CURRICULUM FOR ADVANCE CERTIFICATE COURSE ON LIBRARY AUTOMATION (ACOLA)

COURSE TITLE:
Advance Certificate Course on Library Automation (ACOLA)

INTRODUCTION TO THE COURSE:
The Advanced Certificate Course on Library Automation (ACOLA), offered by the Sri Lanka Library Association, is aligned with the Sri Lanka Qualifications Framework and is designed to enhance librarians' competencies in library automation and digital library services, as well as in the effective use of Information and Communication Technologies for information dissemination and retrieval

SLQF LEVEL:
SLQF Level 2 (Advance Certificate) = [equivalent to NVQ Level 4]

ENTRY REQUIREMENTS:
- The minimum qualification required to enter the course is G.C.E. Ordinary Level (O/L) qualification or equivalent
- GCE(O/L) passed with six subjects including medium language and mathematics and have at least ordinary pass (S)
- Above results can be achieved in two sittings.
- Employment or prior experience in a library or information Centre
- Completion of a basic ICT or computer literacy course

COURSE CREDITS:
30

COURSE DURATION:
1 year (48 weeks)

NO. OF CLASSES:
96
(classes will be conducted on Sundays and each class conducted for 3 hrs)

MEDIUM OF INSTRUCTION:
English

MODE OF LECTURES:
- Face-to-face / Online lecturers
- Supervised laboratory-based practical sessions
- Independent / Group Work

COURSE MODULES AND LECTURE HOURS:

Module	Topics	No. of Credits	Notional Hours	Conduct Hours	No. of Class
1	Introduction to Library Automation (Theory)	3	150	24	8
2	Integrated Library Management Systems (Theory)	3	150	24	8
3	Machine Readable Cataloguing (MARC) (Theory & Practical)	3	150	30	10
4	Koha ILS in Library Operations (Practical)	5	250	48	16
5	Introduction to Digital Libraries (Theory)	3	150	36	12
6	Building Digital Library using GSDL & DSpace (Practical)	5	250	48	16
7	Web designing, hosting and maintenance (Theory & Practical)	5	250	48	16
8	AI Tools for Library operation and Web-based Library Services (Theory & Practical)	3	150	30	10
	Total	**30**	**1500**	**288**	**96**

MODULE DETAILS

Module 1: Introduction to Library Automation (Theory)
Credits: 03
Conduct Hours: 24

Learning Outcomes:
The student shall be able to

- ✓ Understand the evolution of library automation in globally and Sri Lanka.
- ✓ Understand the concept of library automation
- ✓ Explain the importance of library automation and its future direction
- ✓ Describe the challenges and opportunities in automating libraries

Sub-Module	Topics and subtopics	Conduct Hours
1.1	History and Global Evolution of Library Automation • Early experiments with computerized catalogues (1960s–1970s) • Development of MARC standards and OPAC systems • Rise of Integrated Library Systems (ILS) in the 1980s–1990s • Transition to cloud-based and mobile-friendly systems in the 21st century • Historical development of library automation in Sri Lanka	6
1.2	Understating Library Automation Concept • Defining Library Automation • Advantages and Disadvantages of Library Automation • Steps in Library Automation	3
1.3	Importance of LA in Modern Contexts • Efficiency and reducing manual workload • Improving accessibility through OPACs, mobile apps, and multilingual interfaces • Supporting research visibility via institutional repositories • Integration with global knowledge networks and databases	3
1.4	Challenges and Opportunities in library automation respect to Sri Lankan context • Infrastructure limitations (bandwidth, hardware availability) • Training needs for librarians and staff • Cost considerations and the role of open-source solutions • Opportunities for collaboration with international organizations	6
1.5	Future Directions of LA • AI-driven search and recommendation systems • Cloud-based hosting and mobile-first design • Blockchain for digital rights management • Smart libraries with IoT-enabled shelves and RFID tracking • Privacy, copyright, digital divide	3

Teaching Learning Activity:	Learning objectives will be achieved through a combination of lectures, videos, discussion forums, interactive exercises, and assignments
Assessment Methods:	• Assignments – 40% • Final Examination – 60%

Module 2: Integrated Library Management Systems (ILS) (Theory)
Credits: 03
Conduct Hours: 24

Learning Outcomes:
The student shall be able to

- ✓ Understand the concept of ILMS
- ✓ Identify core modules and features of ILMS
- ✓ Select appropriate ILMS package for their library automation
- ✓ Identify key tools, standards, and technologies used in modern library automation.

Sub-Module	Topics and subtopics	Conduct Hours
2.1	• Define Integrated Library Management System • Components of ILMS o Functional Modules o Library Automation Standards - Metadata standards (MARC 21), Z39.50, UNICODE o Network Architecture o Operating Platform o Database Management System	9
2.2	Different types of Library Automation Software • Commercial o Libsys o Alice for Windows o WorldShare Management Services (OCLC) o Spydus o SirsiDynix Symphony o Aleph (Ex Libris) o VTLS Virtua • Open-Source o Koha o Evergreen o NewGenLib o PMB (PhpMyBibli) o OpenBiblio o Invenio • Freeware	6
2.3	Selection and Evaluation of Library Automation Software	3
2.4	Tools and technologies used in library automation • Barcoding and QR coding systems for circulation • Electromagnetic security system – Tattle tapes • RFID technology • AI tools for library automation	6

Teaching Learning Activity:	Learning objectives will be achieved through a combination of lectures, videos, discussion forums, interactive exercises, and assignments
Assessment Methods:	• Assignments – 40% • Final Examination – 60%

Module 3: Machine Readable Cataloguing (Theory & Practical)
Credits: 03
Conduct Hours: 30

Learning Outcomes:
The student shall be able to

- ✓ Understand the Computerized Catalogue and its importance
- ✓ Understand different MARC formats
- ✓ Describe the structure and purpose of MARC21 standard.
- ✓ Create bibliographic records using MARC21 accordance with AACR2.
- ✓ Maintain accuracy and consistency in cataloguing practices.
- ✓ Preform copy cataloguing and edit MARC records

Sub-Module	Topics and subtopics	Conduct Hours
3.1	Introduction to Computerized Cataloguing • Purpose and importance of cataloguing in libraries • Difference between manual and machine-readable cataloguing • Importance of machine cataloguing	3
3.2	MARC21 (Machine-Readable Catalogue) • Introduction to MARC standards and their role in automation • Different MARC Standards • MARC 21 record structure: leader, control fields, data fields, indicators, subfields • MARC 21 Format for Bibliographic Data • MARC 21 Format for Authority Data	12
3.3	Creating bibliographic records in MARC21 format for different type of materials accordance with AACR2	6
3.4	Editing MARC records • MARC Coding • MARC data import /export • Data migration	6
3.5	Copy cataloguing • Copying MARC records • MARC import via z39.50 and SRU target	3

Teaching Learning Activity:	Learning objectives will be achieved through a combination of lectures, videos, discussion forums, interactive exercises, and assignments
Assessment Methods:	• Assignments – 40% • Final Examination – 60%

Module 4: Koha Integrated Library Management System (Practical)
Credit: 05
Conduct Hours: 48

Learning Outcomes:
The student shall be able to

- ✓ Explain the architecture and functionality of the Koha ILMS.
- ✓ Install and customize Koha ILMS for the library
- ✓ Handle Koha modules including cataloguing, circulation, OPAC, and reporting.
- ✓ Use Koha Tools and Plugins for different library operations
- ✓ Perform basic customization in the OPAC
- ✓ Implement and manage a functional Koha-based library system for a small or simulated library.

Sub-Module	Topics and subtopics	Conduct Hours
4.1	• Overview of Koha ILS • Installation of Koka ILS	9
4.2	Working with Administration module - Basic parameter settings	3
4.3	Working with Acquisitions module	3
4.4	• Creating MARC records using Cataloging module • Utilizing Authority Control	9
4.5	Creating member records using Patron module	3
4.6	Performing circulation functions with Circulation module	3
4.7	Managing periodical with Serial Management module	3
4.8	Utilizing different tools to ease the library operations	3
4.9	Generation of library reports with Reports module	3
4.10	Customization of OPAC	3
4.11	Import /Export MARC records	3
4.12	Maintaining backup and basic system trouble shooting in Koha	3

Teaching Learning Activity:	Learning objectives will be achieved through hands on practical sessions
Assessment Methods:	• Practical assessment – 50% • Project – 50% (Developing a small automated library system using Koha ILS)

Module 5: Introduction to Digital Libraries (Theory)
Credits: 03
Conduct Hours: 36

Learning Outcomes:
The student shall be able to

- ✓ Understand the basic concept, and need for digital libraries
- ✓ Explain different types of digitization
- ✓ Discuss future trends of digital libraries.
- ✓ Identify different electronic information sources
- ✓ Discuss the advantages and disadvantages of using electronic information sources
- ✓ Understand the digitization process and know different types of file formats
- ✓ Understand metadata and create metadata for different materials
- ✓ Discuss the challenges in digitization and digital preservation

Sub-Module	Topics and subtopics	Conduct Hours
5.1	Digital Library • Concept and Definition • Characteristics of Digital Libraries • Development of Digital Libraries • Digital Libraries and their Uses • Types of Digital Libraries • Major Digital Library Initiatives in Sri Lanka • Major Issues/Challenges • Future Trends	9
5.2	Electronic Information Sources • Different types of Electronic Information Sources • Electronic Information Services • Advantages and Disadvantages of using Electronic Information Sources	6
5.3	Digitization & Digital Preservation • Digitization Concept and Process • Digitization of Print Based Documents, Video Digitization and Audio Digitization • Different digital File Formats and Content Creation • Techniques used in digitization – OCR • Digital Preservation • Copyright concerns • Challenges in Digitization	9
5.4	Metadata • Metadata Standards – Dublin Core • Creating Metadata for materials • Metadata Harvesting – OAI PMH	6
5.5	Digital Library Architecture	6

Teaching Learning Activity:	Learning objectives will be achieved through a combination of lectures, videos, discussion forums, interactive exercises, and assignments.
Assessment Methods:	• Assignments – 40% • Final Examination – 60%

Module 6: Building Digital Library using GSDL & DSpace (Practical)
Credits: 05
Conduct Hours: 48

Learning Outcomes:
The student shall be able to

- ✓ Explain the technical features of Greenstone Digital Library (GSDL) Software
- ✓ Install GSDL on Windows OS
- ✓ Describe the functional features of DSpace;
- ✓ Build a digital collection using GSDL and DSpace

Sub-Module	Topics and subtopics	Conduct Hours
6.1	Overview of GSDL Software • Key features and architecture • Supported file formats and metadata standards • Use cases and examples	3
6.2	Installation and Configuration of GSDL • System requirements • Installing GSDL on Windows/Linux • Configuring the server and user interface • Understanding the Greenstone Librarian Interface (GLI)	9
6.3	Building Collections in GSDL • Creating a new collection • Importing documents (PDF, Word, images, etc.) • Metadata assignment (Dublin Core, custom schemas) • Designing browsing and search indexes • Building and testing collections	15
6.4	Customization and User Interface in GSDL • Customizing collection design and layout • Multilingual support • User access and permissions	3
6.5	Overview of DSpace • Introduction to DSpace • Key features and architecture • Community, collection, and item structure • Comparison with GSDL	3
6.6	Managing Content in DSpace • Creating communities and collections • Submitting and managing items • Metadata standards (Dublin Core, qualified DC) • File formats and bitstreams	12
6.7	User Management and Access Control in DSpace • Roles and permissions • Authentication methods Workflow management (submission, review, approval)	3

Teaching Learning Activity:	Learning objectives will be achieved through a combination of lectures, videos, discussion forums, interactive exercises, and assignments.
Assessment Methods:	• Practical Assessment – 50% • Project – 50% (Building a simple digital library using GSDL)

Module 7: Web Designing, Hosting and Maintenance (Theory & Practical)
Credit: 05
Conduct Hours: 48

Learning Outcomes:
The student shall be able to

- ✓ Explain basic concepts of web design, hosting,
- ✓ Understand CMS platforms, and website security.
- ✓ Develop and deploy a basic library website with HTML, CSS and Java using a CMS.
- ✓ Perform routine website maintenance and apply basic security practices.

Sub-Module	Topics and subtopics	Conduct Hours
7.1	Fundamentals of Web Designing	3
7.2	Front-End Development • Introduction to HTML, CSS, and JavaScript basics • Basic HTML tags and Syntax in CSS and Java • Frameworks and libraries (Bootstrap, React basics) • Creating interactive elements and navigation menus • Best practices for performance optimization	18
7.3	Content Management Systems (CMS) • Introduction to different CMS (WordPress, Joomla, or Drupal) • Installing and configuring WordPress • Theme customization and plugin management in WordPress • Working with WordPress to develop library website • Security and backup strategies	18
7.4	Web Hosting Concepts • Types of hosting: shared, VPS, cloud, dedicated • Domain registration and DNS management • Setting up hosting environments (cPanel, Plesk, or command line) • Uploading websites via FTP/SFTP	3
7.5	Website Maintenance • Regular updates (software, plugins, security patches) • Troubleshooting common issues (broken links, server errors)	3
7.6	Security & Compliance • SSL certificates and HTTPS setup • Data privacy and compliance (GDPR, local regulations) Protecting against malware, phishing, and hacking attempts	3

Teaching Learning Activity:	Learning objectives will be achieved through hands on practical sessions
Assessment Methods:	• Assignment / Presentation – 40% • Project – 60% (Building a simple library website)

Module 8: AI Tools for Library operation and Web-based Library Services (Theory & Practical)
Credit: 03
Conduct Hours: 30

Learning Outcomes:
The student shall be able to

- ✓ Demonstrate ethical awareness in the use of digital and AI technologies
- ✓ Use AI tools to support routine library services.
- ✓ Understand web-based library services
- ✓ Handle web applications to provide effective library services.

Sub-Module	Topics and subtopics	Conduct Hours
8.1	Introduction to AI • AI in library context • Evolution of library automation to AI-driven systems • Benefits and limitations of AI in libraries	3
8.2	AI Tools for Library Operations • AI-based cataloguing and metadata generation • Automated classification and indexing systems • AI-powered acquisition and collection development • Predictive analytics for collection usage • Inventory management using AI	9
8.3	AI based User Services • Intelligent search systems and discovery tools • Semantic search and recommendation systems • Chatbots and virtual reference services • Personalized information services • AI-driven user behavior analysis • Virtual assistants for library users • Accessibility improvements using AI	3
8.4	Web-based Library Services • Concept and features of web-based library systems • Cloud-based library management systems	3
8.5	Google workspace for libraries (Drive, Gemini, Calendar, Meet, Blogger) and office.com (Copilot, OneDrive, Teams, ClipChamp, Designer, Office	9
8.6	Challenges and Ethical Issues • Data privacy and security concerns • Copyright and intellectual property issues • Financial and technical constraints	3

Teaching Learning Activity:	Learning objectives will be achieved through a combination of lectures, videos, discussion forums, interactive exercises, and assignments
Assessment Methods:	• Assignments – 40% • Presentation – 60%

Teaching and Learning Methods:

- ✓ Lectures and guided discussions (Cover theory and frameworks)
- ✓ Supervised hands-on laboratory sessions
- ✓ Demonstrations and guided practice
- ✓ Case study analysis

Assessment Methods:

- ✓ Assignments / Reports
- ✓ Practical assessments
- ✓ Group / Individual presentation
- ✓ Quizzes and short written tests
- ✓ Group-based / Individual projects
- ✓ Final Examination (Written)

Pass Criteria:

To successfully complete this certificate course the student should

- ✓ Maintain minimum 70% attendance for lectures and practical sessions for each module
- ✓ Submit all required assignments /reports / projects and attend all practical assessments and examinations.
- ✓ Obtain at least 40% overall (combined Assignment / Practical assessment/ Presentation and Project /Final Examination) for each module

Required Resources and Facilities:

- ✓ Computer laboratory with internet access
- ✓ Access to VPS or hosted environments for ILMS practice
- ✓ Open-source ILMS software (Koha, OpenBiblio)
- ✓ Open-source Digital Library Software (DSpace , GSDL)
- ✓ Learning materials and practical guides

Quality Assurance and Review:

- ✓ Student and instructor feedback mechanisms
- ✓ Annual review of curriculum and learning outcomes
- ✓ Alignment with SLQF (Level 2) requirements and emerging industry practices

Reviewer's Comment and Recommendations:

This is to certify that the Curriculum of the Certificate Course on Library Automation has been carefully reviewed and evaluated. The course content has been examined with regard to SLQF Level 2 descriptors along with its relevance, structure, learning outcomes, and alignment with current trends and best practices in library and information science. Additional modules and sub topics are included to align with the requirement of SLQF. As per the SLQF level 2 the course can be offered as Advance Certificate Course. So,the course can be renamed as Advance Certificate on Library Automation (ACOLA)

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Date: 16.04.2026