10(2): BUSINESS INFORMATION SYSTEMS

UNIT 1 - Overview

Business Information
Nature and characteristics, role, generation and utilization

System View of Business Information

Components of Business Information System : Resources, Centres, consultants, Supplier, Financial Organisations, Industrial Promotors, etc.

Users of Business Information : Categories, Role, functions, and needs.

UNIT 2 - Business information sources, Products and services

Documentary : Directories, Technical enquiry services; Digests; Market Research Reports; Trade Literature; technical Notes; Company Profiles; Intellectual Property Rights (Copyright, Patent, Design & Trade marks); Computerised Services; Databases; CD-ROMs and Networks, Internet.

Institutional : National & International - NIDCS, IIFT, ITPO, CII, FICCI, UNIDO, UNCTAD, etc.

Standards related to Industries (National and International): TQM, ISO 9000:2000

E-commerce - concepts and scope.

UNIT 3 - Organising business information for enduser support

Computer-based information system: Database System
Management Support systems : Decision support systems: Information centres.
Communication Business : Basics and Useful tips

10 (3): KNOWLEGEMENT MANAGEMENT

UNIT 1 - Knowledge Management Basics and Sources

Definition and types

Emerging knowledge environments Business process re-engineering, The value of intellectual capital

Knowledge Context – The changing nature of competition, knowledge economy, changing organizations, e-economy and changing work groups

Knowledge Management - definition, concept, need, value, process, basic tools; KM in Economic, Social and industrial environment.

Knowledge Sources – Types, Knowledge systems including Expert Systems, Intelligent Agents

UNIT 2 - Approaches and Features of KM

Knowledge mapping and information auditing, KM development roles

Tools and Techniques of KM – Data mining, Text mining, Knowledge sharing concepts

KM Skills and competencies – Clusters of KM enabling skills, emerging skills mix

Role of Information professionals in KM - Impact of professional information skills, powering information.

Evaluation of KM System- technology and change management.

UNIT 3 - Ontology of KM and Case Studies

Knowledge Generation – Knowledge Taxonomy, Transfer, Organisation of Knowledge management & practice, KM Systems - Infrastructure evaluation, Basic components, Architecture, Approaches, Knowledge audit and analysis, Blueprint creation, developing KM systems, & Trends.

Case Studies – Sectors like Pharmaceuticals, Engineering, Financial, etc.

SELECT READING LIST

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NATIONAL INSTITUTE OF SCIENCE COMMUNICATION AND INFORMATION RESOURCES

Application form for admission to the Associateship in Information Science course (2009-2011 batch)

Note: *The filled in application form should reach the Head, Education and Training Division, NISCAIR, 14-Sastang Vihar Marg, New Delhi-110067 latest by June 18, 2009. The application form, downloaded from the website, should be accompanied by DD/ postal order for Rs.200/- drawn in favour of Director, NISCAIR payable at New Delhi.*

Paste latest passport size photo

Amount Rs .....
D.D.No. .....

Name(in full) Mr./Ms./Dr .....
(in Block letters)

Father's/Husband's Name .....

Mailing Address: .....
.....

Permanent Address: .....
.....

Telephone No: ..... Fax No: ..... E-mail address: .....
Date of Birth: .....

Qualifications:

Degree	University	Year	Class or Division Marks %	Subjects
Matriculation/Hr.Sec.				
Bachelor of Arts/ Commerce/Science/ Engg./Technology				
Master of Arts/Commerce/ Science/Technology				
Research Degrees				
B.Lib.Sci.				
Other Qualifications				

Professional experience:

Name of the Institution	Post held	Period

Whether deputed by the Institution? Yes/No
If yes, with financial support? Yes/No
(see note below)

Whether belonging to SC/ST category ? Yes/No
(If yes, please attach an attested copy of the certificate)

Did you apply for the course earlier? If so, when and what was the result?

Centre of Written Test : New Delhi ☐ Kolkata ☐ Bangalore ☐
(Please tick)

Centre of Interview : New Delhi

Date..... **Candidate's Signature**
Place.....

Candidate already employed should get the following endorsement signed by his/her present employer.

ENDORSEMENT BY THE HEAD OF THE DEPARTMENT OR OFFICE

Date: Full Signature

Designation

Address

Note: Candidates deputed by their Institutions for the training course should furnish a certificate to the effect that they will be financially supported by their organisation for the duration of the course.

CALENDAR OF EVENTS

Last date for applying	*June 18, 2009*
Admission Test	June 30, 2009
Interview	July, 2009 [Dates to be announced]
Declaration of Result	1st week of August, 2009
Last date for Payment of Course Fee	August 26, 2009
Course Work	
First Semester	September 1, 2009 - January 30, 2010
Mid-Semester Test I	October 21-23, 2009
Mid-Semester Test II	December 22-24, 2009
Semester-I Examination	January 20-29, 2010
Mid-year break	February 01-28, 2010
Second Semester	March 01 - July 30, 2010
Mid-Semester Test I	April 26-28, 2010
Mid-Semester Test II	June 9-11, 2010
Semester-II Examination	July 19 -30, 2010
Dissertation Work	
Selection and Finalisation of Dissertation Topics	August 02-13, 2010
Annual Break	August 16-August 31, 2010
Third Semester	September 01, 2010 - February 28, 2010
Submission of Dissertation Outline	October 12, 2010
Submission of Progress Reports	December 15, 2010 February 28, 2011
Fourth Semester	March 01, 2010 - August 31, 2011
Submission of Progress Reports	March 31, 2011 June 30, 2011
Submission of Dissertation	August 31, 2011

CONTENTS

PROSPECTUS
AND
SYLLABUS

ASSOCIATESHIP IN INFORMATION SCIENCE

(A Master's Degree Course)

(2009-2011)

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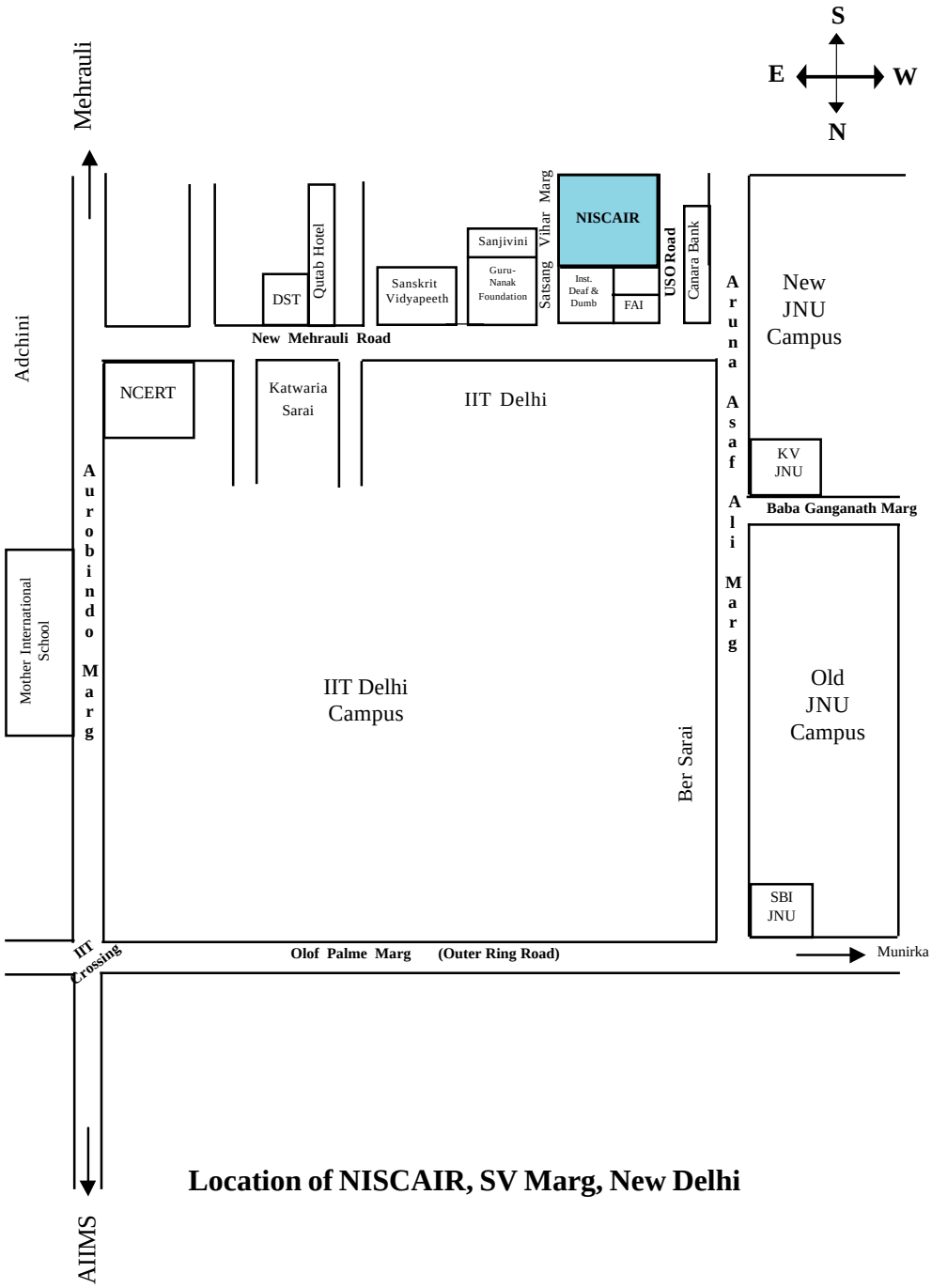

Location of NISCAIR, SV Marg, New Delhi