

FACULTY OF SCIENCES

SYLLABUS of Physics For Certificate Course in Household Physics

**(Under Credit Based Continuous Evaluation Grading System)
(12+3+2 System of Education)**

Session: 2025-26



**The Heritage Institution
KANYA MAHA VIDYALAYA
JALANDHAR**

KanvaMahaVidyalaya (Autonomous), Jalandhar
SCHEME AND CURRICULUM OF EXAMINATION OF CERTIFICATE COURSE

Three months Certificate Course in Household Physics

Session 2025-26

Course Code	Course Title	Credit	Course Type	Max Marks			Examination Time (In Hours)
				Total	Ext.		
					L	P	
CPHM-1391	Household Physics	2	C	50	35	15	3 Hours

C- Compulsory

Duration- 30 hours

Eligibility- 10+2

P.G. DEPARTMENT OF PHYSICS

CPHM-1391

Certificate Course in Household Physics

Number of Credits: 2

Marks: 50

Number of Hours: 30

Lectures: 30

Eligibility: 10+2 of any streams.

Course Objective: This course is designed to provide students with the foundational knowledge of Physics. Students will attain the ability to repair household machines and switching devices, how to use appropriate power tools, understand all procedures and electrical safety rules, residential electrical installation within the context of household activities. Students will attain the ability to understand the optics of devices like TV, mobiles etc

Module wise Course Syllabus

Module 1: Fundamentals of Physics (7 hours)

Introduction to Basic Physics (1 hours), Recognition of Basic components, Basic series and parallel connections, Understanding Electricity (2 hours), Voltage, current, resistance, Ohm's Law, Circuit diagram and Design, Practical circuit designing exercises (4 Hours)

Module 2: Electrical Appliances and Systems (8 hours)

Working Principles of Electrical Appliances: Electric Press, Room Heater, Electric Fan, Understanding component functionalities (4 hours), Energy Efficiency and Consumption: Electric meters and measurement techniques, Energy-saving strategies, Safety (2 hours), Measures and Regulations: Electrical safety standards, Safe handling and maintenance practices (2 hours)

Module 3: Acoustics (2 Hours)

Physics behind musical Instruments Like, Sitar, Tabla, Guitar, Flute

Electronics at Home (5 hours)

The operation of common electronic devices like TVs, computers, and smartphones.

EM waves and radiations in microwave cavities.

Module 4: Innovation and Creativity (7 hours)

Introduction to Innovation Hub resources and facilities, Collaborative innovative assignment and Demonstration, Presentation of projects and Internal mentoring and External mentoring for science awareness among the masses (4 hour)

References:

1. A self teaching guide “Basic Physics” by Karl F. KUHN and Frank Noschese, Wiley.
2. Dixon, G. (1995). Electrical Appliances: The Complete Guide to the Maintenance and Repair of Domestic Electrical Appliances. United Kingdom: Haynes.
3. S C Bhargava (2020) Household Electricity and Appliances. (n.p.): BSP Books.