MULTI-DISCIPLINARY COURSE
Semester 2

LIS2FM106 Library Technologies

Course Description

This course provides a comprehensive understanding of modern library automation systems, the design and implementation of digital libraries, institutional repositories and the software for library automation (e.g.Koha). Additionally, the course delves into software tools for information management, including reference management systems (e.g., Zotero/ Mendeley), plagiarism detection tools (e.g., Turnitin/DrillBit), and digital preservation systems (e.g., DSpace). By the end of the course, students will attain practical skills in using and managing library automation systems and also in developing digital libraries which enable them for performing their roles in modern information centers and libraries.

Programme	Library and Information Science				
Course Code	**LIS2FM106**				
Course Title	**Library Technologies**				
Type of Course	Multi-Disciplinary Course				
Semester	2				
Academic Level	**100-199**				
Course Details	**Credit**	**Lecture per week**	**Tutorial per week**	**Practical per week**	**Total Hours**
	3	3	-	-	45

Learning Approach (Hours/ Week)			Marks Distribution			Duration of ESE (Hours)
Lecture	Practical	Tutorial	CE	ESE	Total	
45 Hours	-	-	25	50	75	3

Course Outcomes (CO):

CO	CO Statement	Cognitive Level*	Knowledge Category#	Evaluation Tools used
CO1	Attain a basic understanding of library automation, digital libraries their design, and organization.	U	C	Written Exam, Assignment
CO2	Apply principles of digital library creation, including digitization and metadata development.	Ap	P	Practical Tests, Assignment
CO3	Familiarize software's used for information management, particularly Koha and DSpace	Ap	P	Case Studies, Group
CO4	Basic understanding about the role of emerging technologies in modern libraries	U	F	Practical Tests
CO5	Develop academic content effectively, including assignments, articles, and project proposals, using appropriate referencing styles and software like Zotero / Mendeley, Turnitin/DrillBit.	C	P	Practical Tests
*Remember(R),Understand(U),Apply(Ap),Analyse(An),Evaluate(E), Create (C) # Factual Knowledge (F) Conceptual Knowledge (C) Procedural Knowledge (P) Meta cognitive Knowledge (M)				

Syllabus of Multi-Disciplinary Course
LIS2FM106 Library Technologies

Module	Unit	Content	Hrs 45	Marks 50
Module -1	**Library Automation**			15
	1.1	Libraries and their role in knowledge organization	2	
	1.2	Library automation: Need for library automation, planning and implementation.	2	
	1.3	Automated library housekeeping operations	1	
	1.4	Library automation software - Koha	2	
	1.5	Adoption of RFID in library automation	2	
		Total	**9**	
Module -II	**Digital Library**			15
	2.1	Digital Library: definition, scope and characteristics.	1	
	2.2	Design and organization of digital libraries: Architecture, user interfaces and pre- requisites.	2	
	2.3	Digitization – Scanning, OCR and Conversion to PDF.	2	
	2.4	Digital library creation: Metadata development, digital preservation and conservation - archiving, security and migration issues.	2	
	2.5	Greenstone Digital Library Software (GSDL)	2	
		Total	**9**	

Module-III	**Institutional Repository**			**10**
	3.1	Institutional repositories-concepts, characteristics and purpose	1	
	3.2	Design and architecture of institutional repositories	1	
	3.3	Contents and standards of institutional repositories- Metadata	2	
	3.4	Institutional repository software – DSpace	2	
	3.5	Research Data Management (RDM)	2	
	Total		8	
Module-IV	**Emerging Library Technologies**			**10**
	4.1	Artificial Intelligence and Machine Learning in Libraries	2	
	4.2	Internet of Things (IoT) in libraries	2	
	4.3	Augmented Reality and Virtual Reality in libraries	2	
	4.4	Cloud computing in libraries	2	
	4.5	Smart Libraries	1	
	Total		9	
Module-V **Open ended Module**	Demonstrate practical skills required for software based Information management		10	
	Koha, GSDL, DSpace, Zotero, Mendeley, Turnitin, DrillBit			

References

1. Andrew, C. (2010). Introduction to digital library management. London: Facet Publishing.
2. Bilal, D., & Breeding, M. (2014). Library automation: Core concepts and practical systems analysis (3rd ed.). Libraries Unlimited Inc.
3. Chowdhury, G. G., & Schubert, F. (2018). Digital libraries and information access: Research perspectives. Facet Publishing.
4. Dickson, G. W., & DeSanctis, G. (2000). Information technology and the future enterprise: New models for managers. Prentice Hall.
5. Hennig, N. (2017). Keeping up with emerging technologies: Best practices for information professionals. Santa Barbara, CA: Libraries Unlimited.
6. Hussain, A., & Fatima , N. (2017). Emerging Trends in Information Technology in Modern Libraries. Manakin Press.
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8. Kamal, R. (2022). Internet of things. McGraw Hill.
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10. Mishra, V. K. (2016). Basics of library automation, Koha library management software and data migration: Challenges with case studies. Ess Ess Publications.
11. Pandey, R., & Pandey, P. (2017). Digital library development: Issues and challenges. Ess Ess Publications.
12. Surianarayanan, C., & Chelliah, P. R. (2019). Essentials of cloud computing: A holistic perspective (1st ed.). Springer Nature Switzerland AG.
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14. Williams, Brian K., & Sawyer, Stacey C. (2014). Using information technology: A practical introduction to computers & communications (11th ed.). McGraw-Hill.
15. Witten, I.H., & Bainbridge, D. (2005). How to build a digital library. Amsterdam: Morgan Kaufmann.

Mapping of COs with POs

	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1						2	-	-	3	-	-	2
CO 2						-	-	-	3	3	2	2
CO 3						-	-	-	3	1	3	3
CO 4						1	-	3	3	-	-	3
CO 5		-				-	1	2	3	-	-	3

Correlation Levels:

Level	Correlation
-	Nil
1	Slightly/Low
2	Moderate/Medium
3	Substantial/High

Assessment Rubrics

Test paper / Mid-semester exam   : 10

Seminar/Viva/Quiz   : 6

Assignment   : 4

Open-ended module   : 5

Total   **: 25 Marks**

Final Exam   **50 Marks**

Semester 2

LIS2FM106 Library Technologies

Model Question Paper

Time : 1.5 hrs   Maximum Marks : 50

PART A - Answer all questions. Each question carries 2 marks.

(Ceiling 16 marks)

1. Library automation
2. Copy Cataloguing
3. Integrated Library Management Software
4. Born digital documents
5. Institutional Repository
6. Open Access
7. Dublin Core
8. RFID
9. Cloud computing
10. MARC

Part B: Answer all questions. Each question carries 6 marks.

(Ceiling 24 marks)

11. Describe the importance of automated library housekeeping operations
12. Explain the concept of Research Data Management (RDM)
13. Describe the process of content development in digital libraries
14. Discuss the ethical issues related to rights management in digital libraries.
15. Explain the role of metadata in digital libraries

PART C - Answer any One Question. Each question carries 10 marks.

(1 x 10 = 10)

16. Discuss the design and organization of digital libraries, focusing on user interfaces and standards.
17. Discuss the adoption of emerging artificial intelligence based technologies in libraries