Tamil Nadu Public Service Commission

Syllabus
Library and Information Science
(PG Degree Standard)

Code: 595

Unit I: Information and Communication (20 Questions)

(i) Data, Information and Knowledge; Information–Notions; Information Theories

(ii) Library– Social relevance; Types; Functions, Legislation.

(iii) Information Transfer Cycle; Diffusion pattern; Communication–Theories and Models; Channels and Barriers to Communication

(iv) Information / Memory institution of different kinds: Libraries, Archives, Documentation Centers, Information Analysis Centers, Museums and respective roles and functions.

(v) Library Legislation and Library Acts in Indian States; The Press and Registration of Books Act; The Delivery of Books and Newspapers (Public Libraries) Act.

(vi) Professional bodies and Association- National – Indian Library Association (ILA), Indian Association of Special Libraries and Information Centres (IASLIC), Indian Association of Teachers of Library and Information Science (IATLIS); International-United Nations Educational, Scientific and Cultural Organization (UNESCO), International Federation of Library Associations and Institutions (IFLA), American Library Association (ALA), Chartered Institute of Library and Information Professionals (CILIP) etc.

(vii) Intellectual Property Rights (IPR) and legal issues- categories, conventions, Treaties, Laws, copyright, Plagiarism: concept and types; Right to information Act (RTI); Information Technology Act, National knowledge Commission: National mission on Libraries

Unit II: Management of Information Centres (20 Questions)

(i) Management- Concept, Definition; Schools of Management Thought, functions of Management, Planning, Organizing, Staffing, Directing, Coordinating, Reporting, and Budgeting (POSDCORB).

(ii) Human Resource Management – Organisation models; job description and job Analysis; selection, recruitment, training

(iii) Financial Management: Planning and Control; Resource generation; Budget and Budgeting; Budgetary control techniques; Cost Benefit, Cost Effective analysis

(iv) Materials Management: Collection development Policy; Issues – selection, acquisition; Library routines, Circulation, Preservation and conservation, Physical facilities - Library Building, Furniture and Equipments: Green Library building, Information Commons; Makers Space; Security and Safety.

(v) Planning – Concept, Definition Types; Systems Analysis and Design; Knowledge Management, Total Quality Management (TQM); Project management- Strengths, Weaknesses, Opportunities and Threats analysis (SWOT), Political, Economic, Social and Technological analysis (PEST), Project Evaluation and Review Technique / Critical Path Method (PERT/CPM).

(vi) Marketing of information: Marketing of Library Products and Services – Plan, Research, Strategies, Mix, Segmentation, Pricing and Advertising; Management Consultancy.

(vii) Management Information System (MIS), Management By Objectives (MBO), Change Management, Disaster Management, Crisis Management

Unit III: Knowledge Organisation (25 Questions)

(i) Universe of Subjects; Modes of formation of Subjects; Knowledge Organization

(ii) Classification - Various Schemes of Classification – Colon Classification (CC), Universal Decimal Classification (UDC), Library of Congress Classification (LC) and Dewey Decimal Classification (DDC) – Overview; Broad System of Ordering (BSO); General theory of classification; Classification Research Group (CRG);

(iii) Notation – types; Devices – types; Cannons and Principles - Idea, Verbal and Notation planes; Facet analysis; Principles of helpful sequence; Zone analysis

(iv) Cataloguing - Purpose, Structure, Types – Inner and Physical forms; Normative Principles, Canons & Laws; Standards – International Standard Bibliographic Description (ISBD),Classified Catalogue Code (CCC), Anglo American Cataloguing Rules (AACR), Resource Description and Access (RDA); Functional Requirements for Bibliographic Records (FRBR)

(v) Subject Cataloguing – Principles; Subject heading lists – Sear's List of Subject Headings (SLSH), Library of Congress Subject Headings (LCSH); Thesauri and Vocabulary control

(vi) Bibliographic formats – International Standards – International Organization for Standardization (ISO-2709), Machine Readable Cataloging (MARC-21), Universal Machine Readable Cataloging (UNIMARC), Common Communication Format (CCF), and National formats .Metadata – Standards: Dublin Core, Metadata Encoding and Transmission Standard (METS), Metadata Object Description Schema (MODS), Encoded Archival Description (EAD) Mark up languages – Hyper Text Markup Language (HTML), Extensible Markup Language (XML), Resource Description Framework (RDF)

(vii) Standards for Bibliographic Information Interchange & Communication – International Organization for Standardization (ISO-2709), Z39.50 Application Service Definition and Protocol Specification ANSI/NISO Z39, Z39.71.

Unit IV: Information Sources (20 Questions)

(i) Information Sources – Types – Documentary and Non documentary; Primary, Secondary and Tertiary; Electronic Sources of Information; Human and Institutional Sources; Invisible Colleges; Technological Gatekeepers

(ii) Reference Sources - Ready Reference Sources – Types - Dictionaries, Encyclopedias, Annuals, and Biographical sources, Handbooks and Manuals, Geographical Sources.

(iii) Bibliographical Sources – Bibliographies; Union Catalogues; Indexing and Abstracting sources; News summaries;

(iv) Web Resources-Subject Gateways and Portals; Databases–Bibliographical, Abstracting and Indexing; Full-text databases; Citation Databases

(v) Evaluation of Information sources - Print and Web Resources; Multimedia; Open Access

Resources; One Nation One Subscriptions (ONOS)

(vi) Open Educational Resources: Definition and concept; Types of Open Educational Resources (OER), Policies, Licensing, difference between Proprietary and Open source, Open Vs Free resources

(vii) Development of Open educational resources in India- National Digital Library of India, National Council of Educational Research and Training (NCERT), Indira Gandhi National Open University (IGNOU), National Securities Depository Limited (NSDL), Tamil Nadu Digital Library, Traditional Knowledge Digital Library (TKDL).

Unit V: Information System, Products and Services (20 Questions)

(i) Information Systems - Concept, Purpose, and Types; Global & National Information Systems; Medical Literature Analysis and Retrieval System (MEDLARS), International Nuclear Information System (INIS), International System for Agricultural Science and Technology (AGRIS), Information Service in Physics, Electrotechnology and Control (INSPEC), Online Computer Library Center (OCLC), National Institute of Science Communication and Information Resources / National Institute of Science Communication and Policy Research (NISCAIR/NIScPR), National Social Science Documentation Centre (NASSDOC), Library Networks: Information and Library Network (INFLIBNET), Developing Library Network (DELNET), National Informatics Centre Network (NICNET), Education and Research Network of India (ERNET), National Knowledge Network (NKN), Biotechnology Information System Network (BTIS) etc.

(ii) Information Services - Users Education and Information Literacy; Documents Delivery, Translation; Current Awareness Service (CAS), Selective Dissemination of Information (SDI), E-Alert & Web- based Services

(iii) Users of Information - Understanding the users; Categories of users and their needs; Information use contexts; Information seeking behaviour of users; Theories of Information seeking behaviour.

(iv) Information Analysis and Consolidation Products and Services.

(v) Use Studies; Methods of Users studies; Major information users and use studies and their findings

(vi) Web 2.0 and 3.0 - Library 2.0, 3.0 - Concept, Characteristics, Components; Instant Messaging, Really Simple Syndication (RSS Feeds), Podcasts, Vodcasts, Ask a Librarian; Collaborative Services- Social Networks, Academics Social Networks, Social Tagging, Social Bookmarking.

(vii) Web – Scale Discovery Services; Library Resource Sharing and Library Consortia – National and International level.

Unit VI: Information Storage and Retrieval (25 Questions)

(i) Information Retrieval System–Concept, Definition, and Components

(ii) Indexing systems – Pre-coordinate and Post-coordinate; Vocabulary Control, Thesaurus, General Theory of Subject Indexing; Keyword Indexing; Citation Indexing

(iii) Information Retrieval Models – Boolean, Probabilistic, Cognitive and Vector Models; Alternative IR Models: algebraic and probabilistic models (Bayesian networks)

(iv) Search and Searching-Search Process; Search strategies; Search engines

(v) Evaluation of Information Retrieval Systems -Purpose, Criteria – Recall and Precision; Major Evaluation Studies – Medical Literature Analysis and Retrieval System (MEDLARS), System for the Mechanical Analysis and Retrieval of Text (SMART Retrieval), IBM Storage and Information Retrieval System (STAIRS), Text Retrieval Conference (Project TREC).

Unit VII: Research Methods (15 Questions)

(i) Research-Concept, Definition, Objectives and Significance; Types; Research Problems

(ii) Research Design–Definition, Need; Sampling; Hypothesis–Types and Testing

(iii) Methods and Tools - Data collection - Survey, Experimental, Case-study, Observation, Questionnaire, Interview schedules.

(iv) Introduction to Statistics; definition of statistical terms - population, sample, data and variables; frequency distributions; scales of measurement; presentation of data - graphical and tabular; frequency tables, histogram, frequency curves; correlation and regression analysis; measures of central tendency; Statistical Packages – Spreadsheet, Statistical Package for the Social Science (SPSS), Bibexcel, 'R' Statistics.

(v) Report Writing – Components of a Research Report; Style manuals – Modern Language Association (MLA), American Psychological Association (APA), Chicago, Turabian.

Unit VIII: Information Technology (IT) and Library Automation (20 Questions)

(i) Information Technology – Concept – Definition - Evolution of Digital Computers; Introduction to Telecommunications; Number Systems: Binary, Octal, Hexadecimal, Representation of Numbers in Computers; Character Representation: American Standard Code for Information Interchange (ASCII), Indian Standard Code for Information Interchange (ISCII) and Universal Character Encoding Standard (UNICODE); File formats

(ii) Basic components of a Computer–Arithmetic Logic Unit; Control Unit; Memory Unit – Static and Dynamic Random Access Memory (RAM), Read-Only Memory (ROM), Cache memory; Input/Output devices

(iii) Operating System -Linux, Windows; Fundamentals of Programming; Introduction to C Programming; Object Oriented programming; Java, PHP

(iv) Computer Networks - Topologies, Types of Networks – Local Area Network (LAN), Metropolitan Area Network (MAN), Wide Area Network (WAN), Intranet, Internet - Web browsers, World Wide Web (WWW), E-mail; Search Engines, Meta and Entity Search engines. Internet Protocols and Standards – Hyper Text Transfer Protocol (HTTP), Secure Hypertext Transfer Protocol (SHTTP), File Transfer Protocol (FTP), Simple Mail Transfer Protocol (SMTP), Transmission Control Protocol / Internet Protocol (TCP/IP), Uniform Resource Identifier (URI), Uniform Resource Locator (URL).

(v) Database Management System – Concepts, Functions; Integrity and Security issues

(vi) Library Automation - Overview of library automation software; Criteria for selection of software; and Hardware (including differently-able); Open and Commercial Learning Management System (LMS).

Unit IX: Digital Libraries (15 Questions)

(i) Digital Libraries – Concept and Definition; Historical development of Digital Libraries. Copyright and license issues.

(ii) Digitization Process-Software ,Hardware and Best practices; Scanners and Scanner types; Optical Character Recognition (OCR) and Optical Character Recognition (OCR software)

(iii) Technology for Digital Libraries (DLs) – Open source software – Open Standards and File formats; Harvesting metadata, Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH) and Digital Library (DL) Interoperability;

(iv) Digital Library Architecture–Grid architecture; Open URL integration;

(v) Digital Resources Management–Digital Preservation–Persistent identifiers–DOI and CNRI Handles; Multilingual digital repositories and Cross- language information retrieval

(vi) Institutional Repositories - Need, Purpose, Types and Tools; Institutional Repositories in India; Registry of Open Access Repositories (ROAR), Directory of Open Access Repositories (DOAR), Securing a Hybrid Environment for Research Preservation and Access - Rights MEtadata for Open archiving (SHERPA-RoMEO), Content Management Systems – Architecture, Data Integration, CMS Software – Selection, Implementation and Evaluation.

(vii) Application of Artificial Intelligence, Expert Systems and Robotics in Libraries; Social Mobile Analytics Cloud (SMAC); Cloud Computing. Ontology – Tools, Resource Description Framework (RDF), Resource Description Framework Schema (RDFS), Potege; Semantic Web, Linked Data, Big Data, Data Mining, Data Harvesting.

Unit X: Quantitative & Qualitative Techniques and Informetrics (20 Questions)

(i) Informetrics - Genesis, Scope and Definition; Librametrics, Bibliometrics, Scientometrics, Cybermetrics, Webometrics and Altmetrics.

(ii) Classical Bibliometrics laws - Zip's Law, Lotka's Law, Bradford's Law of Scattering; Generalized Bibliometrics distributions. 80-20 rule, Price's Law relating to scientific productivity; Analysis of use statistics.

(iii) Quantitative Techniques – Types, Multidimensional Scaling, cluster analysis, correspondence analysis, Co-word analysis, Media and Audience analysis

(iv) Growth and Obsolescence of literature - Various growth models; Aging factor and half-life: real vs. apparent; synchronous vs. diachronous.

(v) Citation analysis–Bibliographic Coupling and Co-citation Analysis

(vi) Bibliometric indicators: Impact factor, h-index, g-index, i-10 index, h-b index, p-index, Energy – Exergy Index, Mapping of Science; Citation Index.

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