Syllabus for Entrance Test

Section-A Research Methodology

Research: Theory, Types, Process, Research Methods: Descriptive, Historical, Case study, Spiral of Scientific Method, Research Problem: Formulation, Hypothesis: Definition, Formulation and Types, Research Design: Need, Purpose and Types, Sampling Techniques: Steps and Types, Data Collection Tools: Interview, Observation and Questionnaire, Measurement and Scaling: Tools and Techniques, Data Analysis-1: Measure for Central Tendency: Mean, Median and Mode, Dispersion: Range Variance & Standard Deviation, Data Analysis-2: Correlation and Regression Analysis, Hypothesis Testing: T test, Z test, ANOVA, Statistical Packages (SPSS, MS Excel) and Data Presentation, Interpretation, Generalization, Theory Building (Model, Theories, and Paradigm), Technique and Precaution of Interpretation, Writing Research Report: Types, Layout and Significance of Report Writing, Referencing Styles: APA 6th Edition Plagiarism: Ethics, Issues and Challenges

Section-B Academic Component

1. Library Automation

Library Automation: An Overview, Library Automation Software: Types & Features, Selection and Evaluation Criteria of Automation Software, Object Identification Technologies: RFID, QR Code, Bio-Metric, DBMS: Definition, Concept, DBMS: Components and Types, Database Structure: Logical Data Structure, Physical Data Structure, Database Management System Models: Structure – Hierarchical and Relational and Object Oriented.

2. Advanced Knowledge Organization

Structure and Attributes of Universe of Knowledge, Growth of Knowledge and its Impact on Library and Information Centers, Structure and Features of Universal Decimal Classification (UDC), Role of CRG, ISKO, DRTC, and BSO in the field of Library Classification, Comparative Study of Standards Schemes of Classification: CC & UDC, Modes of Formation of Subjects, Trends in Classification: Automatic and Online Classification System, Ontologies, Cataloguing of Indic Names, Online Computer Library Centre (OCLC), Recent trends in the field of Cataloguing: World-Cat, Ind-Cat, Online Public Access Catalogue (OPAC) and Web-OPAC, ISBD, AACR2, RDA; FRBR, MARC: Overview; MARC family of Formats, MARC- XML, MARC21, UNIMARC, Metadata and Metadata Standards: Dublin Core.

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3. Bibliographic Database & Information Retrieval

Introduction and concept of Online Databases, Definition and Characteristics of Online Databases, Types of Databases (including web of science, LISA, Scopus, and ICI), Bibliographic Databases and various Search Strategies, Fundamentals of Retrieval Systems: Nature and Characteristics, Problems of Subject Analysis & Knowledge Representation: Contribution of Cutter, Kaiser, Ranganathan, Farradane & Coates, Rulebased, Frame-Based and Semantic Web Methods of Knowledge Representation, IR Models: Cognitive, Probabilistic, etc. IR Performance Evaluation, Web-Based Retrieval with Reference to Search Tools, and XML Retrieval, Data Mining, Semantic Web, Linked Data & Big Data, Abstracting: Definition, Types and Principles of Abstracting, Subject Indexing: Concept & Development, Assigned Indexing: Pre-Coordinate and Post Coordinate Indexing, Derived Indexing: KWIC, KWOC, and Citation Indexing

4. Library Metrics

Bibliometrics, Scientometrics, Informetrics: concepts, evolution and present status, Bibliometric Laws: Bradford, Zipf, Lotka and their Utility and Application, Webometrics and Altmetrics: Concept and Present Status, Citation analysis, Bibliographic Coupling, Obsolescence, Impact factor, Measuring of Scientific productivity: Problems and Prospects, Growth and Obsolescence Study of Literature, Science and Technology Indicators: A tool for Policy and Decision Makers, Approach to modeling in Scientometrics and Informetrics.

5. Digital Libraries

Introduction to Digital Library: Conceptual Framework and Architecture, Digital Library Services, Digital Library: Procedure and Implementation; IPR issues, Digital Library Software, Digital Preservation, Digitization: Concept, Need, Procedure and Equipment, Metadata: Types and Applications, Institutional Repositories: Concept, Objectives and Development, Retrospective Conversion, Web 2.0 services in libraries.

6. Information Literacy and User Studies

Information Literacy: Concept, Need, Objectives, Skills and Competencies, Media Information Literacy and Digital Information Literacy, Information Literacy: National and International scenario, Role of Information Literacy in society, Trends and Challenges, Information Literacy Models (Big 6, CILIP Information Literacy Model and Six Frame for Information Literacy), Information Literacy Standards (Seven Pillars of Information Literacy and ACRL Framework for Information Literacy for Higher Education), Information Literacy Standards (AASL Standard framework, Standards for Libraries in Higher Education, IFLA standards), Assessment of Information Literacy Skills: Need, Levels and Types, Planning Information Literacy Instructions: Process, Selection, Designing Information Literacy instructions: Modes (Products) and

Management, Information Literacy Instructions, Implementing Information Literacy Programme, User Studies: Scope and Content, Types of Users, User Studies Techniques—Scenario Analysis, Interaction Analysis, Delphi Method, Repertory Grid, Evaluation of User Studies.

7. Information Sources and Products in Science and Technology

Scope of Science and Technology, Mathematics: Scope, Growth and Development, Physics: Scope, Growth and Development, Chemistry: Scope, Growth and Development, Engineering and Technology: Scope, Growth and Development, Primary Sources of Information and their Evaluation (Mathematics, Physics, Chemistry and Engineering), Secondary Sources of Information and their Evaluation (Mathematics, Physics, Chemistry and Engineering), Grey Literature, Web Information Sources: Online Journals, Books, ETDs, Databases, Proceedings, etc. Search Engines, Portals and Gateways in Science and Technology, Science and Technology Information Organization at National Level: DST, CSIR-NIScPR, INSA, etc., Science and Technology Information Organization at International Level, Science and Technology Information System at National Level, Information Analysis and Repackaging, Information Needs and Information Seeking Behavior of Science and Technology Professionals, Case Studies of Science and Technology Information Professionals.

Guidelines for Ph.D. Entrance Test

The paper shall have the following components: -

- A. Research Methodology 50 marks
- B. Academic Component 50 marks

Research Methodology questions shall be of descriptive nature and there shall be eight questions in this section. Every candidate shall attempt five questions out of the given eight questions. Each question shall carry 10 marks and the candidate shall answer every question in about 300 words. In the academic component there shall be 50 multiple choice objective type questions. Each question shall carry one mark and candidate shall attempt all the 50 questions of this component. The duration of the test shall be three hours. A candidate shall be required to secure at least 50% marks in the entrance test in aggregate. The entrance test shall be conducted at Department of Library and Information Science, University of Jammu.

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