GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM – 612 001
Affiliated to Bharathidasan University
DST - CURIE Sponsored Institution
IV Cycle of Accreditation
Estd. 1963
0435 – 2401391
principal@gcwk.ac.in

CRITERION I - CURRICULAR ASPECTS

1.3 Curriculum Enrichment

1.3.2 Certificate Courses/Value-added Courses

Value added Courses

Department of Physics
2022-2023

Syllabus

1. Domestic Electrical Appliances
2. Audio and Video Systems for Layman
3. Mathematical Physics for Beginners
4. Nanoscience and Nanotechnology
5. Research Methodology

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COURSE CONTENTS

DOMESTIC ELECTRICAL APPLIANCES

Working principle of an automatic electric iron box-servicing maintenance and overhauling of a mixer, grinder-working of a fan-construction, working principle, special features and applications of a table fan-use of condenser and regulator-structure of a refrigerator and its operation.

AUDIO AND VIDEO SYSTEMS FOR LAYMAN

Characteristics of Microphone – Crystal microphone – Characteristics of Loud speakers-Multiway speaker system - TV transmitter – TV Receiver –Vidicon Camera tube- Plumbicon camera tube –CCTV-Special microphones.

MATHEMATICAL PHYSICS FOR BEGINNERS

Concept of vector and scalar fields-Gradient, Divergence, Curl and Laplacian –Vector identities - Tensors – Function of complex variables-Mathematical formulation of Maxwell-Boltzmann, Bose-Einstein and Fermi-Dirac statistics.

CERTIFICATE COURSE IN NANOSCIENCE AND NANOTECHNOLOGY

Introduction to Nanoscience and Nanotechnology – Nanomaterials – Synthesis of nonmaterials –Bottom up- Top down approach – Characterisation – UV – SEM –XRD –FT-IR-applications – Super capacitor – Photo catalysis –Anti – bacterial Activities.

CERTIFICATE COURSE IN RESEARCH METHODOLOGY

Scientific research – principles and ethics – preparation and presentation of scientific reports – Publication in peer reviewed journals – Plagiarism –writing of synopsis – dissertation – thesis – Data Analysis – Distributions –Modelling data – Analytical techniques.

HEAD OF THE DEPARTMENT