Lecture Plan

Name of the college: Government College of Arts, Science and Commerce, Sanquelim- Goa

Name of Faculty: Ms. Dipika Gosavi	**Subject:** Chemistry	
Paper code: CHC-307	**Program: TY BSc**	**Division: A**
Academic year: 2025 - 2026	**Semester: V**	**Total Lectures: 30**

Course Objectives: :

1. **CO1:** Understand the fundamental concepts of layered oxide materials, their crystal structures, and synthesis techniques.
2. **CO2:** Analyze the physical and chemical properties of layered oxides relevant to electrical and spintronic applications.
3. **CO3:** Evaluate the role of layered oxides in electronic and spintronic devices, including their performance and functional mechanisms.
4. **CO4:** Develop practical skills in laboratory synthesis, characterization, and application-oriented study of layered oxide materials.

Expected Course Outcome:

1) Explain the crystal structure, composition, and synthesis methods of layered oxide materials.
2) Analyze the electrical and magnetic properties of layered oxides and their relevance in spintronic applications.
3) Demonstrate basic laboratory techniques for synthesizing and characterizing layered oxide materials.
4) Interpret experimental data and evaluate the potential of layered oxides in real-world electronic and spintronic devices

Student Learning Outcome:

1. Have good understanding of good laboratory practices and safety measures.
2. Develop laboratory practical's skills to work in chemical industries.
3. Learn recent advancement in the field of catalysis.
4. Learn to write scientific project report.

Month	Lecture From	Lecture To	No. of lectures allotted	Topic, Subtopic to be covered	Exercise/ Assignment	ICT Tools	Reference books
June	20/06/2025	28/06/2025	1	Literature review		NA	Research articles published in SCI indexed journals
July	30/06/2025	05/07/2025	2	Literature review		NA	Research articles published in SCI indexed journals
July	07/07/2025	12/07/2025	2	Literature review		NA	Research articles published in SCI indexed journals
July	14/07/2025	19/07/2025	2	Literature review		NA	Research articles published in SCI indexed journals
July	21/07/2025	26/07/2025	2	Literature review		NA	Research articles published in SCI indexed journals
July/ August	28/07/2025	02/08/2025	2	Literature review		NA	Research articles published in SCI indexed journals
August	04/08/2025	09/08/2025	2	Performing project experimental work Synthesis of $LiCoO_2$		NA	Research articles published in SCI indexed journals
August	11/08/2025	16/08/2025	2	Performing project experimental work Synthesis of $LiCoO_2$		NA	Research articles published in SCI indexed journals
August	18/08/2025	23/08/2025	2	Performing project experimental work Synthesis of $LiCoO_2$		NA	Research articles published in SCI indexed journals
August	25/08/2025	30/08/2025	**GANESH CHATURTHI BREAK**				
September	01/09/2025	06/09/2025	2	Performing project experimental work Synthesis of $LiFePO_4$		NA	Research articles published in SCI indexed journals
September	08/09/2025	13/09/2025		Performing project experimental work Synthesis of $LiFePO_4$		NA	Research articles published in SCI indexed journals

September	15/09/2025	20/09/2025	2	Performing project experimental work Synthesis of $LiFePO_4$		NA	Research articles published in SCI indexed journals
September	22/09/2025	27/09/2025	2	Performing project experimental work Synthesis of $LiMn_2O_4$		NA	Research articles published in SCI indexed journals
September/ October	29/09/2025	04/10/2025	2	Performing project experimental work Synthesis of $LiMn_2O_4$		NA	Research articles published in SCI indexed journals
October	06/10/2025	11/10/2025	2	Performing project experimental work Synthesis of $LiMn_2O_4$		NA	Research articles published in SCI indexed journals
October	13/10/2025	18/10/2025	2	Characterisation techniques		NA	Research articles published in SCI indexed journals

***Assessment Rubrics**

Component	Max Marks
ISA 1	-
ISA 2	-
Practical	-
Project	100
Semester End Exam	-