

CHENNAI PORT AUTHORITY

COMPETITIVE EXAMINATION FOR THE POST OF ASSISTANT MANAGER (LIBRARY)

1. QUESTIONS RELATING TO SPECIALISATION

A. Foundations of Library and Information Science

Information Concepts:

- Data, Information, Knowledge and Wisdom hierarchy
- Information Life Cycle: Generation, Collection, Storage and Dissemination
- Information Science: Relationship with other disciplines
- Information Society and Knowledge Society
- Information Industry: Generators, Providers and Intermediaries

Communication:

- Concept, Types, Theories and Models
- Communication Channels and Barriers
- Trends in Scholarly Communication
- Digital Communication and Web-based Communication

Legal and Ethical Framework:

- Intellectual Property Rights (IPR): Categories, Conventions, Treaties, Laws

- Copyright Act, 1957: Provisions for libraries
- Plagiarism: Concept, Types and Detection
- Right to Information Act, 2005
- Information Technology Act, 2000 (as amended)
- Professional Ethics in Librarianship

National Initiatives:

- National Knowledge Commission
- National Mission on Libraries
- Digital India and library initiatives

B. Library Development and Systems

Historical Development:

- Historical Development of Libraries in India
- Committees and Commissions on Libraries (Radhakrishnan, Kothari, etc.)
- Evolution of library services in India

Types of Libraries:

- Academic Libraries: University and College libraries
- Public Libraries: Structure and services
- Special Libraries: Corporate, Research, Government
- National Library of India
- Digital and Hybrid Libraries

Library Legislation:

- Library Legislation and Library Acts in Indian States
- The Press and Registration of Books Act, 1867
- The Delivery of Books and Newspapers (Public Libraries) Act, 1954

- Tamil Nadu Public Libraries Act, 1948

Library Science Principles:

- Five Laws of Library Science (S.R. Ranganathan)
- Application and relevance in modern libraries

Professional Framework:

- Librarianship as a Profession
- Professional Skills and Competencies
- Continuing Professional Development
- Library and Information Science Education in India

Professional Associations:

- National: ILA, IASLIC, IATLIS, MALA
- International: IFLA, ALA, CILIP, ASLIB, SLA
- Role of UGC, INFLIBNET, RRRLF and UNESCO

C. Information Sources and Resources

Nature and Classification:

- Information Sources: Nature, Characteristics, Types and Formats
- Documentary and Non-Documentary Sources
- Print and Electronic Resources

Primary Sources:

- Journals and Periodicals (Print and Electronic)
- Conference Proceedings and Papers
- Patents and Standards

- Theses and Dissertations
- Trade Literature and Technical Reports
- Research Publications

Secondary Sources:

- Encyclopedias: General and Subject-specific
- Dictionaries: Language, Technical, Specialized
- Bibliographies: National, Trade, Subject
- Indexing and Abstracting Services
- Statistical Sources
- Handbooks, Manuals and Guidebooks
- Yearbooks and Almanacs

Tertiary Sources:

- Directories: Institutional, Biographical, Commercial
- Guides and Pathfinders
- Bibliographies of Bibliographies

Reference Sources:

- Bibliographical Sources
- Biographical Sources
- Educational and Career Guidance Sources
- Language Resources
- Geographical Sources: Atlases, Gazetteers, Maps

Electronic Information Resources:

- E-journals and E-books
- Online Databases: Bibliographic, Numeric, Full-text, Multimedia
- Open Access Resources and Repositories
- Subject Gateways and Web Portals
- Discussion Forums and Bulletin Boards

Evaluation:

- Evaluation Criteria for Print Resources
- Evaluation of Web Resources and Digital Content
- Collection Assessment Methods

D. Library Services and User Engagement**Reference Services:**

- Reference Service: Concept, Philosophy, Types
- Ready Reference and Long-range Reference
- Referral Services and Virtual Reference
- Reference Interview Techniques

Information Services:

- Current Awareness Services (CAS)
- Selective Dissemination of Information (SDI)
- Document Delivery Services
- Inter Library Loan (ILL)
- Bibliography Compilation
- Translation Services

Modern Library Services:

- Mobile-based Library Services: Mobile OPAC, Apps, SMS Alerts
- Augmented Reality and Geo-Location Services
- Web 2.0 Technologies in Libraries
- Library 2.0: Concept, Characteristics, Components
- Social Media in Libraries: RSS Feeds, Podcasts, Vodcasts
- Instant Messaging and Chat Services
- Ask a Librarian Services

Collaborative Services:

- Social Networks and Academic Social Networks
- Social Tagging and Bookmarking
- Wiki and Blog Services
- Web-Scale Discovery Services

User-Centric Services:

- User Studies and Information Needs Assessment
- User Education and Orientation Programs
- Information Literacy: Areas, Standards, Types, Models
- Library Instruction Programs
- Community Information Services

Public Relations:

- Library Public Relations and Marketing
- Extension Activities and Outreach Programs
- Library Advocacy

E. Knowledge Organisation**Classification Theory:**

- Universe of Knowledge: Nature and Attributes
- Modes of Formation of Subjects
- Knowledge Organisation Systems
- Classification: Theories, Canons, Principles
- Simple Knowledge Organisation System (SKOS)
- Taxonomies and Folksonomy
- Trends in Classification

Library Classification Schemes:

- Dewey Decimal Classification (DDC): Structure, Features, Application

- Universal Decimal Classification (UDC): Structure and Features
- Colon Classification (CC): Fundamental categories, PMEST formula
- Comparative Study and Application

Cataloguing:

- Cataloguing: Canons and Principles
- Types of Catalogues: Classified, Dictionary, Union
- Catalogue Codes: Classified Catalogue Code (CCC), AACR-II
- Centralized and Cooperative Cataloguing

Bibliographic Standards:

- International Standard Bibliographic Description (ISBD)
- MARC 21: Structure and Application
- Common Communication Format (CCF)
- Resource Description and Access (RDA)
- Functional Requirements for Bibliographic Records (FRBR)
- Bibframe

Metadata and Interoperability:

- Metadata: Concept and Types
- Dublin Core Metadata
- MARC21, METS, MODS, EAD
- Standards for Information Interchange: ISO 2709, Z39.50, Z39.71

Indexing and Abstracting:

- Indexing Systems and Techniques
- Pre-coordinate Indexing
- Post-coordinate Indexing

- Derived Indexing: KWIC, KWOC, KWAC
- Vocabulary Control and Thesaurus
- Abstracting: Types, Techniques and Guidelines

Information Retrieval:

- Information Retrieval Systems: Features and Components
- IR Models: Boolean, Vector Space, Probabilistic
- Search Strategies and Techniques
- Evaluation of IR Systems: Precision, Recall, F-measure

F. Library Management and Administration

Management Principles:

- Management: Principles, Functions, Schools of Thought
- Scientific Management and Systems Approach
- Management by Objectives (MBO)

Library Operations Management:

- Book Selection: Tools, Principles, Policies
- Acquisition: Methods, Vendors, Order Processing
- Technical Processing: Accessioning, Classification, Cataloguing
- Circulation Management: Systems and Policies
- Serial Control and Management
- Binding and Maintenance
- Stock Verification and Weeding
- Preservation and Conservation
- Hazards and Control Measures

Human Resource Management:

- HRM Planning in Libraries

- Job Analysis, Description and Evaluation
- Recruitment and Selection
- Training and Development Programs
- Performance Appraisal Systems
- Motivation Theories and Application
- Staff Manual and Personnel Policies
- Team Building and Leadership

Financial Management:

- Sources of Finance for Libraries
- Resource Mobilization
- Budgeting Methods: Line-item, Program, Zero-based, Performance
- Cost-Effective and Cost-Benefit Analysis
- Annual Reports and Statistics
- Library Authority and Committee

Project Management:

- SWOT Analysis
- PEST Analysis
- PERT and CPM Techniques
- Project Planning and Execution

Quality Management:

- Total Quality Management (TQM): Concepts, Principles, Techniques
- Six Sigma in Libraries
- Service Quality: SERVQUAL, LibQUAL+
- Evaluation of Library Services
- Performance Indicators and Assessment

Infrastructure Management:

- Library Building: Planning, Design, Space Allocation
- Furniture and Equipment Standards
- Green Library Buildings
- Information Commons and Learning Commons

- Maker Spaces
- Security and Safety Measures

Strategic Management:

- Management Information System (MIS)
- Change Management
- Disaster Management and Risk Assessment
- Crisis Management
- Business Continuity Planning

Knowledge Management:

- Knowledge Management: Principles, Tools, Components
- KM Architecture and Implementation
- Organizational Learning

Marketing:

- Marketing of Library Products and Services
- Marketing Plan and Research
- Marketing Strategies and Mix
- Market Segmentation
- Pricing and Promotion
- Advertising and Branding

G. Information and Communication Technology

Computer Fundamentals:

- Computer Hardware: Generations, Architecture, Components
- Storage Devices: Primary and Secondary
- Input and Output Devices
- Character Representation: ASCII, ISCII, Unicode

Software:

- System Software: Operating Systems, Utility Programs
- Application Software: Productivity Tools
- Programming Languages: Types and Generations
- Object-Oriented and Procedural Languages
- Web Languages: HTML, XML, PHP, JavaScript

Telecommunication:

- Data Transmission: Modes, Media, Channels
- ISDN, PSDN
- Multiplexing and Modulation
- Communication Standards and Protocols

Wireless Technologies:

- Wireless Communication Media
- Wi-Fi and Li-Fi Technologies
- Satellite Communication
- Mobile Communication Technologies
- Bluetooth and NFC

Computer Networks:

- Network Topologies: Star, Ring, Bus, Mesh
- Types of Networks: LAN, MAN, WAN
- Network Devices: Router, Switch, Hub, Gateway
- Network Security and Protocols

Internet Technologies:

- Internet: Evolution and Structure
- World Wide Web (WWW)
- Web Browsers and Navigation
- Email: Protocols and Services

- Search Engines: Types and Techniques
- Meta Search and Entity Search Engines

Internet Protocols:

- HTTP and HTTPS
- FTP and SFTP
- SMTP, POP3, IMAP
- TCP/IP Suite
- URI and URL Standards

Multimedia Technologies:

- Hypertext and Hypermedia
- Multimedia: Components and Applications
- Video Conferencing
- Virtual Reality and Augmented Reality
- Interactive Technologies

Information Security:

- Data Security Principles
- Network Security Measures
- Firewalls and Intrusion Detection Systems
- Cryptographic Techniques
- Anti-virus and Anti-spyware Software
- Cyber Security Best Practices

H. Library Automation and Digital Libraries

Library Automation:

- Library Automation: Need, Areas, Benefits
- Planning for Automation
- Selection of Hardware and Software
- Implementation Strategies and Evaluation
- Standards for Library Automation

Identification Technologies:

- Barcode Technology: Features and Applications
- RFID (Radio Frequency Identification): Implementation in Libraries
- QR Codes: Generation and Applications
- Biometric Systems
- Smart Cards

Library Management Software:

- Integrated Library Systems: Modules and Features
- Open Source Software: Koha, NewGenLib, ABCD
- Proprietary Software: SOUL, LIBSYS, Virtua
- Evaluation and Selection Criteria

Digitization:

- Digitization: Planning and Workflow
- Selection of Materials for Digitization
- Hardware and Software Requirements
- Digitization Process: Scanning, OCR, Quality Control
- Metadata Creation
- Issues: Copyright, Standards, Access

Digital Libraries:

- Digital Library: Genesis, Concept, Characteristics
- Types and Architecture
- Digital Library Standards, Formats and Protocols
- Digital Object Identifier (DOI)
- DSpace, Greenstone, EPrints

Digital Preservation:

- Need and Purpose of Digital Preservation
- Digital Preservation Standards: OAIS, PREMIS
- Preservation Methods: Migration, Emulation, Encapsulation
- Digital Preservation Techniques
- National and International Digital Preservation Projects

Digital Library Initiatives:

- National Digital Library of India (NDLI)
- Shodhganga and Shodhsindhu
- National Digital Preservation Programme
- Project Gutenberg, Europeana, Digital Public Library of America

Institutional Repositories:

- Concept, Need and Purpose
- Types of IRs: Academic, Research, Government
- IR Software: DSpace, EPrints, Fedora
- Implementation and Management
- Institutional Repositories in India
- ROAR, OpenDOAR, SHERPA-RoMEO

Content Management:

- Content Management Systems: Architecture and Components
- Data Integration and Interoperability
- CMS Software: Selection, Implementation, Evaluation
- Digital Asset Management

Emerging Technologies:

- Artificial Intelligence in Libraries: Applications
- Machine Learning and NLP

- Expert Systems
- Robotics in Libraries
- Social Mobile Analytics Cloud (SMAC)
- Cloud Computing: SaaS, PaaS, IaaS
- Internet of Things (IoT) in Libraries

Semantic Technologies:

- Ontology: Concept and Tools (RDF, RDFS, Protégé)
- Semantic Web and Linked Data
- Big Data: Characteristics and Analytics
- Data Mining and Text Mining
- Data Harvesting: OAI-PMH Protocol

I. Research Methodology in Library Science

Research Fundamentals:

- Research: Concept, Purpose, Functions, Scope
- Research Ethics and Academic Integrity
- Types of Research: Basic, Applied, Fundamental
- Interdisciplinary and Multidisciplinary Research

Research Methods:

- Historical Research Method
- Descriptive Research Method
- Experimental Research Method
- Survey Research
- Case Study Method
- Delphi Technique
- Action Research

Research Design:

- Selection and Formulation of Research Problem

- Review of Literature: Sources and Methods
- Hypothesis: Formulation, Types, Testing
- Research Variables
- Sampling Techniques: Probability and Non-probability
- Research Proposal Development

Data Collection:

- Methods: Questionnaire, Interview, Observation
- Library Records and Transaction Analysis
- Scales: Likert, Semantic Differential
- Checklist and Rating Scales
- Focus Group Discussions

Data Analysis:

- Data Preparation and Coding
- Presentation of Data: Tables, Graphs, Charts
- Statistical Methods: Descriptive and Inferential
- Measures of Central Tendency and Dispersion
- Correlation and Regression Analysis
- Hypothesis Testing: t-test, Chi-square, ANOVA

Statistical Software:

- Spreadsheet Applications: MS Excel
- SPSS (Statistical Package for Social Sciences)
- R Statistics
- Bibexcel for Bibliometric Analysis
- VOSviewer, CiteSpace

Research Reporting:

- Research Report Writing: Structure and Components
- Citation and Referencing Styles

- Style Manuals: APA, MLA, Chicago, Harvard
- Online Citation Tools: Zotero, Mendeley, EndNote
- Reference Management Software
- Anti-plagiarism Tools: Turnitin, iThenticate, Grammarly

Metric Studies:

- Bibliometrics: Laws (Lotka's, Bradford's, Zipf's)
- Scientometrics: Concepts and Applications
- Webometrics and Cybermetrics
- Altmetrics: Concept and Tools

Impact Assessment:

- Journal Impact Factor
- h-index, g-index, i10-index
- Institutional Impact Metrics
- Author-level Metrics
- Citation Analysis

Trends in LIS Research:

- Current Research Areas in Library Science
- Evidence-based Librarianship
- Research Collaborations and Networks

J. Information Systems and Networks

National Information Systems:

- NISCAIR (National Institute of Science Communication and Information Resources)
- DESIDOC (Defence Scientific Information and Documentation Centre)

- SENDOC (State Electronics and Development Corporation Documentation Centre)
- ENVIS (Environmental Information System)
- INFLIBNET (Information and Library Network Centre)
- DELNET (Developing Library Network)
- ERNET (Education and Research Network)
- National Knowledge Network (NKN)
- Biotechnology Information System Network (BTISnet)
- National Medical Library Network (NML)

International Information Systems:

- INIS (International Nuclear Information System)
- AGRIS (International Information System for Agricultural Sciences)
- INSPEC (Information Services for Physics, Electronics and Computing)
- MEDLINE/MEDLARS (Medical Literature Analysis and Retrieval System)
- BIOSIS (Biological Abstracts)
- ERIC (Education Resources Information Center)
- Patent Information Systems
- Biotechnology Information Systems

Library Networks:

- Library Resource Sharing: Concept and Models
- Library Consortia: National and International
- UGC-INFONET Digital Library Consortium
- INDEST-AICTE Consortium

- N-LIST (National Library and Information Services Infrastructure for Scholarly Content)
- E-Shodh Sindhu

K. Specialized Library Systems

Academic Library Systems:

- Academic Libraries: Types, Functions, Services
- University and College Library Systems
- Central Library and Departmental Libraries
- Academic Library Standards (UGC norms)

Public Library Systems:

- Public Library: Philosophy and Functions
- National, State, District, Branch Libraries
- Public Library Services and Extension
- UNESCO Public Library Manifesto

Special Library Systems:

- Special Libraries: Characteristics and Types
- Corporate Libraries
- Research Institute Libraries
- Government Department Libraries
- Information Analysis Centers

Specialized Domain Libraries:

- Health Science Libraries and Information Systems
- Medical Library Services
- Agricultural Libraries: ICAR libraries, KVK libraries
- Engineering and Technical Libraries

- Law Libraries and Information Services
- Management Libraries

Other Information Centers:

- Archives: Functions and Management
- Museums: Types and Information Services
- Oriental Libraries and Manuscript Collections
- Community Information Centers
- Information Services for Special Groups: Persons with Disabilities, Children, Women

2. TEST OF REASONING

Syllabus pattern equivalent to SBI PO level

Logical Reasoning:

- Logical and analytical reasoning
- Statement and conclusions
- Statement and assumptions
- Statement and arguments
- Course of action
- Cause and effect

Arrangements:

- Seating arrangements: Linear, circular, rectangular
- Scheduling and timing problems
- Grouping and team formation

Relationships:

- Blood relations
- Family tree problems
- Coding-decoding
- Letter and number series

Spatial Reasoning:

- Direction sense and distance
- Position and ranking
- Mirror and water images
- Paper folding and cutting

Data Analysis:

- Data sufficiency
- Data arrangement
- Comparison and classification

Puzzles:

- Complex puzzles (5-8 variables)
- Floor-based puzzles
- Box-based puzzles
- Pattern recognition

Syllogisms:

- Categorical syllogisms
- Venn diagram method
- Possibility-based syllogisms

Critical Reasoning:

- Inference and deduction
- Strengthening and weakening arguments
- Assumptions and implications

3. QUANTITATIVE APTITUDE

Number Systems:

- Number theory and properties
- Simplification and approximation
- HCF and LCM
- Divisibility rules

Arithmetic:

- Percentages
- Ratio and proportion

- Average and mixtures
- Profit, loss and discount
- Simple and compound interest
- Partnership

Time and Work:

- Work efficiency problems
- Pipes and cisterns
- Work and wages

Time, Speed and Distance:

- Relative speed
- Average speed
- Trains, boats and streams

Algebra:

- Linear equations
- Quadratic equations
- Polynomials
- Inequalities

Data Interpretation:

- Tables and charts
- Bar graphs and line graphs
- Pie charts
- Mixed graphs
- Data comparison

Advanced Topics:

- Probability
- Permutations and combinations
- Mensuration: Area and volume
- Geometry basics

4. GENERAL AWARENESS

Current Affairs:

- National and international events (last 6-12 months)
- Awards and honours
- Books and authors
- Sports events and championships
- Important appointments
- Science and technology developments

Library and Information Science Current Developments:

- Recent trends in library profession
- New technologies in libraries
- Library conferences and seminars
- Professional body activities
- Government library initiatives
- Open access movement developments

Indian Polity:

- Constitutional provisions
- Government structure and functioning
- Important bills and legislation
- Governance and public policy
- Government schemes

Indian Economy:

- Economic policies and reforms
- Banking and financial sector
- Union Budget highlights
- Economic indicators and data
- Five-year plans and economic planning

Geography:

- Indian geography: Physical and economic
- World geography essentials
- Environmental issues and conservation
- Climate change and sustainability

History:

- Modern Indian history
- Freedom movement
- Post-independence India
- Cultural heritage

Science and Technology:

- Recent scientific developments
- Space technology
- Information technology
- Biotechnology and medical sciences
- Defense technology

Port and Maritime Sector:

- Major ports in India: Locations and features
- Chennai Port Authority: Detailed knowledge
 - History and evolution
 - Current operations and facilities
 - Cargo handling and terminals
 - Future development plans
- Sagarmala Project and objectives
- Maritime India Vision 2030 and 2047
- Shipping industry developments
- Port infrastructure and logistics
- Coastal shipping and inland waterways
- Port modernization initiatives

Books, Libraries and Information:

- National Library Kolkata
- State Central Libraries
- Library legislation in various states
- Digital library initiatives
- E-governance in libraries
- Library consortia developments

Tamil Nadu Specific:

- Tamil Nadu government schemes
- Tamil Nadu Public Libraries
- Connemara Public Library
- State library initiatives
- Cultural and educational institutions

Legal and IPR Developments:

- Copyright law amendments
- RTI Act applications
- IT Act provisions
- Digital privacy laws
- International copyright conventions

5. ENGLISH LANGUAGE

Reading Comprehension:

- Unseen passages (400-600 words)
- Library and information science themed passages
- Technical and non-technical content
- Inference questions
- Vocabulary in context
- Title and central idea
- Tone and purpose

Grammar:

- Error detection and correction
- Sentence improvement
- Fill in the blanks: Single and double
- Phrase replacement
- Active and passive voice
- Direct and indirect speech
- Tenses and subject-verb agreement
- Articles and prepositions
- Conjunctions and modifiers

Vocabulary:

- Synonyms and antonyms
- One-word substitution
- Idioms and phrases
- Commonly confused words
- Contextual usage

- Library and information science terminology

Sentence Organization:

- Para jumbles (4-6 sentences)
- Sentence rearrangement
- Coherence and cohesion
- Paragraph completion

Cloze Test:

- Fill in the blanks in passages
- Contextual vocabulary
- Grammatical accuracy

Writing Skills:

- Sentence construction
- Paragraph writing principles
- Professional correspondence awareness