

G.VENKATASWAMY NAIDU COLLEGE (AUTONOMOUS)

(Re-Accredited with "A" Grade by NAAC)

Department of B.Sc., Physics

U23PH6OE - PHYSICS IN DAY TO DAY LIFE

| Course Code | Course Title | Category | Lecture | Tutorial | Practical | Credit |
|-------------|----------------------------|---------------|---------|----------|-----------|--------|
| U23PH6OE | PHYSICS IN DAY TO DAY LIFE | OPEN ELECTIVE | 0 | 0 | 0 | 3 |

| Year | Semester | Internal Marks (CIA) | External Marks (ESE) | Total Marks |
|------|----------|----------------------|----------------------|-------------|
| III | VI | 0 | 100 | 100 |

Course Objective

- This course is to provide foundational knowledge and practical insights into the operation and application of common electrical systems and appliances used in households

Course Outcomes (COs)

On the completion of the course the student will be able to

| CO | Course Outcome | Knowledge Level (RBT) |
|-----|--|-----------------------|
| CO1 | understand the principle, classification, and losses of transformers. | K1,K2,K3,K4,K5 |
| CO2 | demonstrate knowledge of lighting systems and small domestic appliances. | K1,K2,K3,K4,K5 |
| CO3 | understand the operation of heating and cooking appliances. | K1,K2,K3,K4,K5 |
| CO4 | explain the functioning of major household electrical appliances. | K1,K2,K3,K4,K5 |
| CO5 | understand the role of protection devices and power backup systems. | K1,K2,K3,K4,K5 |

K1–Remember; K2–Understand; K3–Apply; K4–Analyze; K5–Evaluate; K6–Create

CO-PO and CO-PSO Mapping (Course Articulation Matrix)

| COs | POs | | | | | | | PSOs | | |
|-------|-----|-----|-----|-----|-----|-----|-----|------|------|------|
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 |
| Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

(3-Strong, 2-Medium, 1-Low, -No Correlation)

Course Content

UNIT 1 Transformer

Self Study Course

Transformer – Principle and working – Classification of transformers-Losses in transformer.

UNIT 2 Lighting and Household Electrical Appliances

Self Study Course

Electric bulbs –Fluorescent lamps – Street lighting – Electric fans- Mixer.

UNIT 3 Heating and Cooking Appliances

Self Study Course

Water Heater – storage and instant types – Electric iron box – Microwave oven.

UNIT 4 Major Household Appliances

Self Study Course

Washing machine – Stabilizer – Refrigerator and Air conditioner.

UNIT 5 Electrical Protection and Power Backup Devices

Self Study Course

Relays, Fuses, Electrical switches –Inverter, UPS-generator and motor.

Reference Books

B.Sc., Physics

1. Jose Robin.G & Ubald Raj.A, Maintenance of Electrical Appliances, Indira Publications,Marthandam,
2. Jose Robin.G & Ubald Raj.A, Maintenance of Electronic Equipments, Indira Publications,Marthandam,

Web Resources

1. <https://npTEL.ac.in/courses/108106071>
2. https://onlinecourses.swayam2.ac.in/nou23_ge80/preview