ADIKAVI SRI MAHARSHI VALMIKI UNIVERSITY PH D. ENTRANCE TEST EXAMINATION
SYLLABUS -LIBRARY AND INFORMATION SCIENCE

PARTA: RESEARCH METHODOLOGY

Unit 1:

- Research: Meaning, Definition, Significance, Need and Purpose
- Types of research
- Identification, selection and formulation of a research problem; Barriers to research

Unit 2:

- Literature review: Its purpose and objectives in research, Organizing related literature, Sources and search techniques

Unit 3:

- Hypothesis: Meaning, Definitions, Types, Formulation
- Research design: Definition, Need, Types and their characteristics
- Preparation of a research proposal

Unit 4:

- Research Methods: Scientific method, Historical method, Descriptive method, Survey method, Case Study method, Experimental method, Delphi method, Content analysis and Informetrics and Scientometrics

Unit 5:

- Data collection tools: Questionnaire, Schedules, Interview, Observation, Scales and Checklists, Library records and reports

Unit 6:

- Concept of study population and Sampling, Need for sampling
- Types of sampling-Random and Non-random sampling techniques
- Sample Bias and error

Unit 7:

- Descriptive analysis, inferential analysis
- Data processing and analysis using SPSS
- Interpretation of data including statistical testing of hypothesis

Unit 8:

- Research reporting: Structure, Style and Contents, Guidelines for reporting
- Style manuals-Chicago, MLA, APA and ACS
- Reference management Systems: Zotero, Mendley
- Criteria for evaluation of research report

Unit 9:

- LIS Research worldwide and in India: Overview, Trends, Issues

Unit 10:

- Research Ethics, Importance, Principles, guidelines, Major ethical issues, Ethics Committees, Publication ethics, Concept of academic integrity, Avoiding plagiarism, Plagiarism detection tools

PART BE LIBRARY AND INFORMATION SCIENCE

Unit 1: Foundations of Library and Information Science

- Classification of libraries: Their functions and features; Growth and development of libraries in India with special reference to Karnataka, Five laws of library science (including variations) and their implications on libraries

- Overview of public library Acts in Indian States; Detailed study of KPL Act 1965, Copy Right Act 1957, Delivery of Books and Newspapers Act 1954, Press and Registration Act, Intellectual Property Right,

- Librarianship as a profession; Professional Associations and their role in the development of the profession; LIS education and research:

- Information: Meaning, Definition, Nature, Properties, Notions of Information; DIKW model (Data Information Knowledge-Wisdom); Information Science: Definition, Evolution, Scope of the discipline; Communication: Basic concepts, Scientific method of inquiry and scientific communication; Channels and levels of communication; Modes and models of communication; Formal and Informal communication; Barriers to information communication:

- Information Policy:Need, importance, censorship, data security and fair use, issues relating to framing of information policys National-and-International information polleies and programs-UAP, UBC

Unit 2: Management of Libraries and Information Centres

- Management: Concept, Definition and Scope, Management theories, styles, Schoolsof thoughts and approaches, Functions and Principles of scientific management

- Organizational structure: Principles of organizational structure, Organizational structure of library and information centers; Different sections of a library and information centers and their functions

- Collection Development; Selection and Acquisition, Collection Development Tools, Policies and Procedures; Technical processing and preparation of documents for use, Shelving. Circulation work, Methods of book circulation Charging and discharging systems, Maintenance, Preservation and Conservation of Information Resources: Procedures, policies and techniques; Evaluation and Weeding: Reporting, Types of records; Annual report-compilation, Contents and style, Library statistics, Library rules and regulations

- Planning of LI Centres: Planning, Concept, Definition, need and purpose; Types; Policies and procedures, MBO: Macro planning and Micro planning. Steps in planning in LI Centres

- Human Resource Management: Meaning, Definition, Need and Importance; Personnel management in LIC; Job analysis, job description and job specification job evaluation; Recruitment process, Interpersonal relations, Motivation, Training and development and Performance appraisal; Qualities of Library personnel

- Financial Resources Management: Meaning, Definition, Need and Importance, Sources of Finance, Resource mobilization; Budgeting techniques and methods PPBS, ZBBS, etc. Budgetary control, Cost effectiveness and Cost benefit analysis; Outsourcing

- Library as a system, Project management, PERT/CPM, Decision tables, Performance evaluation standards; MIS; Performance measurement; Reengineering. Time and motion study; SWOT, DFD (Data Flow Diagram)

- TQM:Definition, concept, elements: Quality audit, LIS related standards; Technology management; Concept of change, Changes in procedures: Methods, tools and techniques, Problems of incorporating change: Techniques of managing change

- Marketing of Information Products and Services: Meaning, Definition, Need, Market segmentation, Positioning, Market mix, 4 P's-Product, Price, Promotion. Marketing Auditt; Role of Librarian in Marketing LI products and services; Public and Human relations in library management

Unit 3: Library Cataloguing

- Resource description: Concepts and definition. Library Catalogue: Meaning, Definition, Need, Purpose, Objectives and functions. History and development of Catalogue codes and practices; Resource description standards: ISBD, AACR2R and FRBR.
- Physical forms and Inner forms of Catalogues; Kinds of entries (Card Catalogue to OPAC) their structure and uses. Filing rules and procedures, Subject Cataloguing: Design and construction, SLSH and LCSH
- Normative principles of Cataloguing: Canons, Laws, Principles.
- Resource sharing of bibliographic data: Meaning and importance. Centralized Catalogoing, Cooperative Cataloguing, Cataloguing at Source, CIP, Union Catalogues, Current developments: WebOPACs, and 239.50,
- Metadata: Meaning, Definition, Purpose, Use and types. Metadata standards: MARC-21 & Dublin Core. TEI (Text Encoding initiative), METS, TEI, EAD VRA Core etc.
- Consortia approach to metadata-OAI-PMH.

Unit 4: Fundamentals of IT and Library Automation

- Information Technology Concepts, Definition, Components and applications; Historical developments, Characteristics, Applications, Generations and Classification of computer; Components of a computer,

- Computer software: Types and categories Programming concepts: system analysis, algorithms and flow charts, Open source and proprietary software. File organization: Sequential, Indexed Sequential and Direct file.

- Fundamentals of Telecommunication Concepts, Data transmission, Signals, Media, Modes and Deviors. Computer network: Types, and Topologies.

- Electronic publishing- Micro graphics, Videotext, Teletext and Visual data display Systems

- Genesis, history, need, rationale, types and areas of library automation; Infrastructure requirements: Manpower, Financial, Hardware, Software, Furniture and equipment, Library automation feasibility study; Planning and preparation; Library automation subsysteins: Acquisition, Cataloguing, Circulation, Serials control systems

- Concept of database, and DBMS; Types, design, Structure, Organization and Development of databases; Data security; MS-Access and WINISIS: Overview, System installation, Database construction, Techniques, Menus, Tools and Creation of databases, Data conversion techniques-ISIS, ASCII, ISISMARC and MARC Edit

- Study of SOUL, EASYLIB, NIC-E-Granthalaya, Koha, NewGenLib, Evaluation of Library automation systems. Criteria for evaluation; Evaluation techniques, Study of standards relevant to Library automation; Application of Barcode and RFID and Artificial Intelligence and QRCODE Technology for Library Functions

Unit 5: Information Sources

- Information Sources: Meaning, Definition, Nature, Evolution, Characteristics, Functions; Types of information sources and their Importance; Criteria for evaluation of information sources

- Primary sources: Periodicals, Technical reports, Patents, Standards and specifications, Theses and Dissertations, Conference and seminar proceedings, Trade literature

- Secondary sources: Dictionaries, Encyclopedias, Yearbooks and Almanacs, Biographical sources, Geographical sources, Current sources, Statistical information sources, Handbooks and Manuals, Bibliograobics. Catalogues Abstmeting and Indexing sources

- Tertiary Sources: Directories, Guides to reference sources, Bibliography of bibliographies, Union catalogues

- Non - documentary sources Human sources: Technological gatekeepers, invisible colleges, Consultants, resource persons; Institutional sources: Government ministries, and Departments, R & D Organizations, Leamed societies, Publishing houses, archives, databanks, information analysis centers, referral centers, institutional websites

- Electronic sources: Internet Information resources, Databases (Bibliographic, Numeric and Full text). E-books, Open Access Resources. List servers, Subject gateways. Online databases, Open sources

Unit 6: Information Services and Systems

- Libraries, Documentation and Information Centres, Data Banks, Information Analysis Centres, Referral centers, Clearing Houses: Functions, Objectives, Activities, Services

- Information Service: Concept, Definition and trends, Need. Techniques and Criteriafor evaluation, Study of various services: Reference service, Alerting (CAS and SDI) services, Bibliographical, Referral, Document Delivery, Translation, Abstracting, Indexing, Web enabled service, etc

- National documentation and information centers: NISCAIR, DESIDOC, NASSDOC, SENDOC, INFLIBNET, UGC information centers

- Information Systems Concepts, Types, Characteristics and components, International Information Systems and Services: UNESCO-PGI, AGRIS, INIS, INSPEC, DEVSIS, MEDLARS, SPINES, ICSU, ERIC, BIOSIS

- Institutional Repositories, Open Archives, Virtual Reference Desk.
- VRD- Management, technology and resources. The evolution of VRD. Major VRD projects. Virtual Libraries. Developing portals and virtual Libraries. Data mining for Information.

- Information product: Concept, meaning and utility, Types Alerting products, Newsletters, Discussion forums, (CAS and SDI), Bibliographic, Reference, Referral, Document Delivery, Reprographic and Translation

Unit 6: Library Classification

- Library classification: Need, Purpose and Functions; Historical perspectives, Theory of Library Classification; Types of Classification schemes, Universe of subjects-Concept, Definitions, Structure and Attributes of subjects, Modes of Formation of Subjects, General Normative Principles, Planes of work. Canons, Principles and Postulates

- Study of Colon Classification: Features, structure, and applications, Components of call mumber, focus and facet, fundamental categories, Main Classes, Common isolates, space isolates, time isolates, Notation, Devices, Mnemonics, classified index

- Overview of DDC: Conceptual framework, Principle of classifying, History, current use and development of DDC; Classifying with DDC: Determining the subject and discipline of a work, table of last resort, Study of Dewey Decimal Classification Ed 23: Key features, arrangement, structure, notation, entries, notes, Organization of knowledge: Schedules and tables, Number building, citation, and preference order, relative index glossary, webtDewey

- Study of Universal Decimal Classification: Features, structure, and applications; Overview, History, Characteristics, notation, stricture- main classes, auxiliary tables, filing order, citation order, intercalation, alphabetical index; Management of UDC, UDC comortium

- Role of library classification in Internet Resource Description and Discovery, Web design and faceted classification; Knowledge organization systems (KOS), Concept maps of KOS in the Internet world: Ontologies, Taxonomies, Folksonomies, Clustering, Categories, Automatic classification research at OCLC; Case studies: GERHARD, SCORPIO, DESIRE, CORA, OASIS

Unit 7: Information Literacy

- Information Users and their information needs: Categories of information users Academic community, Scientists and Technologists, R & D Personnel, Other Professionals, Planners, Policy makers, Ethnic groups etc; Information needs: definition and models; Information seeking behaviour: Models and procedures

- User studies: Planning, and Organization in different environments; Methods, Techniques and strategies. Use studies in different types of libraries: Different user groups and disciplines; Quantitative and qualitative techniques, Information studies

- Information Literacy: Meaning, Definition, Need, Evolution of the concept. Historical perspectives; Types of Information Literacy: Technology literacy, media literacy, computer and digital literacy; Levels of Information Literacy: Entry level, Mid level, High level, Advance level; Partners of Information literacy, Lifelong learning and its components.

- Models of Information literacy: SCONUL model and CAUL (Australian) model; Guidelines and standards for Information literacy programs: ALA and ACRL; Use of a-v aids, programmed instructions in specified disciplines, resource based instructions, etc, Information Literacy missions, forums and task forces

- IL Programmes: Information literacy programs; Role of Libraries in Information literacy; Information literacy Instructions in different types of Library and Information centers, Integration of information literacy in different levels of education

Unit 8: Information Retrieval

- Information Retrieval System: Concept, Meaning, Definition, Objectives, Characteristics, Components and Functions; Indexing: Basic concepts, Indexing languages: Types and characteristics; Pre-Coordinate and Post Coordinate indexing, Computer based indexing (auto indexing); Citation indexing

- Abstracts and Abstracting: Definition, Uses, Types and their qualities, guidelines for abstracting: Automatic abstracting: Concept, Text summation system, automatic extraction-Concept selection, Abstractor's workbench

- Vocabulary control Meaning and importance; Controlled Vs. Free text Indexing, Vocabulary control tools Subject heading Lists, Thesauri, Thesaurofacet, Classarus Thesaurus construction techniques; Case Study of Controlled vocabularies/ Ontologies such ERIC, MeSH, INSPEC,UNESCO-IB, Agrovae, UMLS

- IR Models: Concept of ranking: Structural retrieval models Manual and automated; Boolean logic, Cognitive, Fuzzy and Probabilistic, Evaluation experiments: ASLIB, The Cranefields, MEDLARS, etc; Trends in IRS, IR standards and Protocols

Unit 9: Networks, networking, consortia and Internet Technology

- Networks: Concept, definition, need, uses; Network topologies and types of networks -LAN, WAN and MAN; Network architecture, Comparison of different network architectures; Network protocols TCP/IP, OSI, Net Bul, IPv4, IPv6, IPX; Network protection and security, Network Media and Hardware: UTP, Thick and Thin ethernet, Optical fiber, Wireless: Networks Interface cards, Huts/Switches

- Study of INFLIINET, DELNET, and ADINET; Consortia: Concept, Definition, Need, uses, and types of consortia, Criteria for selection of consortia: Content, Added values, Functionality, Technical considerations, Licensing agreements, and service impact; Consortia Initiatives in India: INDEST, CSIR e-journals consortia, UGC-Infonet, FORSA consortia, IIM's consortium

- Internet Technology, tools and protocols: Search Engines: Concept of search engines; Parts of a search engines, Study of Google, Yahoo etc; Meta search engines, Search tools; Web search strategies.

- Internet services:E-mail; File Transfer Protocol (FTP), Remote Login, WWW, web 2.0, Social Netwroks- Facebook, Twitter, YouTube etc; Teleconferences, Videoconferencing, Bulletin Board Services and Document Delivery Service

- Cyber laws: Electronic Document; Digital signatures, Digital certificates, Electronic contracts; Regulations of cyber lawaIT act 2000 and its amendments

Unit 10: Digital Libraries

- Digital Libraries: Meaning and Definitions, Nature, Objectives, Characteristics, Digital library collections; Architecture, Interoperability, Compatibility, Protocols, standards, Metadata, Searching and Harvesting, and User Interfaces, Usability and use studies, Cross language retrieval, semantic web, multi-lingual and multi scripts issues, Digital library technology.

- Digital Resource Management: Identification, DOI/Persistent URL, Accessing, Processing, Storage and retrieval/sage of digital resources; Study of Greenstone, Dspace and E Prints: Objectives, Design, Platform, Features.

- Multimedia: Meaning and Definition, Nature, Historical development, Branches of Multimedia; Web designing, Animation, Formats: Visual-Image Formats, Audio-Image Formats, Internet-Related Formats, Multimedia Authoring tools: Graphics and drawing packages, Image editing and animation software's; Digital representation and compression, Designing a multimedia product for Web or Optical disk; Overview of multimedia software's: Ominipage, Flash, Photoshop, etc.

- Web Technology: Project planning, Technical brief of the website, contents outline and content delivery plan, templates-HTML, HTML5 (Responsive web design). Xml, Front page appearance of text, adding images, creating links, creating tables, adding sounds and hosting the web page, Subject gateways.

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