Junior Research Fellow in Library and Information Science (JRF LIS)

Syllabus (2026)

Area 1: Foundations of Information Science

Information: Definition, kinds, nature, use of Information models and theories. Economics of information. Information and National Development Systems (NDS).

Information System as a Basic Component of NDS:

Primary Information Communication System. Theories of human communication; Information diffusion, Secondary Information Service System. Normative principles of information systems. Different information phenomena (activities), and corresponding applied and fundamental disciplines. Information professions and their specializations.

Information Science: Definition; Scope; Educational Programmes in Library Science, Documentation, and Information Science. Relationship of Information Science with other disciplines.

Area II: Information Sources, communication Media, Information Systems and Programmes.

Identification, organization, utilization limitations, and other relevant characteristics of information sources.

1. Documentary sources
2. Human sources
3. Institutional sources

Structures, functions, products, and services of different categories of information systems such as libraries, documentation centres, clearing houses, referral centres, information analysis centres, databank, etc., national, regional, and global information systems, services and programs; overall objectives, basic factors to be considered in system design, characteristic features, illustrative examples, with emphasis on computerized systems and services and the methodology of handling the respective databases.

Area III: Information Processing and Organisation

Information Dissemination and Retrieval System and the concept of "surrogate" Descriptive indexing: Entry, Index, and Indexing. Standardised description of Sources of Information as objects; Methodology of designing codes (Standards and Specifications) for descriptive indexing. The general theory of subject Indexing Language (SIL). Subject and Subject-proposition. Universe of Subjects.

Elements and their interrelationships, semantic structure, syntactic structure, and Pragmatics of SIL. Attributes of the Universe of Subjects; Modes of formation of subjects; the concept of development of the University of Subjects. Subject Classification and Subject Indexing; Organising classification; Associative Classification, Tools for classification/indexing. Notational-cum-verbal schemes for classification; their design and application. Verbal schemes for classification - Thesauri, subject authority lists, etc., and their design and application. 'Classaurus' (a Classification scheme incorporating all essential features of a thesaurus): its design and application. Ontology, its design, types, and applications. Different systems of indexing. Computerization of classification/indexing. Organization of information and the role of classification principles.

Area IV: Information Transfer and Dissemination

Category of users, user needs, user studies. Information diffusion patterns and studies. Organization, structures and provision of information services including: Current awareness services, SDI, Reference Services, Abstracting Services, Digests, Technical notes, New briefs, Product and process bulletins, State-of-the-art and Trend Reports, Products of information analysis, Data service, Translation service, Extension service and Technology transfer, Presentation of information, Marketing of information services, Information resources sharing.

Area V: Information Technology and its Applications

Brief overview of Computer, Communication, and Reprography /printing technology as applied to information storage, retrieval, and dissemination. Systems analysis and systems design concepts. Bibliographic formats such as MARC, ISO2709, CCF, etc. Bibliographic models such as FRBR, BIBFRAME, etc. Networking and Internet. Library Automation. Discovery services. Reference Models.

Digital Library: Concept, Definition and background, digital library initiatives. Digitization of print materials (methods and tools). Digital Repository. Searching collection of digital objects. Viewing digital collection objects and metadata standards. Metadata sharing protocols.

Semantic and Linked Data Web.

Area VI: Information System/Centre Planning and Management

Planning methodology. National Information System Planning; Information policy. Organization structures.

Management: Personnel, Financial, Materiel and other resources management, and the applications of modern management ideas and techniques to libraries; Documentation and Information Centres; Referral centers; Data Banks and Information Analysis Centres. System evaluation.

Knowledge Management: Definition, scope. Difference between information management and Knowledge Management. Types of knowledge. Knowledge management procedures; strategy; tools and technology. Role of library professionals in knowledge management.

Area VII: Research Methods and Bibliometrics

Research Methods: Methods of data collection, Scales of measurement; Presentation of data – graphical and tabular; Frequency tables, histogram, frequency curves; Measures of central tendency and dispersion; Correlation and regression analysis; Curve fitting.

Informetrics: Genesis, scope and definitions.

Classical bibliometric laws: Zipf's law, Lotka's law, Law of scattering (Bradford's law); Generalised bibliometrics distributions. Fitting of Informetrics models: Bradford's curve, Leimkuhler's distribution, etc. Aspects of concentration measures; 80-20 rules, Price's law relating to scientific productivity. Circulation Statistics. Growth and obsolescence of literature: Various growth models; the half-life analogy; determinations of aging factor and half-life: real vs apparent; synchronous vs diachronous. Citation analysis: Citation indexing, including bibliographic coupling and co-citation analysis. Science indicators & mapping of science. Altmetric: need and real world scenario, tools, indicators.