Semester Lecture Plan

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

Name of Faculty: Mahendra R. Pednekar, D.A.Aga, Suvarna Patil	**Subject:** Physics Core	
Paper code: PHY-306	**Program/Course: T.Y. B.Sc.**	**Division:**
Academic year: 2025 - 2026	**Semester: VI**	**Total Lectures: 120**

Course Objectives:
This course aims to provide students with a comprehensive understanding of the theoretical concepts and practical aspects associated with each experiment

Course Learning Outcome: The student will be able to:
1. Develop proficiency in using a variety of laboratory instruments and equipment.
2. Acquire skills in collecting and recording experimental data
3. Learn to analyse and interpret experimental results.
4. Gain proficiency in using statistical methods to analyse uncertainties and errors.

Month	Lectures From:	To:	No. of lectures allotted	Topic, Subtopic to be covered	Learning outcome	ICT Tools	Reference books
December	01.12.25	06.12.25	08	Op-Amp as square wave generator Mutual inductance using Ballistic galvanometer,	The student will be able to: 1. Develop proficiency in using a variety of laboratory instruments and equipment. 2. Acquire skills in collecting and	Laboratory Instruments	1.Laboratory Manual for T.Y.B.Sc
December	08.09.21	13.12.25	08	Op-Amp as Integrator/ Determination of Cauchy's constant A and B.			Advance Practical Physics by Forsnop and flint

Commented [MP1]:

December	18.12.25	23.12.25	04	Regulated power supply using IC LM 317 with external pass transistor. Study of Hall effect.	recording experimental data 3. Learn to analyse and interpret experimental results. 4. Gain proficiency in using statistical methods to analyse uncertainties and errors.		
January	02.01.26	10.01.26	08	Study of IC 555 Timer as Astable multivibrator & VCO. Hysteresis by Magnetometer.			
January	12.01.26	17.01.26	08	Study of IC 555 Timer as Monostable multivibrator. C1/C2 by De Sauty method.			
January	19.01.26	24.01.26	08	Repeatation			
January	27.01.26	31.01.26	08	Repeatation Repeatation			
February	02.02.26	07.02.26	08	Digital Multiplexer (4 to 1 line). Magnetic susceptibility of paramagnetic substances by Guoy's Balance.			
February	09.02.26	14.02.26	08	Digital Demultiplexer (1 to 4 line). Determination of Dielectric constant and susceptibility for liquid medium.			

February	16.02.26	21.02.26	08	Decade counter using JK Flip flop and IC 7490. Double refraction.			
February	23.02.26	28.02.26	08	BCD Encoder. Resolving power of grating.			
March	2.03.26	07.03.26	08	Op-Amp as window comparator. Helmholtz coil			
March	09.03.26	14.03.26	08	Repeatation Repeatation			
March	16.03.26	21.03.26	08	Repeatation Repeatation			
March	23-03-26	28-03-26		Journal certification			
March	30.03.26	31.03.26	08				